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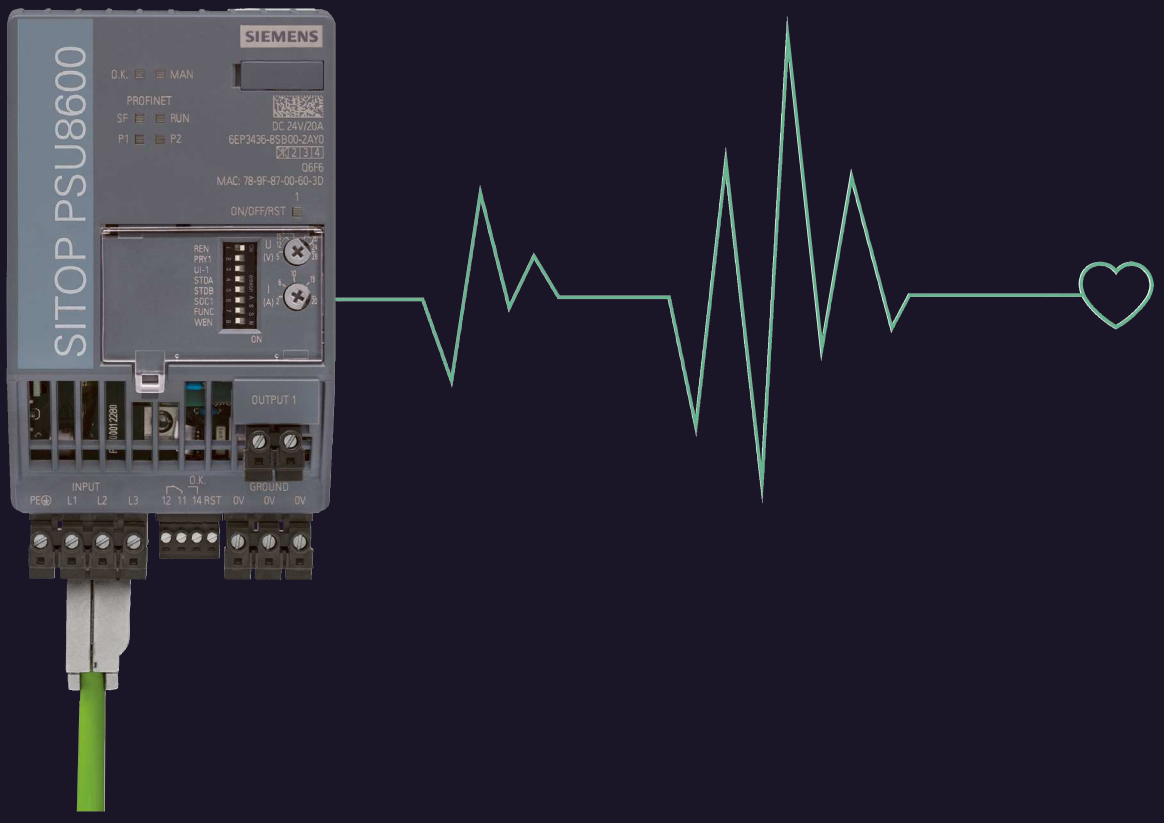

Catalog KT10.1

Edition 2024

SITOP

SITOP Power Supply

The heart of automation®

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Related catalogs

Industrial Controls IC 10
SIRIUS

PDF (E86060-K1010-A101-B5-7600)

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SIMOTION
Equipment for Production Machines

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SIMATIC ST 70
Products for
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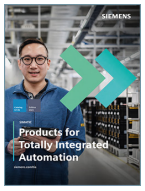

SITRAIN
Digital Industry Academy

www.siemens.com/sitrain

SIMATIC ST PCS 7
SIMATIC PCS 7 Process Control System
Vol. 1: System components

E86060-K4678-A111-C8-7600

SiePortal
Information and Ordering Platform
on the Internet

sieportal.siemens.com

SIMATIC HMI /
PC-based Automation ST 80/ST PC
Human Machine Interface Systems
PC-based Automation

PDF (E86060-K4680-A101-D1-7600)

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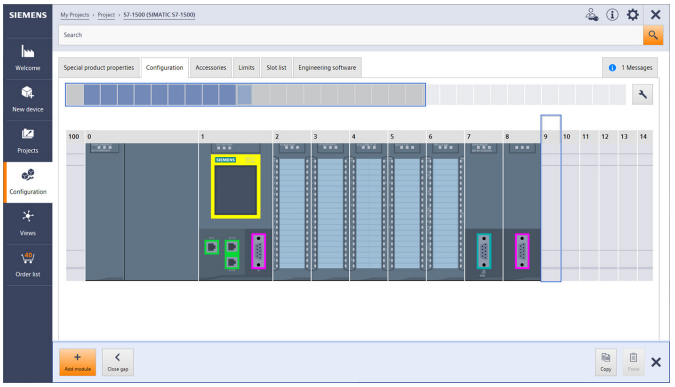
TIA Selection Tool – quick, easy, smart configuration

For you to get the most out of our portfolio quickly and easily.

Do you always need the optimum configuration for planning your project?
For your application we offer the TIA Selection Tool to support all project planners, beginners and experts alike.
No detailed portfolio knowledge is necessary.
TIA Selection Tool is available for download as a free desktop version or a cloud variant.

Wiki LZOnline
lalehzaronline.com/wiki



Your Advantages

Quick

- Configure a complete project with just a few entries – without a manual, without special knowledge
- Import and export of hardware configuration to TIA Portal or other systems
- Ideal visualization of the projects to be configured

Easy

- Tool download either as desktop version or web-based cloud version
- Technically always up-to-date about product portfolio and innovative approaches
- Highly flexible, secure, cross-team work in the cloud
- Direct ordering in SiePortal

Smart

- Smart selection wizard for error-free configuration and ordering
- Configuration options can be tested and simulated in advance
- Library for archiving sample configurations

The TIA Selection Tool is a completely paperless solution.
Download it now:
www.siemens.com/tst

For more information, scan the QR code

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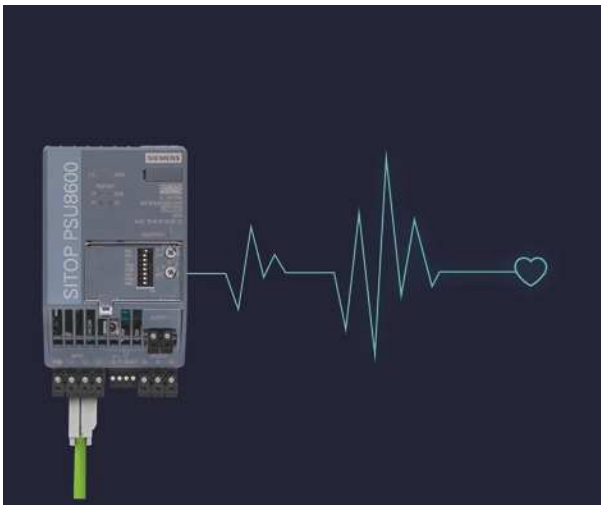
SITOP Power supplies

SITOP



Catalog KT10.1 · 2024

Supersedes:
Catalog KT10.1 · 2022

Refer to SiePortal for current updates of this catalog:
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The products and systems described in this catalog are manufactured/distributed under application of a certified quality management system in accordance with DIN EN ISO 9001 (Certified Registration No. 000656 QM08). The certificate is recognized by all IQNet countries.

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Digital Enterprise

The building blocks that ensure everything works together perfectly in the digital enterprise

Digitalization is already changing all areas of life and existing business models. It is placing greater pressure on industry while at the same time creating new business opportunities. Today, thanks to scalable solutions from Siemens, companies can already become a digital enterprise and ensure their competitiveness.

Industry faces tremendous challenges

Reduce time-to-market

Today manufacturers have to bring products to market at an ever-increasing pace despite the growing complexity of these products. In the past, a major manufacturer would push aside a small one, but now it is a fast manufacturer that overtakes a slow one.

Boost flexibility

Consumers want customized products, but at a price they would pay for a mass-produced item. That only works if production is more flexible than ever before.

Improve quality

To ensure a high level of quality while meeting legal requirements, companies have to establish closed quality loops and enable the traceability of products.

Boost efficiency

Today the product itself needs to be sustainable and environmentally friendly, while energy efficiency in production has become a competitive advantage.

Increase security

Increasing networking escalates the threat to production facilities of cyberattacks. Today more than ever, companies need suitable security measures.

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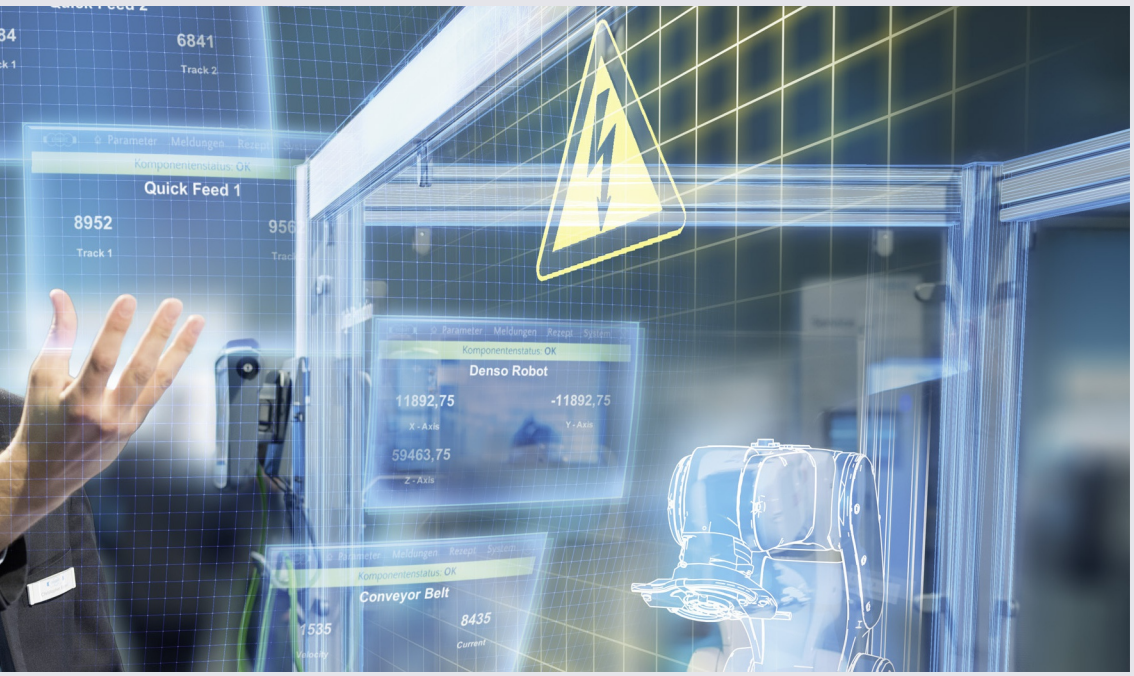

The digital enterprise has already become a reality

To fully benefit from all the advantages of digitalization, companies first have to achieve complete consistency of their data. Fully digitally integrated business processes, including those of suppliers, can help to create a digital representation of the entire value chain. This requires

- the integration of industrial software and automation,
- expansion of the communication networks,
- security in automation,
- and the use of business-specific industrial services.

MindSphere

The cloud-based open IoT operating system from Siemens

With MindSphere, Siemens offers a cost-effective and scalable cloud platform as a service (PaaS) for the development of applications. The platform, designed as an open operating system for the Internet of Things, makes it possible to improve the efficiency of plants by collecting and analyzing large volumes of production data.

Totally Integrated Automation (TIA)

Where digitalization becomes reality

Totally Integrated Automation (TIA) ensures the seamless transition from the virtual to the real world. It already encompasses all the necessary conditions for transforming the benefits of digitalization into true added value. The data that will form the digital twin for actual production is generated from a common base.

Digital Plant
Learn more about the digital enterprise for the process industry
www.siemens.com/digitalplant

Digital Enterprise Suite
Learn more about the digital enterprise for the discrete industry
www.siemens.com/digital-enterprise-suite

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1/2 SITOP power supply

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1/4 The product range at a glance
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1/11 Customized SITOP power supplies
1/12 Selection tables for power supplies

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All the information you need

A multitude of additional information can be found in our online services

Information + Ordering

Everything important at a glance

You can find information on SITOP power supplies on:
www.siemens.com/sitop

Online support for SITOP power supply systems:
https://support.industry.siemens.com/cs/ww/en/view/109748829

SITOP brochure incl. data sheet:
https://support.industry.siemens.com/cs/ww/en/view/109765864

Your contact at Siemens

Available for you on-site, worldwide: partner for consulting, sales, training, service, support, and spare parts.

You can find your personal contact in our contact person database at:
https://www.automation.siemens.com/aspa_app/?lang=en&nodekey=key_518432

You would like to learn more about SITOP power supplies? Contact us:
info-sitop.i-ia@siemens.com

Your product in detail

The Siemens Industry Online Support portal provides you with comprehensive information:
https://support.industry.siemens.com/cs/ww/en/ps/18017

- Application examples:
  https://support.industry.siemens.com/cs/ww/en/ps/18018/ae
- Technical data:
  https://support.industry.siemens.com/cs/ww/en/ps/18018/td
- Certificates:
  https://support.industry.siemens.com/cs/ww/en/ps/18018/cert

Multimedia content

SITOP playlist on YouTube:
www.siemens.com/sitop-playlist

Everything for your order

You can find an overview of your products in the Industry Mall:
https://mall.industry.siemens.com/mall/en/de/Catalog/Products/10008864?tree=CatalogTree

Direct forwarding to individual products in the Industry Mall by clicking on the Article No. in the catalog or by entering this web address incl. Article No.:
www.siemens.com/product?Article No.

Assistance with the selection

Quickly and easily select the right power supply with the TIA Selection Tool:
http://www.siemens.com/tst

Tutorials for the TIA Selection Tool:
www.siemens.com/tst-tutorials

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A multitude of additional information can be found in our online services

Commissioning + Operation

Parameterization software

SITOP UPS1600 - Easy configuration and parameterization:
https://support.industry.siemens.com/cs/ww/en/view/109479636

SITOP PSU8600 - Easy configuration and parameterization:
https://support.industry.siemens.com/cs/ww/en/view/109481270

CAD and CAE data in the Industry Image Database for easy project planning:
www.siemens.com/sitop-cax

Manuals

Overview of all manuals (SITOP) in the Online Support:
https://support.industry.siemens.com/cs/de/en/ps/18018/man

Quickest way to the experts

Technical support:
Suggested solutions for your questions and direct access to our technical experts from technical support
http://www.siemens.com/SupportRequest

Special investigation:
https://support.industry.siemens.com/cs/ww/en/sc/2152

Multimedia content

SITOP knowledge pool:
www.siemens.com/sitop-knowledge

Your product in detail

Product-related access to content in the Online Support:

- SITOP advanced power supplies:
  https://support.industry.siemens.com/cs/ww/en/ps/25491
- SITOP standard power supplies:
  https://support.industry.siemens.com/cs/ww/en/ps/25490
- SITOP basic power supplies:
  https://support.industry.siemens.com/cs/ww/en/ps/25489
- SIMATIC design power supplies:
  https://support.industry.siemens.com/cs/ww/en/ps/18025
- SITOP DC/DC converters:
  https://support.industry.siemens.com/cs/ww/en/ps/18031
- SITOP special designs and applications:
  https://support.industry.siemens.com/cs/ww/en/ps/18026
- SITOP DC UPS uninterruptible power supplies:
  https://support.industry.siemens.com/cs/ww/en/ps/18041
- SITOP add-on modules:
  https://support.industry.siemens.com/cs/ww/en/ps/18035

The relevant tender specifications can be found at:
https://ausschreibungstexte.siemens.com

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The product range at a glance

Advanced power supplies

For particularly high requirements, such as in the process and automotive industry or in special-purpose machine manufacturing

SITOP PSU8600 – the power supply system for digitalization and Industrie 4.0

- **open communication** via PROFINET or OPC UA
- **extensive diagnostic options**
- **modular, wireless system design** up to the DC UPS
- **up to 36 outputs,** voltage and current
- can be adjusted individually

SITOP PSU8400 - Power supply with IO-Link offers impressive values

- **IO-Link for integration into plant automation**
- **integrated display** for on-site diagnostics and parameterization
- **energy-saving** with efficiency up to 96 %
- **space-saving** thanks to compact, slim design and no clearances

SITOP PSU8200 – the technology power supply for demanding solutions

- **energy-savings** thanks to high efficiency and remote on/off
- **high overload capability** with 50% Extra-Power, 3-times power boost and constant current
- **space-saving** with compact design and no clearances
- **for all networks worldwide,** whether 1, 2 or 3-phase

Standard power supplies

For typical industrial requirements, such as in series machine manufacturing

SITOP PSU6200 – the all-round power supply for a wide variety of applications

- **fast, extensive diagnostics** directly on the device and via efficient interfaces
- **high operational reliability** with rugged wide-range input and high overload capability
- **energy savings** with efficiency up to 96%
- **easy installation** thanks to slim design with no clearances and push-in terminals

SITOP smart – the high-performance standard power supply

- **high overload reserves** with 50% Extra-Power and 120% continuous power up to +45 °C
- **straightforward installation** due to no lateral clearances and automatic voltage range switching between 120 and 230 V AC
- **status messaging** via LED and 24 V ok signaling contact
- **for standard applications worldwide** thanks to comprehensive certifications

Basic power supplies

For the lower performance range, such as for the cost-sensitive segment or use in distribution boards

SITOP 4200 - Fresh power for basic applications

- **fast wiring** using push-in terminals
- **space-saving** thanks to compact design and no clearances
- **condition control** via power monitoring and DC OK signaling contact
- **energy-saving** with efficiency up to 93%

SITOP lite – the low-cost basic power supply

- **for industrial applications with basic requirements**
- **oad capability** thanks to constant current behavior
- **parallel connection option** for enhanced performance
- **straightforward installation** due to no lateral clearances and automatic voltage range switching between 120 and 230 V AC

LOGO!Power – the slim power supply for distribution boards

- **at home in any control box** thanks to compact design and flexible installation on DIN rail or directly on the wall
- **for nearly all applications up to 100 W** with range of output voltages and comprehensive certifications
- **energy savings** with high efficiency and low no-load losses
- **Current monitor** for actual output current via simple voltage measurement

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SIMATIC design power supplies

SITOP in SIMATIC design – the optimal supply for SIMATIC S7 and more

- **complements your SIMATIC system perfectly** with harmonized design and seamless installation
- **Functionality designed for optimum use with the PLC** regarding startup characteristics, power reserves and temperature range, incl. system test
- **stable 24 V supply** of SIMATIC and other loads
- **problem-free power connection worldwide** thanks to automatic voltage range switching between 120 and 230 V AC

DC/DC converter

DC/DC converter – stabile supply despite fluctuating DC voltage

- **stabile control voltage from batteries,** e.g. in automated guided vehicles (AGVs)
- **for refreshing 24 V** after voltage losses with long cables and for electrical isolation
- **24 V supply from the converter DC link** for power failure concepts for drive systems
- **with efficiency up to 95%**

Special designs and applications

Special designs – equipped for specific tasks and conditions

- **all voltages up to 52 V,** with flexible and dynamic adjustment
- **fast battery charging** up to 40 A
- **in degree of protection IP67** for distributed applications
- Low-cost power supplies for **wall mounting**

SITOP DC UPS uninterruptible power supplies

SITOP DC UPS modules – reliable 24 V, even when the power fails

- **SITOP UPS500 with capacitors**
  Protection against power failure on the input side through buffering for up to several minutes
- **SITOP UPS1600 with battery modules SITOP PSU8600 with DC UPS**
  Protection against power failure on the input side through buffering for up to several hours.
  DC UPS with Ethernet/PROFINET – open and system-integrated in TIA

Add-on modules

SITOP add-on modules – for increasing system availability up to complete all-round protection

- **Redundancy modules:** Protection against power supply failure by means of redundant configuration of the power supply unit
- **Selectivity modules**: Protection against overload and short circuit by means of electronic protection of 24 V feeds
- **Buffer module**: Protection against power failure in the seconds range
- **SITOP inrush current limiter**: for minimization of AC switch-on peak currents

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SITOP – the right power supply for every application

			Advanced power supplies			Standard power supplies	
Selection matrix SITOP according to performance data and range of functions			SITOP PSU8600 – power supply system with PROFINET and OPC UA	SITOP PSU8400 – power supply with IO-Link	SITOP PSU8200 – the technology power supply for demanding solutions	SITOP PSU6200 – the all-around power supply for a wide range of applications	SITOP smart – the powerful standard power supply
Input/ output	Input	AC/DC	1,3 ~	3 ~	1,2,3 ~ =	1,3 ~ =	1,3 ~
	Rated power up to approx.	P	960 W	960 W	960 W	960 W	960 W
	Rated output voltages	U	5 – 24 V DC	24 V DC	24/36/48 V DC	12/24/48 V DC	12/24 V DC
	Rated output currents (24 V)	I	20 – 40 A	40 A	5 – 40 A	1,3 – 40 A	2,5 – 40 A
Properties	Overload behavior	P_{max}	Extra Power; Power Boost [1]	Extra Power; Power Boost; Permanent Overload < +45 °C	Extra Power; Power Boost	Extra Power; Permanent Overload < +45 °C	Extra Power; Permanent Overload < +45 °C
	Energy efficiency		+ + +	+ + +	+ + +	+ + +	+ +
	Automation integration		PROFINET; OPC UA	IO-Link; DC o.k.	DC o.k.; Remote on/off	DC o.k.; Diagnostics interface	DC o.k.
Safety, environment	Explosion protection: ATEX, IECEx, CCC or FM		●		●		
	Marine approval: DNV GL or ABS		●	in preparation	●	in preparation	●
	Ambient temperature range		-25 ... +60 °C	-40 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C from 24 V/3.7 A: -30 ... +70 °C	-25 ... +70 °C
24 V power supply units expandable with ...	Redundancy module		●	●	●	●	●
	Selectivity module	I >	integrated	●	●	●	●
	Buffer module	s	integrated	●	●	●	●
	DC UPS with ultracaps	min	integrated	●	●	●	●
	DC UPS with batteries	h	integrated	●	●	●	●

[1] Power boost function for basic units with one output

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Basic power supplies			SIMATIC Design	DC/DC converter	Special designs
SITOP PSU4200 – fresh power for basic applications	SITOP lite – the costeffective basic power supply	LOGO!Power – the flat power supply for distribution boards	SITOP in SIMATIC design the optimal supply for SIMATIC S7 and more	Stabile supply despite fluctuating DC voltage	Equipped for specific tasks and conditions
1,3 ~	1 ~	1 ~ =	1,3 ~ =	=	1,3 ~ =
480 W	480 W	100 W	240 W	480 W	960 W
24 V DC	24 V DC	5/12/15/24 V DC	24 V DC	12/24 V DC	12/24/48/3 ... 52 V DC
3 – 20 A	2.5 – 20 A	0.6 – 4.0 A	2.5 – 10 A	3.5 – 20 A	2.1 – 40 A
		Extra Power on switch-on	S7-1500/ET 200SP: Extra Power	PSU400M: Extra Power	
+ +	+	+ +	+	+ + +	+ +
⎓ DC o.k.			ET 200SP/PRO ⎓ DC o.k.	> 240 W: ⎓ DC o.k	partially ⎓ DC o.k
		●			
		●	●	●	●
-25 ... +70 °C	0 ... +60 °C	-25 ... +70 °C	0 ... +60 °C ET 200SP: -30 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C
●	●	●	●	●	●
●	●	●	●	●	●
●	BUF1200	BUF1200	BUF1200	BUF1200	BUF1200
●	●	●	●	●	●
●	●	●	●	●	●

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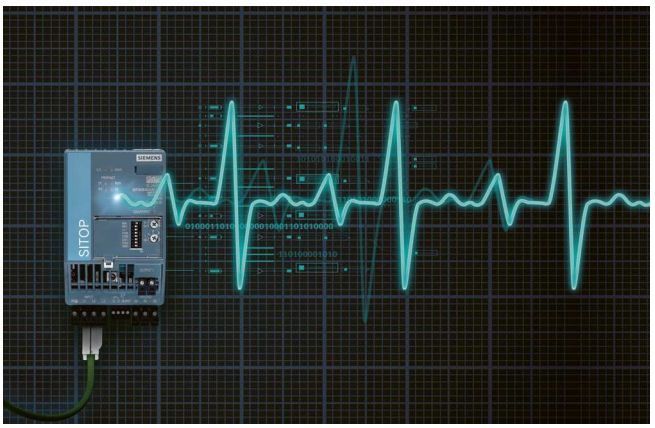
Introduction

Overview

SITOP - At the heart of automation

Thanks to their high degree of reliability, SITOP power supplies have established themselves around the world and can cope with even critical network conditions. Our complete range of power packs supplies regulated 24 volt and other output voltages. The unique range of DC UPS and add-on modules extends the power supply system: 24 V supplies are thus protected against interference from the grid and on the direct voltage side.



Three good reasons for SITOP

Reliability

SITOP has proved its reliability in almost every supply system in the world. With its flexible wide range input, excellent load characteristics and all relevant certification, SITOP power packs preserve the availability of your plant. Add-on modules counteract disturbances on the DC voltage or line side.
And in addition to the uninterruptible power supply, the 24 V power supplies bridge power failures in the range of seconds, minutes or hours.

Even in the event of an overload or short-circuit, the output circuit maintains the selective shutdown of the feeder and the loads continue to be supplied. Redundant power supply solutions can be configured for especially critical applications. Should a replacement be required, our global customer service ensures fast delivery: All SITOP products can be delivered from stock.

Efficiency

Lower energy costs are a valuable competitive advantage. SITOP has an essential role to play here: The primary switched mode power supplies work extremely effectively.
The SITOP PSU6200 degree of efficiency is up to 96%, for example. The power loss across the entire performance range is low – even during no-load operation. This is important because power supplies are rarely operated at full load.

The SITOP PSU8600, on the other hand, captures the energy data of all outputs which are then further processed by the energy management systems. The power supply outputs can also be specifically switched off with the support of PROFIenergy, for instance during idle times.

Efficiency characterizes the entire process chain: The TIA Selection Tool makes it easy to select the right power supply and DC UPS uninterruptible power supply, for instance, and users are given the construction data for all commonly used CAE systems along with the corresponding product documentation.

Integration

SITOP is the benchmark in integration: The inclusion of the SITOP PSU8600 power supply system and SITOP UPS1600 DC uninterruptible power supply in Totally Integrated Automation, the TIA Portal and the new SITOP Manager at all levels saves time and costs and simplifies failsafe engineering. The S7 function blocks evaluate important diagnostic information for the SITOP selectivity modules and the SITOP PSU6200 product line.

In order to protect PC-based automation systems from power outages, the SITOP UPS1600 can be easily integrated via USB or Ethernet. And the SITOP library for SIMATIC PCS 7 enables transparent 24 V supply in the process control system during ongoing operation. In addition to PROFINET, the SITOP PSU8600 and SITOP UPS1600 can now also communicate via OPC UA. The OPC UA server enables direct incorporation of controllers or PCs, for example, into automation applications with OPC UA clients from different manufacturers.

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Overview

Three SITOP categories for different industrial power supply requirements

Advanced power supplies

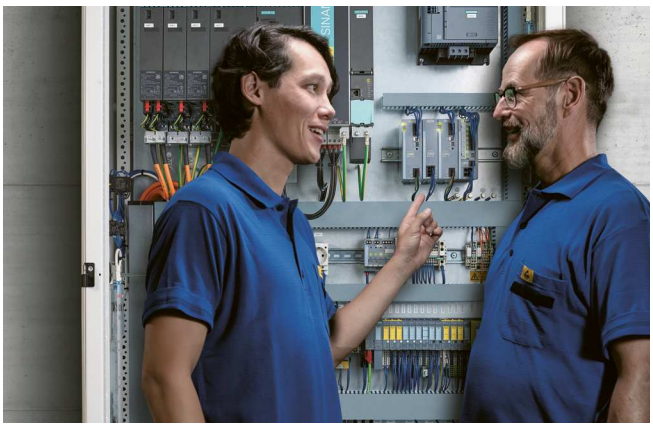
The switched-mode power supplies in the Advanced performance class are the ideal choice for maximum reliability and functionality, qualities required in the process and automotive industries, in special-purpose machine manufacturing, or in harsh environments. Its overload characteristics, efficiency, and compactness mean that the SITOP PSU8200 product range meets the stringent requirements in these areas. Additionally, SITOP PSU8600 offers a power supply system with open communication for optimum integration into the world of digitalization.

Basic power supplies

From flat power supplies for distribution boards, through costeffective basic power supplies, to slim power supply units for control boxes – SITOP caters to all needs, including in the lower performance range.
LOGO!Power offers you miniature power supply units in the LOGO!8 module design, for example. And SITOP lite fulfills the main requirements for reliable primary switched-mode regulators at an affordable price.

Standard power supplies

Our standard portfolio was designed with typical industrial requirements in mind, such as those encountered in series machine production. The versatile new SITOP PSU6200 was developed on the basis of our experience with the timeproven SITOP smart product line. This new SITOP Standard offers even more efficiency, extensive diagnostic options and enhanced robustness.



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Efficient product selection and planning

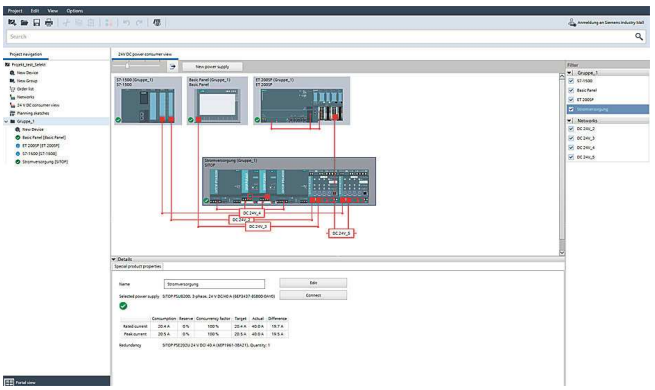
Overview

However sophisticated the requirements are for your power supply, SITOP always provides optimal support for your planning process: from product selection to mechanical and electrical construction and project-specific plant documentation, up to engineering.

The TIA Selection Tool make it possible to select your power supply and DC UPS faster and more directly. You also receive the right CAD data, internal circuit diagrams and EPLAN macros automatically. And parameter assignment and diagnostics of the modular SITOP PSU8600 power supply system and SITOP UPS1600 is easy via the TIA Portal.

Efficiency begins with the right choice

With just a few mouse clicks, the TIA Selection Tool guides you to the optimum power supply and DC UPS for your requirements. Simply enter the relevant parameters. In the case of multiple solutions, an overview is presented with a tabular comparison of the various devices. After deciding on your power supply, it takes only a few clicks to choose a suitable redundancy and/or selectivity module, or the right uninterruptible power supply for your requirements, export your selection directly to the Industry Mall shopping cart and place your order. The resulting product list can be exported in a range of different formats to other CAE (e.g. EPLAN) or engineering systems (such as the TIA Portal) for further processing. In addition, the 24 V consumer view in the TIA Selection Tool helps you to pick the right power supply for your project by automatically calculating the current demand of the chosen automation products. Only those power supplies are offered which provide the required current. If necessary, suitable redundancy, selectivity and DC UPS modules can also be selected.

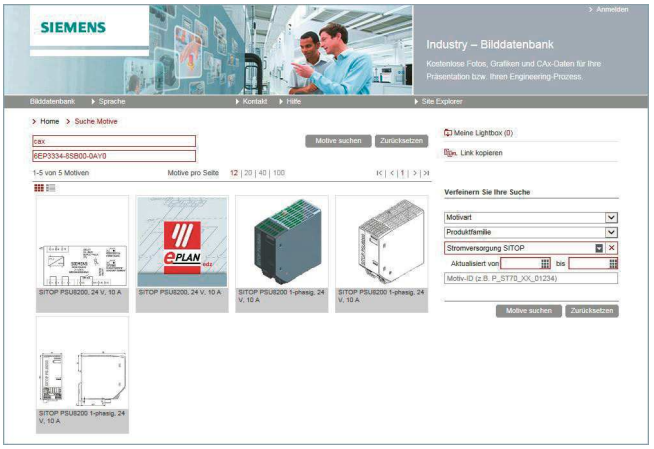


24 V consumer view in the TIA Selection Tool

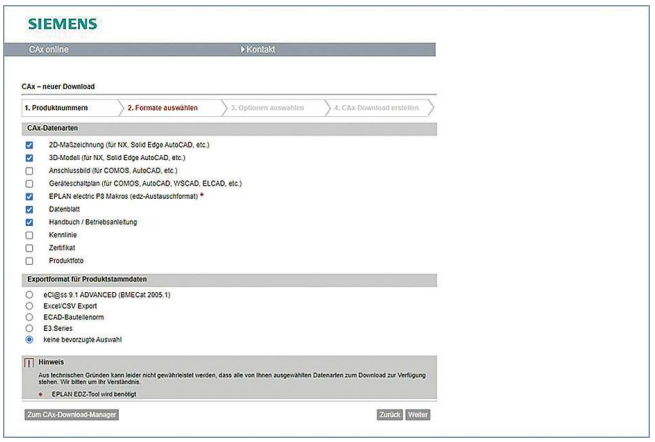
You can find more information on the “24 V consumer view” in the TIA Selection Tool on the internet: SelectionTool finden Sie im Internet:
www.siemens.com/tst.

Everything you need for mechanical and electrical planning and configuring

Additional information such as 3D data, circuit diagram macros according to IEC and ANSI, certificates and operating instructions are available at the click of the mouse. The engineering data can be downloaded with the help of the CAx Manager in DXF, STEP, EPLAN and eCl@ss advanced format for immediate use in your configuration planning. This not only saves you valuable time at the design stage, you also benefit from configurable manuals when creating individual project documentation with the My Documentation Manager.



CAD and CAE data in the industry image database make configuration easy



All product information is available from the CAx Download Manager

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Overview

Our well-proven power supplies cannot, of course, satisfy the requirements of every application. However, we make it possible to optimize your system to suit your application-specific requirements.

You benefit from the expertise of large-scale production and gain maximum development security and quality.

Our customer-specific solutions are used today in many sectors of mechanical engineering, in automation technology, vehicle electronics, equipment manufacturing and in industrial instrumentation technology.

Our offer is in principle open to every application case.
If we have awakened your interest or if you would like to receive further details, please contact your local Siemens representative.

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Selection tables for power supplies

Input voltage	Output voltage	Output current	SITOP PSU8600	SITOP PSU8400	SITOP PSU8200	SITOP PSU6200	SITOP smart
You will find all the technical specifications for these products on the pages specified below							
1-phase AC							
100 ... 240 V	5 V DC	3 A					
		6.3 A					
	12 V DC	0.9 A					
		1.9 A					
		3 A					
		4.5 A					
		8.5 A					
	15 V DC	1.9 A					
		4 A					
	24 V DC	0.6 A					
		1.3 A					
		2.2 A					
		2.5 A					
		4 A					
		6.25 A					
		14.6 A					
		20 A					
		4 × 5 A	●				
110 ... 230 V	24 V DC	20 A			●		
120 ... 230 V, 120 V/230 V, 120 ... 240 V or 120/240 V	12 V DC	2 A				●	
		7 A				●	●
		12 A				●	
		14 A					●
	24 V DC	1.3 A				●	
		2 A					
		2.5 A				●	●
		3 A					
		3.7 A				●	
		5 A			●	●	●
		8 A					
		10 A			●	●	●
		20 A				●	●
		40 A			●		
	2 × 12-28 V DC	3.5 A					
	48 V DC	5 A				●	
		10 A				●	
	3-52 V DC	10 A					

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Input voltage	Output voltage	Output current	SITOP PSU4200	SITOP lite	LOGO! Power	SIMATIC design	DC/DC converter	Special design - special uses
You will find all the technical specifications for these products on the pages specified below								
1-phase AC								
100 ... 240 V	**5 V DC**	3 A			●			
		6.3 A			●			
	12 V DC	0.9 A			●			
		1.9 A			●			
		3 A						PSU100D
		4.5 A			●			
		8.5 A						PSU100D
	15 V DC	1.9 A			●			
		4 A			●			
	24 V DC	0.6 A			●			
		1.3 A			●			
		2.2 A						PSU100D
		2.5 A			●			
		4 A			●			
		6.25 A						PSU100D
		14.6 A						PSU100D
		20 A		●				
		4 × 5 A						
110 ... 230 V	**24 V DC**	20 A						
120 ... 230 V, 120 V/230 V, 120 ... 240 V or 120/240 V	**12 V DC**	2 A						
		7 A						
		12 A						
		14 A						
	24 V DC	1.3 A						
		2 A						
		2.5 A		●		PM1207		
		3 A	●			PM1507		
		3.7 A						
		5 A	●	●		ET200SP PS		PSU100P, PSU2600
		8 A				PM1507		PSU100P
		10 A	●	●		ET200SP PS		
		20 A	●					
		40 A						
	2 × 12-28 V DC	3.5 A						PSU3600 dual
	48 V DC	5 A						PSU100E
		10 A						
	3-52 V DC	10 A						PSU3600 flexi

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Selection tables for power supplies

Input voltage	Output voltage	Output current	SITOP PSU8600	SITOP PSU8400	SITOP PSU8200	SITOP PSU6200	SITOP smart
You will find all the technical specifications for these products on the pages specified below							
1-phase DC							
12 V	24 V DC	4 A					
24 V	12 V DC	8 A					
		15 A					
	24 V DC	2.5 A					
		5 A					
		10 A					
48 V	24 V DC	3.5 A					
		5 A					
		10 A					
24 ... 110 V	24 V DC	2 A					
110 ... 300 V	5 V DC	3 A					
		6.3 A					
	12 V DC	0.9 A					
		1.9 A					
		4.5 A					
	15 V DC	1.9 A					
		4 A					
	24 V DC	0.6 A					
		1.3 A					
		2.5 A					
		4 A					
120 ... 240 V	12 V DC	2 A				●	
		7 A				●	
		12 A				●	
	24 V DC	1.3 A				●	
		2.5 A				●	
		3.7 A				●	
		5 A				●	
		10 A				●	
		20 A					
	48 V DC	5 A				●	
		10 A				●	
300 ... 900 V	24 V DC	20 A					
3-phase AC							
400 ... 480 V	24 V DC	8 A					
400 ... 500 V	12 V DC	20 A					
	24 V DC	5 A				●	●
		10 A				●	●
		17 A					
		20 A	●		●	●	●
		4 × 5 A	●				
		30 ... 40 A					
		40 A	●	●	●		●
		4 × 10 A	●				
	36 V DC	13 A			●		
	48 V DC	5 A				●	
		10 A			●	●	
		20 A			●		

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2/2	**Introduction**
2/3	**SITOP PSU8600 power supply system**
2/3	Introduction
2/8	Basic units 24 V DC (PSU8600)
2/22	Modular system, expansion of outputs (CNX8600)
2/28	Modular system, buffer modules for brief power failure (BUF8600)
2/32	Modular system, UPS module for longer power failure (UPS8600, BAT8600)
2/38	**SITOP PSU8400**
2/44	**SITOP PSU8200**
2/44	Introduction
2/45	1-phase, 24 V DC
2/53	1- and 2-phase, 24 V DC
2/59	3-phase, 24 V DC
2/65	3-phase, 36 V DC
2/68	3-phase, 48 V DC

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Overview

The switched-mode power supply units in the Advanced performance class are the ideal choice for maximum reliability and functionality, qualities required in the process and automotive industries or in special-purpose machine manufacturing.

Its overload characteristics, efficiency, and compactness mean that the SITOP PSU8200 product range meets the stringent requirements in these areas. SITOP PSU8400 also excels in parameterization and monitoring via a device display and an integrated IO-Link interface. With its modular system, the SITOP PSU8600 power supply system offers individual monitoring of individual load branches for overload and buffering in the event of short and long power failures. Furthermore, integration into the Totally Integrated Automation Portal (TIA Portal) as well as communication via PROFINET, EtherNet/IP and OPC UA enable optimal integration into the world of digitalization.

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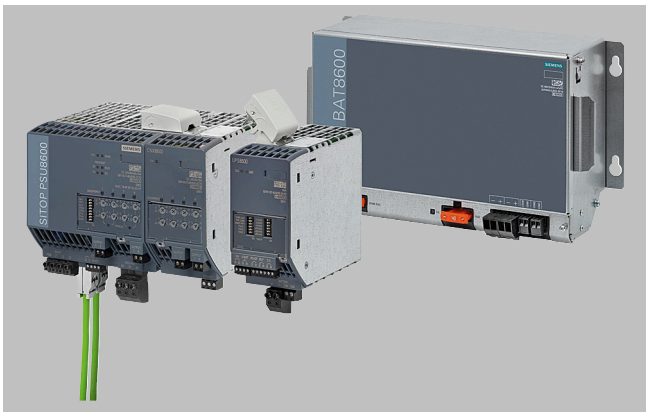
Overview



The power supply system for digitalization and Industry 4.0

As a unique power supply system with network integration, SITOP PSU8600 sets new standards in industrial power supplies. It can be fully integrated into Totally Integrated Automation (TIA) and networked via OPC UA and SITOP Manager with automation systems from different manufacturers. The 3-phase basic unit 24 V/40 A, 4 x 10 A is also available with EtherNet/IP™ interface.

Voltage and current response thresholds can be set individually for each output of the power supply system, and selective monitoring of each output for overload allows fast fault location. Depending on requirements, more modules from the modular system can be added without any wiring effort, for example to buffer against power failures ranging from seconds, minutes or hours, or for increasing the number of outputs.

SITOP PSU8600 can be easily configured in the TIA Portal: From the product selection through the network integration to the parameter assignment.

Comprehensive diagnostic and maintenance information is available via PROFINET. It can be evaluated directly in SIMATIC S7 and visualized in SIMATIC WinCC.

The basic unit SITOP PSU8600 4 x 10 A is also available as a variant with an EtherNet/IP™ interface and is integrated into Rockwell Automation's Studio 5000 design software.

Benefits

- Space and cost savings through up to 36 integrated outputs with selective monitoring (no need for one or more additional selectivity modules)
- Individually parameterizable outputs (elimination of an additional power supply unit, e.g. for 5 V, 12 V or 15 V)
- Compensation for power losses can be set separately for each output
- Narrow width without lateral installation clearances
- Low temperature rise in the control cabinet due to very high efficiency
- Depending on requirements, modular expansion without any wiring effort (additional outputs, buffer module, UPS module)
- Two integrated Ethernet/PROFINET ports or Ethernet/IP ports (no external switch required)
- Basic module PSU8600 3AC 24 V/40 A/4 x 10 A EIP with two integrated EtherNet/IP™ ports
- Integrated web server enables remote monitoring
- Convenient configuration in the TIA Portal
- SIMATIC S7 function blocks for easy integration in STEP 7 user programs
- Fast integration in operator control and monitoring with WinCC faceplates
- Direct integration in SIMATIC PCS 7 via SITOP library
- Easy configuration and monitoring in PC-based automation systems via SITOP Manager
- Preventive maintenance reduces downtimes
- Energy savings during breaks through targeted operation of outputs
- Easy integration in energy management systems (PROFIenergy protocol)

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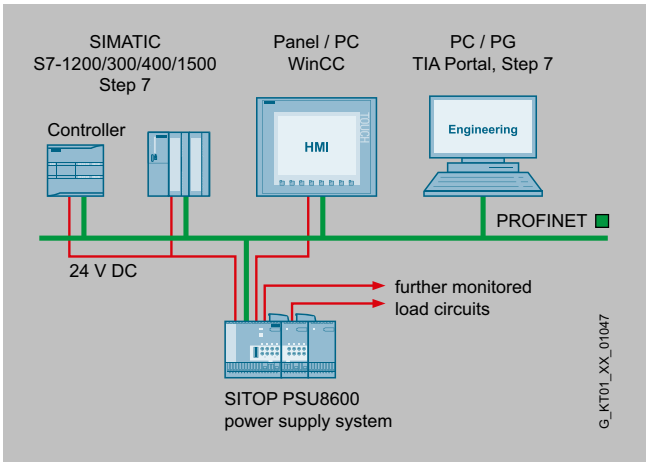
Application

SITOP PSU8600 power supply system is used as a central DC power supply in larger plants, or machines with networked automation systems. The PSU8600 can be directly integrated into the LAN infrastructure by means of the two integrated PROFINET ports.



An extremely high level of reliability is achieved for the DC voltage supply by monitoring the individual DC branches for overload and bridging short-term power failures (brownouts). Complete transparency and fast fault localization are achieved by providing comprehensive diagnostic and maintenance information (e.g. load states of the outputs, phase/power failure, overtemperature) via PROFINET or OPC UA.

Energy-optimized operation is supported by measuring the current power and voltage values of each output as well as the individual activation and deactivation of the DC outputs via PROFIenergy during idle times. The basic unit SITOP PSU8600 4 x 10 A is also available as a variant for integration into EtherNet/IP networks.

Design

- SITOP PSU8600, 1-phase power supply, 24 V DC/20 A/4 × 5 A with four outputs (max. 5 A per output) and two Ethernet/PROFINET ports
- SITOP PSU8600, 3-phase power supply, 24 V DC/20 A/4 × 5 A with four outputs (max. 5 A per output) and two Ethernet/PROFINET ports
- SITOP PSU8600, 3-phase power supply, 24 V DC/20 A with one output and two Ethernet/PROFINET ports
- SITOP PSU8600, 3-phase power supply, 24 V DC/40 A/4 × 10 A with four outputs (max. 10 A per output) and two Ethernet/PROFINET ports
- SITOP PSU8600, 3-phase power supply, 24 V DC/40 A with one output and two Ethernet/PROFINET ports
- SITOP PSU8600, 3-phase power supply, 24 V DC/40 A/4 × 10 A with four outputs and two EtherNet/IP™ ports
- SITOP PSU8600 EIP, 3-phase power supply, 24 V DC/40 A//4 × 10 A with four outputs (max. 10 A per output) and two EtherNet/IP™ ports

Modular system, consisting of:

- SITOP CNX8600 4 × 5 A (expansion module with 4 outputs, each 5 A)
- SITOP CNX8600 4 × 10 A (expansion module with 4 outputs, each 10 A)
- SITOP CNX8600 8 × 2.5 A (expansion module with 8 outputs, each 2.5 A)
- SITOP BUF8600 100 ms/40 A (buffer module for 100 ms at 40 A)
- SITOP BUF8600 300 ms/40 A (buffer module for 300 ms at 40 A)
- SITOP BUF8600 4 s/40 A (buffer module for 4 s at 40 A)
- SITOP BUF8600 10 s/40 A (buffer module for 10 s at 40 A)
- SITOP UPS8600 (UPS module) including external energy storage unit
  - SITOP BAT8600 Pb (battery module with lead-acid batteries for buffering in the event of a power failure for up to 10 min/960 W)
  - SITOP BAT8600 LiFePO4 (battery module with lithium iron phosphate batteries for buffering in the event of a power failure for up to 21 min/960 W)

Up to 4 CNX8600 expansion modules and up to 2 buffer components (BUF8600 or UPS8600) can be connected to a PSU8600 basic unit. The connection is made at the top of the modules without any wiring effort using the System Clip Link and a plug-in connector for system data and power supply. Up to six additional modules can be added in random order; this means that existing configurations do not have to be altered if a module is added at a later stage. Up to 5 BAT8600 battery modules of the same type can be connected to a UPS8600 module. The connection between UPS8600 and BAT8600 via the energy storage link enables intelligent battery management for optimum battery life.

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Function

Supply of connected loads

An individual supply voltage can be set at each output of the power supply system. This means you can supply loads with different nominal voltages simultaneously with only one device. Plus the voltage drop caused by the different cable lengths can be compensated individually, which means each load can be supplied with the optimum voltage.

Monitoring of the outputs for overload

Each output of the power supply system is individually monitored for overload. If the load current exceeds the set response threshold, the output is shut down according to specified time-current characteristics. All other outputs continue to be supplied reaction-free.

Enabling and disabling the outputs

Each output can be manually enabled or disabled directly on the device (e.g. for commissioning or service) and an overload tripping can be reset. Outputs disabled due to overload can also be reset remotely using a remote reset signal (24 V input).

In addition, program-controlled enabling and disabling of the outputs is possible using the integrated Ethernet/PROFINET and Ethernet/IP interface. This also means you can disable individual outputs by means of PROFIenergy during breaks to save energy.

Communication

Comprehensive diagnostics information can be queried and processed via the integrated Ethernet/PROFINET and Ethernet/IP interface during operation for both the device status as well as the status of the individual outputs. This results in complete transparency, minimal downtimes and quick fault location. The integrated web server also permits remote monitoring of the power supply system.

Buffering

If brief voltage dips occur on the mains side, the buffer module provides the load current for supplying the outputs via its energy storage devices. Maintenance-free electrolytic capacitors or double-layer capacitors are used as energy-storage units.

UPS module UPS8600 can be used with the corresponding BAT8600 battery modules to protect against longer power failures. This allows power failures in the minutes to hours range to be bridged. These supplementary modules also make it possible to shut down the system in a specific and safe manner in the event of a power failure. For most power interruptions, however, the bridging time is sufficient so that the system can continue to run without malfunction.

Integration

Software for TIA-based automation systems

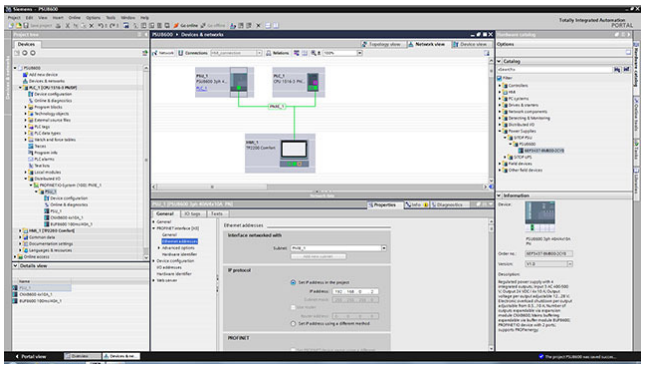
Different software components are available to facilitate easy integration of SITOP PSU8600 in the TIA environment.

Engineering is simple via the TIA Portal. Special function blocks for SIMATIC S7-300, S7-400, S7-1200 and S7-1500 also support integration in the STEP 7 user program.

The comprehensive operating and diagnostic data of the power supply system can be visualized using ready-to-use PSU8600 faceplates for WinCC.

TIA Portal

- User-friendly, fail-safe integration of SITOP PSU8600 into the PROFINET network by means of drag-and-drop
- Convenient configuration of the PSU8600 basic units and CNX8600, BUF8600, UPS8600 and BAT8600 add-on modules though simple selection from the hardware catalog
- Free HSPs (Hardware Support Packages) available for the TIA Portal:
  http://support.automation.siemens.com/WW/view/en/72341852
- Free GSD file (Generic Station Description) for STEP 7 V5
  http://support.automation.siemens.com/WW/view/en/102254061



Establishing the PROFINET connection between the SITOP PSU8600 and the PLC is easy and fail-safe in the TIA Portal

STEP 7 function blocks

Function blocks are available for STEP 7 user programs on SIMATIC S7-300/400/1200/1500. They allow further processing of the PSU8600 operating data.

- Function blocks for STEP 7 V5.6
- Function blocks for STEP 7 in the TIA Portal as of version 15.1

Free download at:
http://support.automation.siemens.com/WW/view/en/102379345

Faceplates for WinCC

Ready-to-use faceplates save programming time during visualization of the SITOP PSU8600. The faceplates show all relevant statuses and values of the power supply system and the individual outputs and are available for the following systems:

- Faceplates for WinCC as of version V7.4
- Faceplates for WinCC flexible 2008 SP5
- Faceplates for WinCC Comfort/Advanced/Professional in the TIA Portal

Free download at:
http://support.automation.siemens.com/WW/view/en/102379345

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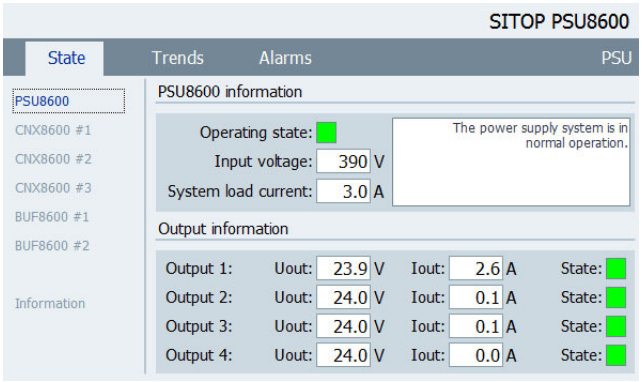
Integration (continued)



The pre-compiled WinCC faceplates show all the relevant data of the power supply system in an easy-to-understand display.

Software for SIMATIC PCS 7 process control system

The SITOP library is available with blocks and faceplates for direct integration into SIMATIC PCS 7. The SW blocks in the SIMATIC S7 supply the faceplate on the user interface of the process control system with operating and diagnostics data, generate messages and ensure connection to the maintenance system of PCS 7. This ensures constant transparency of the 24 V supply in the control system. The SITOP library is supported in SIMATIC PCS 7 as of version V8.2 with SP1.

Free download at:
https://support.industry.siemens.com/cs/ww/en/view/109476154

SITOP Manager - the tool for commissioning, engineering and monitoring of communication-capable SITOP power supplies

SITOP Manager is the medium for all users who do not work with SIMATIC STEP 7 in the TIA Portal or with SIMATIC PCS 7. It manages all communication-capable power supplies in a communication network and enables their commissioning, online and offline engineering, diagnostics as well as operator control and monitoring. With the help of the SITOP Shutdown Service (autonomous function of the SITOP Manager), for example, it also supports continuous monitoring and specific shutdown of one or more PCs in case of a power failure. SITOP Manager is available as a free download in SIOS. It supports the following SITOP devices:

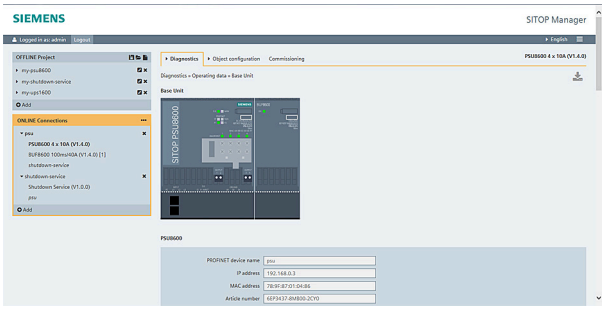
- Requirement for the use of the SITOP Manager with SITOP PSU8600:
  - SITOP PSU8600 3 AC 40 A / 4 x 10 A as of product state (PS) "2" as of firmware V1.4.0
  - SITOP PSU8600 3 AC 20 A / 4 x 5 A, 20 A, 40 A as of product state (PS) "1" as of firmware V1.4.0
  - SITOP PSU8600 1 AC 20 A / 4 x 5 A as of product state (PS) "1" as of firmware V1.5.0

SITOP Manager functions

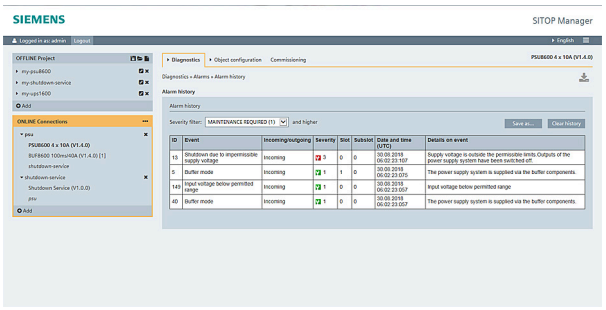
- Integrated engineering, monitoring, diagnostics and service functions save time and operating costs
- Operation via the web interface simplifies automation projects
- Stability and quality prevent plant failures
- Shutting down specific PCs prevents data loss in the event of a power failure
- Possibility to configure multiple SITOP PSU8600 PN/USBs via a single SITOP Manager project file reduces overhead and time, thus saving costs

Integration (continued)

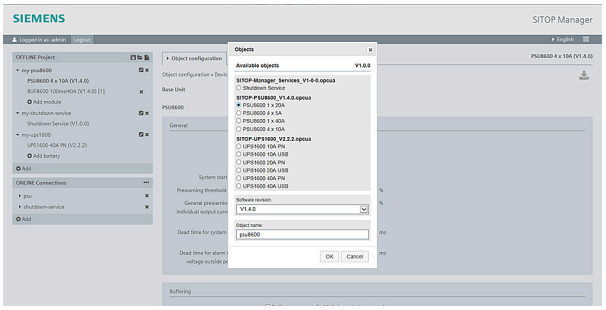
- The option to make configuration changes in runtime (CiR) reduces plant downtimes
- Firmware update option ensures that the SITOP PSU8600 is always up-to-date
- Since SITOP Manager supports Microsoft Windows and SIMATIC Industrial OS, it can be used on all common PCs
- Secure, encrypted communication according to the Siemens security concepts ('Security-in-depth' model)



Diagnostics via SITOP Manager



Alarm history in SITOP Manager



SITOP Manager PSU8600 offline, including saving of offline project to a project file

Free download at:
https://support.industry.siemens.com/cs/ww/en/view/109760607

Web server

A web server is integrated in the PSU8600 basic unit for remote monitoring of the power supply system.

Remote monitoring of

- Hardware configuration data

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Integration (continued)

- Operating data of the basic unit, all connected additional modules and the individual outputs
- Alarm messages

Remote access via:

- Internet Explorer 10, 11, Firefox as of V45, Google Chrome as of V50, Microsoft Edge as of V25
- IP address
- User name and password

The password-protected web server offers a view of the configuration and operating data.

Integration of SITOP PSU8600 EIP in Studio 5000 Logix Designer

In Rockwell Automation's Studio 5000 Logix Designer, the basic unit SITOP PSU8600 24 V/40 A/4 x 10 A EIP and the add-on modules SITOP CNX8600, SITOP BUF8600 and SITOP UPS8600 can be integrated, parameterized and diagnosed in projects.

You can find detailed information in the manual:
https://support.industry.siemens.com/cs/ww/en/view/109808793

More information

TIA Selection Tool for quick and easy configuration of the PSU8600 power supply system:
http://www.siemens.com/tst

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Overview

Despite their compact overall width, the 1-phase and 3-phase basic units of the SITOP PSU8600 power supply system include one Ethernet/PROFINET or EtherNet/IP interface, as well as one or four configurable outputs (voltage and current threshold) with selective monitoring. If needed, additional modules from the modular system can be added to the basic unit without any wiring effort in order to increase the number of outputs (CNX8600) or to extend the power buffering time (BUF8600, UPS8600). Comprehensive diagnostic and maintenance information is available via PROFINET. It can be evaluated directly in SIMATIC S7 and visualized in SIMATIC WinCC. Energy management is also optimally supported through the acquisition of energy data for each output as well as individual activation and deactivation of the outputs via PROFIenergy.

Multi-vendor transfer of parameters and diagnostic data is also possible via the open communications interface OPC UA.

Product highlights

- Extremely slim design with very high efficiency of up to 94%
- Voltage and current threshold can be set separately and are infinitely adjustable for each output
- Extra power with 1.5 times the rated current (5 s/min) for brief, operational overload
- Integrated Ethernet/PROFINET interface (2 ports)
- Easy configuration in the TIA Portal
- Integrated web server for remote diagnostics
- Outputs can be deactivated and activated in a targeted manner with PROFIenergy
- Variant with integrated EtherNet/IP interface (2 ports), integrated in Rockwell Automation's Studio 5000 design software

Selection and ordering data

SITOP PSU8600 1- and 2-phase, 24 V DC/20 A/4 x 5 A with PN/IE connection Stabilized power supply Input: 100 ... 240 V AC Output: 24 V DC/20 A/4 x 5 A	**6EP3336-8MB00-2CY0**
SITOP PSU8600 3-phase, 24 V DC/20 A with PN/IE connection Stabilized power supply Input: 400 ... 500 V 3 AC Output: 24 V DC/20 A	**6EP3436-8SB00-2AY0**
SITOP PSU8600 3-phase, 24 V DC/40 A with PN/IE connection Stabilized power supply Input: 400 ... 500 V 3 AC Output: 24 V DC/40 A	**6EP3437-8SB00-2AY0**
SITOP PSU8600 3-phase, 24 V DC/20 A/4 x 5 A with PN/IE connection Stabilized power supply Input: 400 ... 500 V 3 AC Output: 24 V DC/20 A/4 x 5 A	**6EP3436-8MB00-2CY0**
SITOP PSU8600 3-phase, 24 V DC/40 A/4 x 10 A with PN/IE connection Stabilized power supply Input: 400 ... 500 V 3 AC Output: 24 V DC/40 A/4 x 10 A	**6EP3437-8MB00-2CY0**
SITOP PSU8600 3-phase, 24 V DC/40 A/4 x 10 A with EIP connection Stabilized power supply Input: 400 ... 500 V 3 AC Output: 24 V DC/40 A/4 x 10 A	**6EP3437-8MB10-2CY0**

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Accessories

SITOP CNX8600 4 x 5 A expansion module For SITOP PSU8600 Output: 24 V DC/4 x 5 A	**6EP4436-8XB00-0CY0**
SITOP CNX8600 4 x 10 A expansion module For SITOP PSU8600 Output: 24 V DC/4 x 10 A	**6EP4437-8XB00-0CY0**
SITOP CNX8600 8 x 2.5 A expansion module For SITOP PSU8600 Output: 24 V DC/8 x 2.5 A	**6EP4436-8XB00-0DY0**
SITOP BUF8600 100 ms buffer module For SITOP PSU8600 Buffer capacity 100 ms/40 A	**6EP4297-8HB00-0XY0**
SITOP BUF8600 300 ms buffer module For SITOP PSU8600 Buffer capacity 300 ms/40 A	**6EP4297-8HB10-0XY0**
SITOP BUF8600 4 s buffer module For SITOP PSU8600 Buffer capacity 4 s/40 A	**6EP4293-8HB00-0XY0**
SITOP BUF8600 10 s buffer module For SITOP PSU8600 Buffer capacity 10 s/40 A	**6EP4295-8HB00-0XY0**
SITOP UPS8600 UPS module For SITOP PSU8600 Rated buffer power 960 W	**6EP4197-8AB00-0XY0**
SITOP BAT8600 battery module 380 Wh For SITOP UPS8600 with Pb rechargeable batteries	**6EP4145-8GB00-0XY0**
SITOP BAT8600 battery module 264 Wh For SITOP UPS8600 with LiFePO4 rechargeable batteries	**6EP4143-8JB00-0XY0**
Device identification labels	**3RT2900-1SB20**

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Technical specifications

Article number product brand name type of current supply	6EP3336-8MB00-2CY0 SITOP PSU8600 24 V/20 A/4x 5 A	6EP3436-8MB00-2CY0 SITOP PSU8600 24 V/20 A/4x 5 A	6EP3436-8SB00-2AY0 SITOP PSU8600 24 V/20 A
input			
type of the power supply network	1-phase and 2-phase AC or DC	3-phase AC	3-phase AC
supply voltage at AC			
• minimum rated value	100 V	400 V	400 V
• maximum rated value	240 V	500 V	500 V
• initial value	85 V	320 V	320 V
• full-scale value	275 V	575 V	575 V
supply voltage at AC		Derating 320 ... 360 and 530 ... 575 V	Derating 320 ... 360 and 530 ... 575 V
supply voltage at DC	110 ... 220 V		
input voltage at DC	93 ... 275 V		
wide range input	Yes	Yes	Yes
buffering time for rated value of the output current in the event of power failure minimum	20 ms	15 ms	15 ms
operating condition of the mains buffering	at Vin = 100 V; Prioritized supply of Output 1 in case of power failure selectable via DIP switch	at Vin = 400 V; Prioritized supply of Output 1 in case of power failure selectable via DIP switch	at Vin = 400 V; Prioritized supply of the output in case of power failure selectable via DIP switch (only in conjunction with CNX8600 expansion module)
line frequency	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz
line frequency	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz
input current			
• at rated input voltage 100 V	5.4 A		
• at rated input voltage 110 V	4.8 A		
• at rated input voltage 120 V	4.5 A		
• at rated input voltage 220 V	2.4 A		
• at rated input voltage 230 V	2.5 A		
• at rated input voltage 240 V	2.4 A		
• at rated input voltage 400 V		1.4 A	1.4 A
• at rated input voltage 500 V		1.1 A	1.1 A
current limitation of inrush current at 25 °C maximum	15 A	14 A	14 A
I2t value maximum	4.33 $A^2 \cdot s$	1.2 $A^2 \cdot s$	1.2 $A^2 \cdot s$
fuse protection type	internal	none	none
fuse protection type in the feeder	required: circuit breaker (for UL: UL489-listed/DIVQ) characteristic C, 10-32 A, alternatively slow-response fuses (for UL: UL248-listed)	Required: 3-pole connected miniature circuit breaker 6 ... 16 A characteristic C or circuit breaker 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10 (UL 489)	Required: 3-pole connected miniature circuit breaker 6 ... 16 A characteristic C or circuit breaker 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10 (UL 489)
output			
voltage curve at output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
number of outputs	4	4	1
output voltage at DC rated value	24 V	24 V	24 V
output voltage			
• at output 1 at DC rated value	24 V	24 V	24 V
• at output 2 at DC rated value	24 V	24 V	
• at output 3 at DC rated value	24 V	24 V	
• at output 4 at DC rated value	24 V	24 V	
	5 ... 24 V	5 ... 24 V	5 ... 24 V
output voltage adjustable	Yes; via potentiometer or IE/PN interface	Yes; via potentiometer or IE/PN interface	Yes; via potentiometer or IE/PN interface
adjustable output voltage	4 ... 28 V; Derating > 24 V: 4%/V; max. 120 W per output, max. 480 W overall system	4 ... 28 V; Derating > 24 V: 4%/V; max. 120 W per output, max. 480 W overall system	4 ... 28 V; Derating > 24 V: 4%/V; max. 480 W overall system

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3336-8MB00-2CY0 SITOP PSU8600 24 V/20 A/4x 5 A	6EP3436-8MB00-2CY0 SITOP PSU8600 24 V/20 A/4x 5 A	6EP3436-8SB00-2AY0 SITOP PSU8600 24 V/20 A
relative control precision of the output voltage			
• on slow fluctuation of input voltage	0.2 %	0.2 %	0.2 %
• on slow fluctuation of ohm loading	0.1 %	0.1 %	0.1 %
residual ripple			
• maximum	100 mV	100 mV	100 mV
voltage peak			
• maximum	200 mV	200 mV	200 mV
display version for normal operation	3-color LED for operating state device; LED for operating mode manual/remote; 4 LEDs for communication PROFINET; 3-color LED per output for operating state output; LED green for parallel operation Output 1 and 2 / 3 and 4	3-color LED for operating state device; LED for operating mode manual/remote; 4 LEDs for communication PROFINET; 3-color LED per output for operating state output; LED green for parallel operation Output 1 and 2 / 3 and 4	3-color LED for operating state device; LED for operating mode manual/remote; 4 LEDs for communication PROFINET; 3-color LED for operating state output
type of signal at output	Relay contact (changeover contact, contact current capacity DC 60 V/0.3 A) for "Operating state OK"	Relay contact (changeover contact, contact current capacity DC 60 V/0.3 A) for "Operating state OK"	Relay contact (changeover contact, contact current capacity DC 60 V/0.3 A) for "Operating state OK"
behavior of the output voltage when switching on	No overshoot of Vout (soft start)	No overshoot of Vout (soft start)	No overshoot of Vout (soft start)
response delay maximum	1 s; Without on-delay of the outputs	1 s; Without on-delay of the outputs	1 s
type of outputs connection	Simultaneous connecting-in of all outputs after device booting or delay time of 25 ms, 100 ms or "load-optimized" for sequential cutting-in of the outputs via DIP switches can be set	Simultaneous connecting-in of all outputs after device booting or delay time of 25 ms, 100 ms or "load-optimized" for sequential cutting-in of the outputs via DIP switches can be set	Simultaneous connecting-in of all outputs after device booting or delay time of 25 ms, 100 ms or "load-optimized" for sequential cutting-in of the outputs via DIP switches can be set (only with expansion module CNX8600)
voltage increase time of the output voltage			
• maximum	500 ms	500 ms	500 ms
output current			
• rated value	20 A	20 A	20 A
• per output	5 A	5 A	20 A
• at output 1 rated value	5 A	5 A	20 A
• at output 2 rated value	5 A	5 A	
• at output 3 rated value	5 A	5 A	
• at output 4 rated value	5 A	5 A	
• rated range	0 ... 20 A	0 ... 20 A; +50 ... +60 °C: Derating 2.5%/K; no derating in connection with expansion module CNX8600 and total load of the outputs at the basic device max. 240 W	0 ... 20 A; +50 ... +60 °C: Derating 2.5%/K; no derating in connection with expansion module CNX8600 and total load of the outputs at the basic device max. 240 W
	20 A	20 A	20 A
supplied active power typical	480 W	480 W	480 W
short-term overload current			
• at short-circuit during operation typical			60 A; only in operation without CNX8600 extension module
duration of overloading capability for excess current			
• at short-circuit during operation			25 ms
parallel switching of outputs	Yes; Parallel circuit Output 1 with 2 or Output 3 with 4 can be selected via DIP switch	Yes; Parallel circuit Output 1 with 2 or Output 3 with 4 can be selected via DIP switch	
bridging of equipment	No	No	Yes; suitable output characteristics via DIP switch can be selected
number of parallel-switched equipment resources			2
efficiency			
efficiency in percent	92 %	93 %	93 %
power loss [W]			

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3336-8MB00-2CY0 SITOP PSU8600 24 V/20 A/4x 5 A	6EP3436-8MB00-2CY0 SITOP PSU8600 24 V/20 A/4x 5 A	6EP3436-8SB00-2AY0 SITOP PSU8600 24 V/20 A
• at rated output voltage for rated value of the output current typical	39 W	34 W	34 W
• during no-load operation maximum	14 W	12 W	12 W
closed-loop control			
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	0.1 %	0.1 %	0.1 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	0.4 %	0.4 %	0.4 %
setting time			
• maximum	10 ms	10 ms	10 ms
protection and monitoring			
design of the overvoltage protection	max. 35 V (max. 500 ms)	max. 35 V (max. 500 ms)	max. 35 V (max. 500 ms)
property of the output short-circuit proof	Yes	Yes	Yes
design of short-circuit protection	electronic overload cut-off; optionally constant current operation can be selected for Output 4 via DIP switches	electronic overload cut-off; optionally constant current operation can be selected for Output 4 via DIP switches	Electronic overload shutdown; optional constant-current operation can be selected via DIP switch
adjustable current response value current of the current-dependent overload release	0.5 ... 5 A	0.5 ... 5 A	2 ... 20 A
type of response value setting	via potentiometer or IE/PN interface	via potentiometer or IE/PN interface	via potentiometer or IE/PN interface
switching characteristic			
• of the excess current	Ia >1.0...<1.5 x Ia threshold permissible for 5 s; Ia limit (= 1.5 x Ia threshold) permissible for 200 ms	Ia >1.0...<1.5 x Ia threshold permissible for 5 s; Ia limit (= 1.5 x Ia threshold) permissible for 200 ms	Ia >1.0...<1.5 x Ia threshold permissible for 5 s; Ia limit (= 1.5 x Ia threshold) permissible for 200 ms
• of the current limitation	Ia limit (= 1.5 x Ia threshold) permissible for 5 s, afterwards Ia threshold continuous	Ia limit (= 1.5 x Ia threshold) permissible for 5 s, afterwards Ia threshold continuous	Ia limit (= 1.5 x Ia threshold) permissible for 5 s, afterwards Ia threshold continuous
overcurrent overload capability			
• in normal operation	Total system overloadable 150% Ia rated to 5 s/min	Total system overloadable 150% Ia rated to 5 s/min	Total system overloadable 150% Ia rated to 5 s/min
display version for overload and short circuit	3-color LED for operating state device; 3-color LED per output for operating state output	3-color LED for operating state device; 3-color LED per output for operating state output	3-color LED for operating state device; 3-color LED for operating state output
design of the reset device/resetting mechanism	via sensor per output or IE/PN interface	via sensor per output or IE/PN interface	via sensor or IE/PN interface
remote reset function	Non-electrically isolated 24 V input (signal level "high" at > 15 V)	Non-electrically isolated 24 V input (signal level "high" at > 15 V)	Non-electrically isolated 24 V input (signal level "high" at > 15 V)
interfaces			
product function communication function	Yes	Yes	Yes
design of the interface	Ethernet/PROFINET	Ethernet/PROFINET	Ethernet/PROFINET
• design of the interface PROFINET protocol	Yes	Yes	Yes
protocol is supported			
• OPC UA	Yes	Yes	Yes
safety			
galvanic isolation between input and output	Yes	Yes	Yes
galvanic isolation	Safety extra low output voltage Vout according to EN 61204-7	Safety extra low output voltage Vout according to EN 61204-7	Safety extra low output voltage Vout according to EN 61204-7
operating resource protection class	Class I	Class I	Class I
leakage current			
• maximum	3.5 mA	3.5 mA	3.5 mA
protection class IP	IP20	IP20	IP20
standard			
• for emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
• for mains harmonics limitation	EN 61000-3-2	EN 61000-3-2	EN 61000-3-2
• for interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3336-8MB00-2CY0 SITOP PSU8600 24 V/20 A/4x 5 A	6EP3436-8MB00-2CY0 SITOP PSU8600 24 V/20 A/4x 5 A	6EP3436-8SB00-2AY0 SITOP PSU8600 24 V/20 A
standards, specifications, approvals			
certificate of suitability			
• CE marking	Yes	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• CSA approval	Yes; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)	Yes; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)	Yes; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)
• EAC approval	Yes	Yes	Yes
• NEC Class 2	No	No	No
• SEMI F47	Yes	Yes	Yes
type of certification			
• BIS	Yes; R-41188271	Yes; R-41188271	Yes; R-41188271
• CB-certificate	Yes	Yes	Yes
MTBF at 40 °C	186 700 h	243 178 h	298 979 h
standards, specifications, approvals hazardous environments			
certificate of suitability			
• IECEx	No	No	No
• ATEX	No	No	No
• ULhazloc approval	No	No	No
• cCSAus, Class 1, Division 2	No	No	No
• FM registration	No	No	No
standards, specifications, approvals marine classification			
shipbuilding approval	Yes	Yes	Yes
Marine classification association			
• American Bureau of Shipping Europe Ltd. (ABS)	Yes	Yes	Yes
• French marine classification society (BV)	No	No	No
• Det Norske Veritas (DNV)	No	Yes	Yes
• Lloyds Register of Shipping (LRS)	No	No	No
standards, specifications, approvals Environmental Product Declaration			
Environmental Product Declaration	Yes	Yes	Yes
Global Warming Potential [CO2 eq]			
• total	1 262.5 kg	1 096.3 kg	1 093.1 kg
• during manufacturing	41 kg	31.5 kg	28.4 kg
• during operation	1 220.3 kg	1 063.9 kg	1 063.9 kg
• after end of life	0.59 kg	0.45 kg	0.41 kg
ambient conditions			
ambient temperature			
• during operation	-25 ... +60 °C; with natural convection	-25 ... +60 °C; with natural convection	-25 ... +60 °C; with natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method			
type of electrical connection	Plug-in terminals with screwed connection	Plug-in terminals with screwed connection	Plug-in terminals with screwed connection
• at input	L1/+, N/L2/-, PE: Plug-in terminal with 1 screwed connection each for 0.2 ... 4 mm² single-wire / fine stranded	L1, L2, L3, PE: Plug-in terminal with 1 screwed connection each for 0.2 ... 4 mm² single-wire / fine stranded	L1, L2, L3, PE: Plug-in terminal with 1 screwed connection each for 0.2 ... 4 mm² single-wire / fine stranded

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3336-8MB00-2CY0 SITOP PSU8600 24 V/20 A/4x 5 A	6EP3436-8MB00-2CY0 SITOP PSU8600 24 V/20 A/4x 5 A	6EP3436-8SB00-2AY0 SITOP PSU8600 24 V/20 A
• at output	1, 2, 3, 4: Two plug-in terminals (1, 2 and 3, 4) with 2 screwed connections each for 0.2 ... 2.5 mm²; 0 V: Plug-in terminal with 3 screwed connections for 0.2 ... 4 mm²	1, 2, 3, 4: Two plug-in terminals (1, 2 and 3, 4) with 2 screwed connections each for 0.2 ... 2.5 mm²; 0 V: Plug-in terminal with 3 screwed connections for 0.2 ... 4 mm²	Output: plug-in terminals with 2 screw connectors for 0.2 ... 4 mm²; 0 V: screw terminal with 3 screw connectors for 0.2 ... 4 mm²
• for auxiliary contacts	RST (Reset): Plug-in terminal (together with alarm signal) with 1 screwed connection for 0.2 ... 1.5 mm²	RST (Reset): Plug-in terminal (together with alarm signal) with 1 screwed connection for 0.2 ... 1.5 mm²	RST (Reset): Plug-in terminal (together with alarm signal) with 1 screwed connection for 0.2 ... 1.5 mm²
• for signaling contact	11, 12, 14 (alarm signal): Plug-in terminal (together with Reset) with 1 screwed connection each for 0.2 ... 1.5 mm²	11, 12, 14 (alarm signal): Plug-in terminal (together with Reset) with 1 screwed connection each for 0.2 ... 1.5 mm²	11, 12, 14 (alarm signal): Plug-in terminal (together with Reset) with 1 screwed connection each for 0.2 ... 1.5 mm²
removable terminal at input	Yes	Yes	Yes
removable terminal at output	Yes	Yes	Yes
design of the interface for communication	PROFINET/Ethernet: two RJ45 sockets (2-port switch)	PROFINET/Ethernet: two RJ45 sockets (2-port switch)	PROFINET/Ethernet: two RJ45 sockets (2-port switch)
suitability for interaction modular system	Yes	Yes	Yes
mechanical data			
width × height × depth of the enclosure	125 mm × 150 mm	100 mm × 150 mm	80 mm × 150 mm
installation width × mounting height	125 mm	100 mm	80 mm
required spacing			
• top	50 mm	50 mm	50 mm
• bottom	50 mm	50 mm	50 mm
• left	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x15	Snaps onto DIN rail EN 60715 35x15	Snaps onto DIN rail EN 60715 35x15
• standard rail mounting	Yes	Yes	Yes
• S7 rail mounting	No	No	No
• wall mounting	No	No	No
housing can be lined up	Yes	Yes	Yes
net weight	2.6 kg	2 kg	1.8 kg
accessories			
electrical accessories	Expansion modules CNX8600, buffer modules BUF8600, module UPS8600	Expansion modules CNX8600, buffer modules BUF8600, module UPS8600	Expansion modules CNX8600, buffer modules BUF8600, module UPS8600
mechanical accessories	Device identification label 20 mm × 7 mm, TI-grey 3RT2900-1SB20	Device identification label 20 mm × 7 mm, TI-grey 3RT2900-1SB20	Device identification label 20 mm × 7 mm, TI-grey 3RT2900-1SB20
further information internet links			
internet link			
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com
additional information			
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3336-8MB00-2CY0 SITOP PSU8600 24 V/20 A/4x 5 A	6EP3436-8MB00-2CY0 SITOP PSU8600 24 V/20 A/4x 5 A	6EP3436-8SB00-2AY0 SITOP PSU8600 24 V/20 A
security information			
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

Article number product brand name type of current supply	6EP3437-8MB00-2CY0 SITOP PSU8600 24 V/40 A/4x 10 A	6EP3437-8SB00-2AY0 SITOP PSU8600 24 V/40 A	6EP3437-8MB10-2CY0 SITOP PSU8600 24 V/40 A/4x 10 A
input			
type of the power supply network	3-phase AC	3-phase AC	3-phase AC
supply voltage at AC			
• minimum rated value	400 V	400 V	400 V
• maximum rated value	500 V	500 V	500 V
• initial value	320 V	320 V	320 V
• full-scale value	575 V	575 V	575 V
supply voltage at AC	Derating 320 ... 360 and 530 ... 575 V	Derating 320 ... 360 and 530 ... 575 V	Derating 320 ... 360 and 530 ... 575 V
wide range input	Yes	Yes	Yes

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3437-8MB00-2CY0 SITOP PSU8600 24 V/40 A/4x 10 A	6EP3437-8SB00-2AY0 SITOP PSU8600 24 V/40 A	6EP3437-8MB10-2CY0 SITOP PSU8600 24 V/40 A/4x 10 A
buffering time for rated value of the output current in the event of power failure minimum	15 ms	15 ms	15 ms
operating condition of the mains buffering	at Vin = 400 V; Prioritized supply of Output 1 in case of power failure selectable via DIP switch	at Vin = 400 V; Prioritized supply of the output in case of power failure selectable via DIP switch (only in conjunction with CNX8600 expansion module)	at Vin = 400 V; Prioritized supply of Output 1 in case of power failure selectable via DIP switch
line frequency	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz
line frequency	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz
input current			
• at rated input voltage 400 V	2.75 A	2.75 A	2.75 A
• at rated input voltage 500 V	2.2 A	2.2 A	2.2 A
current limitation of inrush current at 25 °C maximum	14 A	14 A	14 A
I2t value maximum	2.24 A^2·s	2.24 A^2·s	2.24 A^2·s
fuse protection type	none	none	none
fuse protection type in the feeder	Required: 3-pole connected miniature circuit breaker 10 ... 16 A characteristic C or circuit breaker 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10 (UL 489)	Required: 3-pole connected miniature circuit breaker 10 ... 16 A characteristic C or circuit breaker 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10 (UL 489)	Required: 3-pole connected miniature circuit breaker 10 ... 16 A characteristic C or circuit breaker 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10 (UL 489)
output			
voltage curve at output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
number of outputs	4	1	4
output voltage at DC rated value	24 V	24 V	24 V
output voltage			
• at output 1 at DC rated value	24 V	24 V	24 V
• at output 2 at DC rated value	24 V		24 V
• at output 3 at DC rated value	24 V		24 V
• at output 4 at DC rated value	24 V		24 V
	5 ... 24 V	5 ... 24 V	5 ... 24 V
output voltage adjustable	Yes; via potentiometer or IE/PN interface	Yes; via potentiometer or IE/PN interface	Yes; via potentiometer or EIP interface
adjustable output voltage	4 ... 28 V; Derating > 24 V: 4%/V; max. 240 W per output, max. 960 W overall system	4 ... 28 V; Derating > 24 V: 4%/V; max. 960 W overall system	4 ... 28 V; Derating > 24 V: 4%/V; max. 240 W per output, max. 960 W overall system
relative control precision of the output voltage			
• on slow fluctuation of input voltage	0.2 %	0.2 %	0.2 %
• on slow fluctuation of ohm loading	0.1 %	0.1 %	0.1 %
residual ripple			
• maximum	100 mV	100 mV	100 mV
voltage peak			
• maximum	200 mV	200 mV	200 mV
display version for normal operation	3-color LED for operating state device; LED for operating mode manual/remote; 4 LEDs for communication PROFINET; 3-color LED per output for operating state output; LED green for parallel operation Output 1 and 2 / 3 and 4	3-color LED for operating state device; LED for operating mode manual/remote; 4 LEDs for communication PROFINET; 3-color LED for operating state output	3-color LED for operating state device; LED for operating mode manual/remote; 4 LEDs for communication EtherNet/IP™; 3-color LED per output for operating state output; LED green for parallel operation Output 1 and 2 / 3 and 4
type of signal at output	Relay contact (changeover contact, contact current capacity DC 60 V/0.3 A) for "Operating state OK"	Relay contact (changeover contact, contact current capacity DC 60 V/0.3 A) for "Operating state OK"	Relay contact (changeover contact, contact current capacity DC 60 V/0.3 A) for "Operating state OK"

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3437-8MB00-2CY0 SITOP PSU8600 24 V/40 A/4x 10 A	6EP3437-8SB00-2AY0 SITOP PSU8600 24 V/40 A	6EP3437-8MB10-2CY0 SITOP PSU8600 24 V/40 A/4x 10 A
behavior of the output voltage when switching on	No overshoot of Vout (soft start)	No overshoot of Vout (soft start)	No overshoot of Vout (soft start)
response delay maximum	1 s; Without on-delay of the outputs	1 s	1 s; Without on-delay of the outputs
type of outputs connection	Simultaneous connecting-in of all outputs after device booting or delay time of 25 ms, 100 ms or "load-optimized" for sequential cutting-in of the outputs via DIP switches can be set	Simultaneous connecting-in of all outputs after device booting or delay time of 25 ms, 100 ms or "load-optimized" for sequential cutting-in of the outputs via DIP switches can be set (only with expansion module CNX8600)	Simultaneous connecting-in of all outputs after device booting or delay time of 25 ms, 100 ms or "load-optimized" for sequential cutting-in of the outputs via DIP switches can be set
voltage increase time of the output voltage			
• maximum	500 ms	500 ms	500 ms
output current			
• rated value	40 A	40 A	40 A
• per output	10 A	40 A	10 A
• at output 1 rated value	10 A	40 A	10 A
• at output 2 rated value	10 A		10 A
• at output 3 rated value	10 A		10 A
• at output 4 rated value	10 A		10 A
• rated range	0 ... 40 A; +50 ... +60 °C: Derating 2.5%/K; no derating in connection with expansion module CNX8600 and total load of the outputs at the basic device max. 480 W	0 ... 40 A; +50 ... +60 °C: Derating 2.5%/K; no derating in connection with expansion module CNX8600 and total load of the outputs at the basic device max. 480 W	0 ... 40 A; +50 ... +60 °C: Derating 2.5%/K; no derating in connection with expansion module CNX8600 and total load of the outputs at the basic device max. 480 W
	40 A	40 A	40 A
supplied active power typical	960 W	960 W	960 W
short-term overload current			
• at short-circuit during operation typical		120 A; only in operation without CNX8600 extension module	
duration of overloading capability for excess current			
• at short-circuit during operation		25 ms	
parallel switching of outputs	Yes; Parallel circuit Output 1 with 2 or Output 3 with 4 can be selected via DIP switch		
bridging of equipment	No	Yes; suitable output characteristics via DIP switch can be selected	
number of parallel-switched equipment resources		2	
efficiency			
efficiency in percent	93 %	93 %	93 %
power loss [W]			
• at rated output voltage for rated value of the output current typical	72 W	72 W	72 W
• during no-load operation maximum	20 W	20 W	20 W
closed-loop control			
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	0.1 %	0.1 %	0.1 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	0.4 %	0.4 %	0.4 %
setting time			
• maximum	10 ms	10 ms	10 ms
protection and monitoring			
design of the overvoltage protection	max. 35 V (max. 500 ms)	max. 35 V (max. 500 ms)	max. 35 V (max. 500 ms)
property of the output short-circuit proof	Yes	Yes	Yes

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3437-8MB00-2CY0 SITOP PSU8600 24 V/40 A/4x 10 A	6EP3437-8SB00-2AY0 SITOP PSU8600 24 V/40 A	6EP3437-8MB10-2CY0 SITOP PSU8600 24 V/40 A/4x 10 A
design of short-circuit protection	electronic overload cut-off; optionally constant current operation can be selected for Output 4 via DIP switches	Electronic overload shutdown; optional constant-current operation can be selected via DIP switch	electronic overload cut-off; optionally constant current operation can be selected for Output 4 via DIP switches
adjustable current response value current of the current-dependent overload release	0.5 ... 10 A	4 ... 40 A	0.5 ... 10 A
type of response value setting	via potentiometer or IE/PN interface	via potentiometer or IE/PN interface	via potentiometer or EIP interface
switching characteristic			
• of the excess current	Ia >1.0...<1.5 x Ia threshold permissible for 5 s; Ia limit (= 1.5 x Ia threshold) permissible for 200 ms	Ia >1.0...<1.5 x Ia threshold permissible for 5 s; Ia limit (= 1.5 x Ia threshold) permissible for 200 ms	Ia >1.0...<1.5 x Ia threshold permissible for 5 s; Ia limit (= 1.5 x Ia threshold) permissible for 200 ms
• of the current limitation	Ia limit (= 1.5 x Ia threshold) permissible for 5 s, afterwards Ia threshold continuous	Ia limit (= 1.5 x Ia threshold) permissible for 5 s, afterwards Ia threshold continuous	Ia limit (= 1.5 x Ia threshold) permissible for 5 s, afterwards Ia threshold continuous
overcurrent overload capability			
• in normal operation	Total system overloadable 150% Ia rated to 5 s/min	Total system overloadable 150% Ia rated to 5 s/min	Total system overloadable 150% Ia rated to 5 s/min
display version for overload and short circuit	3-color LED for operating state device; 3-color LED per output for operating state output	3-color LED for operating state device; 3-color LED for operating state output	3-color LED for operating state device; 3-color LED per output for operating state output
design of the reset device/resetting mechanism	via sensor per output or IE/PN interface	via sensor or IE/PN interface	via sensor per output or EIP interface
remote reset function	Non-electrically isolated 24 V input (signal level "high" at > 15 V)	Non-electrically isolated 24 V input (signal level "high" at > 15 V)	Non-electrically isolated 24 V input (signal level "high" at > 15 V)
interfaces			
product function communication function	Yes	Yes	Yes
design of the interface	Ethernet/PROFINET	Ethernet/PROFINET	EtherNet/IP™
• design of the interface PROFINET protocol	Yes	Yes	
protocol is supported			
• EtherNet/IP protocol			Yes
• OPC UA	Yes	Yes	
safety			
galvanic isolation between input and output	Yes	Yes	Yes
galvanic isolation	Safety extra low output voltage Vout according to EN 61204-7	Safety extra low output voltage Vout according to EN 61204-7	Safety extra low output voltage Vout according to EN 61204-7
operating resource protection class	Class I	Class I	Class I
leakage current			
• maximum	3.5 mA	3.5 mA	3.5 mA
protection class IP	IP20	IP20	IP20
standard			
• for emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
• for mains harmonics limitation	EN 61000-3-2	EN 61000-3-2	EN 61000-3-2
• for interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals			
certificate of suitability			
• CE marking	Yes	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• CSA approval	Yes; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)	Yes; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)	Yes; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)
• EAC approval	Yes	Yes	Yes
• NEC Class 2	No	No	No
• SEMI F47	Yes	Yes	
type of certification			

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3437-8MB00-2CY0 SITOP PSU8600 24 V/40 A/4x 10 A	6EP3437-8SB00-2AY0 SITOP PSU8600 24 V/40 A	6EP3437-8MB10-2CY0 SITOP PSU8600 24 V/40 A/4x 10 A
• BIS	Yes; R-41188271	Yes; R-41188271	
• CB-certificate	Yes	Yes	Yes
MTBF at 40 °C	207 612 h	235 118 h	207 612 h
standards, specifications, approvals hazardous environments			
certificate of suitability			
• IECEx	No	No	No
• ATEX	No	No	No
• ULhazloc approval	No	No	No
• cCSAus, Class 1, Division 2	No	No	No
• FM registration	No	No	No
standards, specifications, approvals marine classification			
shipbuilding approval	Yes	Yes	Yes
Marine classification association			
• American Bureau of Shipping Europe Ltd. (ABS)	Yes	Yes	Yes
• French marine classification society (BV)	No	No	No
• Det Norske Veritas (DNV)	Yes	Yes	Yes
• Lloyds Register of Shipping (LRS)	No	No	No
standards, specifications, approvals Environmental Product Declaration			
Environmental Product Declaration	Yes	Yes	Yes
Global Warming Potential [CO2 eq]			
• total	2 295.1 kg	2 295.1 kg	2 295.1 kg
• during manufacturing	41 kg	41 kg	41 kg
• during operation	2 252.9 kg	2 252.9 kg	2 252.9 kg
• after end of life	0.59 kg	0.59 kg	0.59 kg
ambient conditions			
ambient temperature			
• during operation	-25 ... +60 °C; with natural convection	-25 ... +60 °C; with natural convection	-25 ... +60 °C; with natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method			
type of electrical connection	Plug-in terminals with screwed connection	Plug-in terminals with screwed connection	Plug-in terminals with screwed connection
• at input	L1, L2, L3, PE: Plug-in terminal with 1 screwed connection each for 0.2 ... 4 mm² single-wire / fine stranded	L1, L2, L3, PE: Plug-in terminal with 1 screwed connection each for 0.2 ... 4 mm² single-wire / fine stranded	L1, L2, L3, PE: Plug-in terminal with 1 screwed connection each for 0.2 ... 4 mm² single-wire / fine stranded
• at output	1, 2, 3, 4: Two plug-in terminals (1, 2 and 3, 4) with 2 screwed connections each for 0.2 ... 2.5 mm²; 0 V: Plug-in terminal with 3 screwed connections for 0.2 ... 10 mm²	Output: plug-in terminals with 2 screw connectors for 0.5 ... 10 mm²; 0 V: screw terminal with 3 screw connectors for 0.5 ... 10 mm²	1, 2, 3, 4: Two plug-in terminals (1, 2 and 3, 4) with 2 screwed connections each for 0.2 ... 2.5 mm²; 0 V: Plug-in terminal with 3 screwed connections for 0.2 ... 10 mm²
• for auxiliary contacts	RST (Reset): Plug-in terminal (together with alarm signal) with 1 screwed connection for 0.2 ... 1.5 mm²	RST (Reset): Plug-in terminal (together with alarm signal) with 1 screwed connection for 0.2 ... 1.5 mm²	RST (Reset): Plug-in terminal (together with alarm signal) with 1 screwed connection for 0.2 ... 1.5 mm²
• for signaling contact	11, 12, 14 (alarm signal): Plug-in terminal (together with Reset) with 1 screwed connection each for 0.2 ... 1.5 mm²	11, 12, 14 (alarm signal): Plug-in terminal (together with Reset) with 1 screwed connection each for 0.2 ... 1.5 mm²	11, 12, 14 (alarm signal): Plug-in terminal (together with Reset) with 1 screwed connection each for 0.2 ... 1.5 mm²

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3437-8MB00-2CY0 SITOP PSU8600 24 V/40 A/4x 10 A	6EP3437-8SB00-2AY0 SITOP PSU8600 24 V/40 A	6EP3437-8MB10-2CY0 SITOP PSU8600 24 V/40 A/4x 10 A
removable terminal at input	Yes	Yes	Yes
removable terminal at output	Yes	Yes	Yes
design of the interface for communication	PROFINET/Ethernet: two RJ45 sockets (2-port switch)	PROFINET/Ethernet: two RJ45 sockets (2-port switch)	EtherNet/IP™: two RJ45 sockets (2-port switch)
suitability for interaction modular system	Yes	Yes	Yes
mechanical data			
width × height × depth of the enclosure	125 mm × 150 mm	125 mm × 150 mm	125 mm × 150 mm
installation width × mounting height	125 mm	125 mm	125 mm
required spacing			
• top	50 mm	50 mm	50 mm
• bottom	50 mm	50 mm	50 mm
• left	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x15	Snaps onto DIN rail EN 60715 35x15	Snaps onto DIN rail EN 60715 35x15
• standard rail mounting	Yes	Yes	Yes
• S7 rail mounting	No	No	No
• wall mounting	No	No	No
housing can be lined up	Yes	Yes	Yes
net weight	2.6 kg	2.6 kg	2.6 kg
accessories			
electrical accessories	Expansion modules CNX8600, buffer modules BUF8600, module UPS8600	Expansion modules CNX8600, buffer modules BUF8600, module UPS8600	Expansion modules CNX8600, buffer modules BUF8600
mechanical accessories	Device identification label 20 mm × 7 mm, TI-grey 3RT2900-1SB20	Device identification label 20 mm × 7 mm, TI-grey 3RT2900-1SB20	Device identification label 20 mm × 7 mm, TI-grey 3RT2900-1SB20
further information internet links			
internet link			
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com
additional information			
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information			
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3437-8MB00-2CY0 SITOP PSU8600 24 V/40 A/4x 10 A	6EP3437-8SB00-2AY0 SITOP PSU8600 24 V/40 A	6EP3437-8MB10-2CY0 SITOP PSU8600 24 V/40 A/4x 10 A
	connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

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Overview

The CNX8600 expansion modules are part of the SITOP PSU8600 modular system and expand the basic unit by increasing the number of selectively monitored outputs.

Up to four CNX8600 expansion modules can be connected to the PSU8600 basic device. The connection is made on top of the modules without any wiring effort using the System Clip Link, a connecting plug for system data and power supplies.

Product highlights

- Available modules:
  - Four integrated outputs with up to 5 A each and selective monitoring
  - Four integrated outputs with up to 10 A each and selective monitoring
  - Eight integrated outputs with up to 2.5 A each and selective monitoring
- Voltage and current threshold can be set separately and are infinitely adjustable for each output
- NEC Class 2 approval for 2.5 A outputs
- Comprehensive diagnostic information during operation via the PSU8600 basic unit
- Outputs can be activated and deactivated in a targeted manner with PROFIenergy via the PSU8600 basic unit

User-friendly connection system without any wiring effort thanks to System Clip Link.

Selection and ordering data

SITOP CNX8600 4 x 5 A expansion module For SITOP PSU8600 Output: 24 V DC/4 x 5 A	**6EP4436-8XB00-0CY0**
SITOP CNX8600 4 x 10 A expansion module For SITOP PSU8600 Output: 24 V DC/4 x 10 A	**6EP4437-8XB00-0CY0**
SITOP CNX8600 8 x 2.5 A expansion module For SITOP PSU8600 Output: 24 V DC/8 x 2.5 A	**6EP4436-8XB00-0DY0**

Accessories

Device labeling plates	**3RT2900-1SB20**

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Technical specifications

Article number product brand name type of current supply	6EP4436-8XB00-0CY0 SITOP CNX8600 4x 5 A	6EP4437-8XB00-0CY0 SITOP CNX8600 4x 10 A	6EP4436-8XB00-0DY0 SITOP CNX8600 8x 2.5 A
output			
voltage curve at output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
number of outputs	4	4	8
output voltage at DC rated value	24 V	24 V	24 V
output voltage			
• at output 1 at DC rated value	24 V	24 V	24 V
• at output 2 at DC rated value	24 V	24 V	24 V
• at output 3 at DC rated value	24 V	24 V	24 V
• at output 4 at DC rated value	24 V	24 V	24 V
• at output 5 at DC rated value			24 V
• at output 6 at DC rated value			24 V
• at output 7 at DC rated value			24 V
• at output 8 at DC rated value			24 V
output voltage adjustable	Yes; via potentiometer or IE/PN interface	Yes; via potentiometer or IE/PN interface	Yes; via potentiometer or IE/PN interface
adjustable output voltage	4 ... 28 V; Derating > 24 V: 4%/V; max. 120 W per output	4 ... 28 V; Derating > 24 V: 4%/V; max. 240 W per output	4 ... 28 V; Derating > 24 V: 4%/V; max. 60 W per output
relative control precision of the output voltage			
• on slow fluctuation of input voltage	0.2 %	0.2 %	0.2 %
• on slow fluctuation of ohm loading	0.1 %	0.1 %	0.1 %
residual ripple			
• maximum	100 mV	100 mV	100 mV
voltage peak			
• maximum	200 mV	200 mV	200 mV
display version for normal operation	3-color LED for operating state module; 3-color LED per output for operating state output	3-color LED for operating state module; 3-color LED per output for operating state output	3-color LED for operating state module; 3-color LED per output for operating state output
type of signal at output	Relay contact (changeover contact, contact current capacity DC 60 V/0.3 A) for "Operating state OK" at power supply unit PSU8600	Relay contact (changeover contact, contact current capacity DC 60 V/0.3 A) for "Operating state OK" at power supply unit PSU8600	Relay contact (changeover contact, contact current capacity DC 60 V/0.3 A) for "Operating state OK" at power supply unit PSU8600
behavior of the output voltage when switching on	No overshoot of Vout (soft start)	No overshoot of Vout (soft start)	No overshoot of Vout (soft start)
response delay maximum	1.5 s; Without on-delay of the outputs	1.5 s; Without on-delay of the outputs	1.5 s; Without on-delay of the outputs
type of outputs connection	Simultaneous connecting-in of all outputs after device booting or delay time of 25 ms, 100 ms or "load-optimized" for sequential cutting-in of the outputs via DIP switches at power supply unit PSU8600 can be set	Simultaneous connecting-in of all outputs after device booting or delay time of 25 ms, 100 ms or "load-optimized" for sequential cutting-in of the outputs via DIP switches at power supply unit PSU8600 can be set	Simultaneous connecting-in of all outputs after device booting or delay time of 25 ms, 100 ms or "load-optimized" for sequential cutting-in of the outputs via DIP switches at power supply unit PSU8600 can be set
voltage increase time of the output voltage			
• maximum	500 ms	500 ms	500 ms
output current			
• rated value	20 A	40 A	20 A
• per output	5 A	10 A	2.5 A
• at output 1 rated value	5 A	10 A	2.5 A
• at output 2 rated value	5 A	10 A	2.5 A
• at output 3 rated value	5 A	10 A	2.5 A
• at output 4 rated value	5 A	10 A	2.5 A
• at output 5 rated value			2.5 A
• at output 6 rated value			2.5 A
• at output 7 rated value			2.5 A

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Technical specifications (continued)

Article number product brand name type of current supply	6EP4436-8XB00-0CY0 SITOP CNX8600 4x 5 A	6EP4437-8XB00-0CY0 SITOP CNX8600 4x 10 A	6EP4436-8XB00-0DY0 SITOP CNX8600 8x 2.5 A
• at output 8 rated value			2.5 A
• rated range	0 ... 20 A; No increase in the maximum output power of the overall system SITOP PSU8600 via the expansion module SITOP CNX8600 possible	0 ... 40 A; No increase in the maximum output power of the overall system SITOP PSU8600 via the expansion module SITOP CNX8600 possible	0 ... 20 A; Outputs meet requirements to NEC Class 2; an increase of the maximum output power of the SITOP PSU8600 overall system is not possible over the SITOP CNX8600 expansion module
supplied active power typical	480 W	960 W	480 W
parallel switching of outputs	No	No	No
bridging of equipment	No	No	No
efficiency			
efficiency in percent	97 %	97 %	97 %
power loss [W]			
• at rated output voltage for rated value of the output current typical	15 W	30 W	15 W
closed-loop control			
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	0.1 %	0.1 %	0.1 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	0.4 %	0.4 %	0.4 %
setting time			
• maximum	10 ms	10 ms	10 ms
protection and monitoring			
design of the overvoltage protection	max. 35 V (max. 500 ms)	max. 35 V (max. 500 ms)	max. 35 V (max. 500 ms)
property of the output short-circuit proof	Yes	Yes	Yes
design of short-circuit protection	electronic overload cut-off	electronic overload cut-off	electronic overload cut-off
adjustable current response value current of the current-dependent overload release	0.5 ... 5 A	0.5 ... 10 A	0.5 ... 2.5 A
type of response value setting	via potentiometer or IE/PN interface	via potentiometer or IE/PN interface	via potentiometer or IE/PN interface
switching characteristic			
• of the excess current	Ia >1.0...<1.5 x Ia threshold permissible for 5 s; Ia limit (= 1.5 x Ia threshold) permissible for 200 ms	Ia >1.0...<1.5 x Ia threshold permissible for 5 s; Ia limit (= 1.5 x Ia threshold) permissible for 200 ms	Ia >1.0...<1.5 x Ia threshold permissible for 5 s; Ia limit (= 1.5 x Ia threshold) permissible for 200 ms
display version for overload and short circuit	3-color LED for operating state module; 3-color LED per output for operating state output	3-color LED for operating state module; 3-color LED per output for operating state output	3-color LED for operating state module; 3-color LED per output for operating state output
design of the reset device/resetting mechanism	via sensor per output or IE/PN interface	via sensor per output or IE/PN interface	via sensor per output or IE/PN interface
remote reset function	Non-electrically isolated 24 V input (signal level "high" at > 15 V) at power supply unit PSU8600	Non-electrically isolated 24 V input (signal level "high" at > 15 V) at power supply unit PSU8600	Non-electrically isolated 24 V input (signal level "high" at > 15 V) at power supply unit PSU8600
interfaces			
product function communication function	Yes	Yes	Yes
design of the interface	Ethernet/PROFINET via power supply unit PSU8600	Ethernet/PROFINET via power supply unit PSU8600	Ethernet/PROFINET via power supply unit PSU8600
safety			
galvanic isolation between input and output	Yes	Yes	Yes
galvanic isolation	Safety extra low output voltage Vout according to EN 61204-7	Safety extra low output voltage Vout according to EN 61204-7	Safety extra low output voltage Vout according to EN 61204-7
operating resource protection class	Class III	Class III	Class III
protection class IP	IP20	IP20	IP20
standard			
• for emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
• for interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2

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Technical specifications (continued)

Article number product brand name type of current supply	6EP4436-8XB00-0CY0 SITOP CNX8600 4x 5 A	6EP4437-8XB00-0CY0 SITOP CNX8600 4x 10 A	6EP4436-8XB00-0DY0 SITOP CNX8600 8x 2.5 A
standards, specifications, approvals			
certificate of suitability			
• CE marking	Yes	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• CSA approval	Yes; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)	Yes; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)	Yes; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)
• EAC approval	Yes	Yes	Yes
• Regulatory Compliance Mark (RCM)			Yes
• NEC Class 2	No	No	Yes; according to UL1310
• SEMI F47	Yes	Yes	Yes
type of certification			
• CB-certificate	Yes	Yes	Yes
MTBF at 40 °C	358 372 h	358 372 h	327 369 h
standards, specifications, approvals hazardous environments			
certificate of suitability			
• IECEx	No	No	No
• ATEX	No	No	No
• ULhazloc approval	No	No	No
• cCSAus, Class 1, Division 2	No	No	No
• FM registration	No	No	No
standards, specifications, approvals marine classification			
shipbuilding approval	Yes	Yes	Yes
Marine classification association			
• American Bureau of Shipping Europe Ltd. (ABS)	Yes	Yes	Yes
• French marine classification society (BV)	No	No	No
• Det Norske Veritas (DNV)	Yes	Yes	Yes
• Lloyds Register of Shipping (LRS)	No	No	No
standards, specifications, approvals Environmental Product Declaration			
Environmental Product Declaration	Yes	Yes	Yes
Global Warming Potential [CO2 eq]			
• total	521.3 kg	990.8 kg	58.1 kg
• during manufacturing	46.4 kg	20.4 kg	32.5 kg
• during operation	281.6 kg	219.1 kg	0 kg
• after end of life	0.74 kg	0.32 kg	0.52 kg
ambient conditions			
ambient temperature			
• during operation	-25 ... +60 °C; with natural convection	-25 ... +60 °C; with natural convection	-25 ... +60 °C; with natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation

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Technical specifications (continued)

Article number product brand name type of current supply	6EP4436-8XB00-0CY0 SITOP CNX8600 4x 5 A	6EP4437-8XB00-0CY0 SITOP CNX8600 4x 10 A	6EP4436-8XB00-0DY0 SITOP CNX8600 8x 2.5 A
connection method			
type of electrical connection	Plug-in terminals with screwed connection	Plug-in terminals with screwed connection	Plug-in terminals with screwed connection
• at output	1, 2, 3, 4: Two plug-in terminals (1, 2 and 3, 4) with 2 screwed connections each for 0.2 ... 2.5 mm²; Ground: Plug-in terminal with 3 screwed connections for 0.2 ... 2.5 mm²	1, 2, 3, 4: Two plug-in terminals (1, 2 and 3, 4) with 2 screwed connections each for 0.2 ... 2.5 mm²; Ground: Plug-in terminal with 3 screwed connections for 0.2 ... 2.5 mm²	1, 2, 3, 4, 5, 6, 7, 8: Two plug-in terminals (1...4 and 5...8) with 1 screwed connection each for 0.2 ... 2.5 mm²; Ground: Plug-in terminal with 3 screwed connections for 0.2 ... 2.5 mm²
removable terminal at output	Yes	Yes	Yes
suitability for interaction modular system	Yes	Yes	Yes
type of connection to system components	Via integrated connector	Via integrated connector	Via integrated connector
mechanical data			
width × height × depth of the enclosure	60 mm × 150 mm	60 mm × 150 mm	100 mm × 150 mm
installation width × mounting height	60 mm	60 mm	100 mm
required spacing			
• top	50 mm	50 mm	50 mm
• bottom	50 mm	50 mm	50 mm
• left	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x15	Snaps onto DIN rail EN 60715 35x15	Snaps onto DIN rail EN 60715 35x15
• standard rail mounting	Yes	Yes	Yes
• S7 rail mounting	No	No	No
• wall mounting	No	No	No
housing can be lined up	Yes	Yes	Yes
net weight	1.15 kg	1.15 kg	1.29 kg
accessories			
mechanical accessories	Device identification label 20 mm × 7 mm, TI-grey 3RT2900-1SB20	Device identification label 20 mm × 7 mm, TI-grey 3RT2900-1SB20	Device identification label 20 mm × 7 mm, TI-grey 3RT2900-1SB20
further information internet links			
internet link			
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com
additional information			
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)

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Technical specifications (continued)

Article number product brand name type of current supply	6EP4436-8XB00-0CY0 SITOP CNX8600 4x 5 A	6EP4437-8XB00-0CY0 SITOP CNX8600 4x 10 A	6EP4436-8XB00-0DY0 SITOP CNX8600 8x 2.5 A
security information			
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

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Overview

SITOP BUF8600 for buffering brief power interruptions

The BUF8600 buffer modules with maintenance free energy storage units are part of the SITOP PSU8600 modular system and are designed to bridge short-term power failures. They automatically take over the DC power supply in case of a line voltage failure. You can connect up to two BUF8600 buffer modules to the PSU8600 basic unit. The connection is made on top of the modules without any wiring effort using the System Clip Link, a connecting plug for system data and power supplies.

Product highlights

- Reliable bridging of short-term power failures up to max. 20 s for an output power of 960 W
- Buffer modules with maintenance-free electrolytic capacitors for bridging short-term power failures (brownouts) between 100 ms and max. 600 ms (at 24 V DC/40 A)
- Buffer modules with maintenance-free double-layer capacitors for bridging longer power failures between 4 s and max. 20 s (at 24 V DC/40 A)
- The two buffer modules can be combined as required
- Easy connection without any wiring effort

Selection and ordering data

SITOP BUF8600 100 ms buffer module For SITOP PSU8600 Buffer capacity 100 ms/40 A	**6EP4297-8HB00-0XY0**
SITOP BUF8600 300 ms buffer module For SITOP PSU8600 Buffer capacity 300 ms/40 A	**6EP4297-8HB10-0XY0**
SITOP BUF8600 4 s buffer module For SITOP PSU8600 Buffer capacity 4 s/40 A	**6EP4293-8HB00-0XY0**
SITOP BUF8600 10 s buffer module For SITOP PSU8600 Buffer capacity 10 s/40 A	**6EP4295-8HB00-0XY0**

Accessories

Device labeling plates	**3RT2900-1SB20**

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Technical specifications

Article number product brand name type of current supply	6EP4297-8HB00-0XY0 SITOP BUF8600 100 ms/40 A	6EP4297-8HB10-0XY0 SITOP BUF8600 300 ms/40 A	6EP4293-8HB00-0XY0 SITOP BUF8600 4 s/40 A	6EP4295-8HB00-0XY0 SITOP BUF8600 10 s/40 A
memory				
type of energy storage	electrolytic capacitors	electrolytic capacitors	Double-layer capacitors	Double-layer capacitors
design of the mains power cut bridging-connection	Backup time with 40 A load current: 100 ms	Backup time with 40 A load current: 300 ms	Backup time with 40 A load current: 4 s	Backup time with 40 A load current: 10 s
buffering time for rated value of the output current in the event of power failure	100 ms	300 ms	4 000 ms	10 000 ms
load time typical	20 s; at 400 V	60 s; at 400 V	5 min; at 400 V	10 min; at 400 V
output				
output current				
• rated value	40 A	40 A	40 A	40 A
protection and monitoring				
display version	3-color LED for operating state module	3-color LED for operating state module	3-color LED for operating state module	3-color LED for operating state module
• for normal operation	LED green for "buffer standby exist"	LED green for "buffer standby exist"	LED green for "buffer standby exist"	LED green for "buffer standby exist"
• in buffering mode	LED yellow for "buffered mode"	LED yellow for "buffered mode"	LED yellow for "buffered mode"	LED yellow for "buffered mode"
interfaces				
product function communication function	Yes	Yes	Yes	Yes
design of the interface	Ethernet/PROFINET via power supply unit PSU8600	Ethernet/PROFINET via power supply unit PSU8600	Ethernet/PROFINET via power supply unit PSU8600	Ethernet/PROFINET via power supply unit PSU8600
safety				
operating resource protection class	Class III	Class III	Class III	Class III
protection class IP	IP20	IP20	IP20	IP20
standard				
• for emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
• for interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals				
certificate of suitability				
• CE marking	Yes	Yes	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• CSA approval	Yes; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)	Yes; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)	Yes; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)	Yes; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)
• EAC approval	Yes	Yes	Yes	Yes
• SEMI F47		Yes	Yes	Yes
type of certification CB-certificate	Yes	Yes	Yes	Yes
MTBF at 40 °C	4 505 531 h	4 505 531 h	1 374 707 h	1 190 747 h
standards, specifications, approvals hazardous environments				
certificate of suitability				
• ATEX	No	No	No	No
• cCSAus, Class 1, Division 2	No	No	No	No
standards, specifications, approvals marine classification				
shipbuilding approval	Yes	Yes	Yes	Yes
Marine classification association				
• American Bureau of Shipping Europe Ltd. (ABS)	Yes	Yes	Yes	Yes
• Det Norske Veritas (DNV)	Yes	Yes	Yes	Yes
ambient conditions				
ambient temperature				
• during operation	-25 ... +60 °C; with natural convection	-25 ... +60 °C; with natural convection	-25 ... +60 °C; with natural convection	-25 ... +60 °C; with natural convection

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Technical specifications (continued)

Article number product brand name type of current supply	6EP4297-8HB00-0XY0 SITOP BUF8600 100 ms/40 A	6EP4297-8HB10-0XY0 SITOP BUF8600 300 ms/40 A	6EP4293-8HB00-0XY0 SITOP BUF8600 4 s/40 A	6EP4295-8HB00-0XY0 SITOP BUF8600 10 s/40 A
• during transport	-40 ... +70 °C	-40 ... +70 °C	-40 ... +70 °C	-40 ... +70 °C
• during storage	-40 ... +70 °C	-40 ... +70 °C	-40 ... +70 °C	-40 ... +70 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method				
type of electrical connection			Plug-in terminal with screw connectors	Plug-in terminal with screw connectors
• for control circuit and status message			X1, X2 (control contact) and 13,14, 23, 24 (message signals): 1 screw terminal each for 0.2 ... 1.5 mm²	X1, X2 (control contact) and 13,14, 23, 24 (message signals): 1 screw terminal each for 0.2 ... 1.5 mm²
suitability for interaction modular system	Yes	Yes	Yes	Yes
type of connection to system components	Via integrated connector	Via integrated connector	Via integrated connector	Via integrated connector
mechanical data				
width × height × depth of the enclosure	60 mm × 125 mm × 150 mm	125 mm × 125 mm × 150 mm	60 mm × 125 mm × 150 mm	125 mm × 125 mm × 150 mm
installation width × mounting height	60 mm × 225 mm	125 mm × 225 mm	60 mm × 225 mm	125 mm × 225 mm
required spacing				
• top	50 mm	50 mm	50 mm	50 mm
• bottom	50 mm	50 mm	50 mm	50 mm
• left	0 mm	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x15	Snaps onto DIN rail EN 60715 35x15	Snaps onto DIN rail EN 60715 35x15	Snaps onto DIN rail EN 60715 35x15
• standard rail mounting	Yes	Yes	Yes	Yes
• S7 rail mounting	No	No	No	No
• wall mounting	No	No	No	No
housing can be lined up	Yes	Yes	Yes	Yes
net weight	1.33 kg	2.26 kg	1.25 kg	1.95 kg
accessories				
mechanical accessories	Device identification label 20 mm × 7 mm, TI-grey 3RT2900-1SB20	Device identification label 20 mm × 7 mm, TI-grey 3RT2900-1SB20	Device identification label 20 mm × 7 mm, TI-grey 3RT2900-1SB20	Device identification label 20 mm × 7 mm, TI-grey 3RT2900-1SB20
further information internet links				
internet link				
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com
additional information				
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)

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Technical specifications (continued)

Article number product brand name type of current supply	6EP4297-8HB00-0XY0 SITOP BUF8600 100 ms/40 A	6EP4297-8HB10-0XY0 SITOP BUF8600 300 ms/40 A	6EP4293-8HB00-0XY0 SITOP BUF8600 4 s/40 A	6EP4295-8HB00-0XY0 SITOP BUF8600 10 s/40 A
security information				
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. 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Overview

SITOP UPS8600 for buffering longer power failures

UPS module UPS8600 is part of the SITOP PSU8600 modular system and is used to bridge power failures in the range of minutes to hours. It can be supplemented with a maximum of five SITOP BAT8600 battery modules of the same type as the external energy storage. The lithium iron phosphate (LiFePO4) battery modules have a typical buffer time of 14 minutes at full load (960 W) and ensure an especially long service life. The lead-acid batteries (Pb) offer a typical buffer time of 10 minutes at full load (960 W).

Product highlights

- Power failure bridging in the hours range facilitates continuous system operation
- Prioritized output buffering of the PSU8600 power supply system possible
- Automatic recognition of BAT8600 "Pb" and BAT8600 "LiFePO4" battery modules
- Intelligent battery managementfor optimum charging and monitoring via the energy storage link
- Complete system integration into the TIA or OPC UA environment for engineering and diagnostic functions
- Selective shutdown of IPCs via Ethernet interface (PROFINET/OPC UA protocol)
- User-friendly connection system without any wiring effort thanks to System Clip Link (UPS8600)

Selection and ordering data

SITOP UPS8600 UPS module For SITOP PSU8600 Rated buffer power 960 W	**6EP4197-8AB00-0XY0**
SITOP BAT8600 battery module 380 Wh For SITOP UPS8600 with Pb rechargeable batteries	**6EP4145-8GB00-0XY0**
SITOP BAT8600 battery module 264 Wh For SITOP UPS8600 with LiFePO4 rechargeable batteries	**6EP4143-8JB00-0XY0**

Accessories

Device identification labels	**3RT2900-1SB20**

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Technical specifications

The following table shows the maximum possible buffer times of the SITOP BAT8600 battery modules at different loads as well as the required charging times until full charge is achieved.

Buffer and charging times	6EP4143-8JB00-0XY0 (LiFePO4, 264 Wh)	6EP4145-8GB00-0XY0 (Pb, 380 Wh)
Buffer time with 1x BAT8600		
Load 120 W	typ. 1 h 56 min	typ. 2 h 4 min
Load 240 W	typ. 60 min	typ. 57 min
Load 480 W	typ. 29 min	typ. 25 min
Load 720 W	typ. 19 min	typ. 14 min
Load 960 W	typ. 14 min	typ. 10 min
Buffer time with 5× BAT8600 (maximum configuration)		
Load 120 W	typ. 9 h 30 min	typ. 12 h 37 min
Load 240 W	typ. 5 h 03 min	typ. 6 h 19 min
Load 480 W	typ. 2 h 33 min	typ. 2 h 56 min
Load 720 W	typ. 1 h 41 min	typ. 1 h 50 min
Load 960 W	typ. 1 h 15 min	typ. 1 h 17 min
Charging time until the 85% charging threshold is reached.		
Charging capacity 60 W	typ. 5 h 15 min	typ. 3 h 10 min
Charging capacity 120 W	typ. 2 h 15 min	typ. 1 h 35 min
Charging time until full charge is reached		
Charging capacity 60 W	typ. 6 h 10 min	typ. 4 h 20 min
Charging capacity 120 W	typ. 2 h 40 min	typ. 2 h 45 min

Note:

Buffer and charging times were determined on the basis of unaged and fully charged or discharged battery modules with a battery temperature of +25 °C. Due to aging of the rechargeable batteries, the remaining battery capacity is reduced to 80% of the original capacity value when new by the end of the service life (definition of service life according to EUROBAT). To achieve the desired buffer time even at the end of service life, a higher battery capacity may therefore have to be selected during project planning.

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Technical specifications

Article number	6EP4197-8AB00-0XY0
product brand name	SITOP UPS8600
type of current supply	960 W
memory	
type of energy storage	External battery module
design of the mains power cut bridging-connection	Buffer time limit 1 ... 88 min. can be set with DIP switches or until the connected battery modules are discharged
output	
output voltage	
• in normal operation at DC rated value	48 V
property of the output short-circuit proof	Yes
charging current	1.25 A - 2.5 A
type of signal at output	relay contacts (NO contact, contact rating DC 60 V/0.3 A) for "sufficient buffer readiness", "buffer mode" and "battery circuit fault"
efficiency	
efficiency in percent	
• in case of operation on rechargeable battery typical	99 %
power loss [W]	
• in case of operation on rechargeable battery typical	10 W
supplied active power typical	960 W
protection and monitoring	
product function	
• reverse polarity protection against energy storage unit polarity reversal	Yes
display version	Three-color LED for operating state of module, three-color LED for status of battery circuit
• for normal operation	LED green for "buffer standby exist"
• in buffering mode	LED yellow for "buffered mode"
interfaces	
product function communication function	Yes
design of the interface	Ethernet/PROFINET via power supply unit PSU8600
safety	
operating resource protection class	Class III
protection class IP	IP20
standard	
• for emitted interference	EN 55022 Class B
• for interference immunity	EN 61000-6-2
standards, specifications, approvals	
certificate of suitability	
• CE marking	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• CSA approval	Yes; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)
• EAC approval	Yes
type of certification CB-certificate	Yes
MTBF at 40 °C	405 763 h

Article number	6EP4197-8AB00-0XY0
product brand name	SITOP UPS8600
type of current supply	960 W
standards, specifications, approvals hazardous environments	
certificate of suitability	
• ATEX	No
• cCSAus, Class 1, Division 2	No
standards, specifications, approvals marine classification	
shipbuilding approval	Yes
Marine classification association	
• American Bureau of Shipping Europe Ltd. (ABS)	Yes
• Det Norske Veritas (DNV)	Yes
standards, specifications, approvals Environmental Product Declaration	
Environmental Product Declaration	Yes
Global Warming Potential [CO2 eq]	
• total	356.3 kg
• during manufacturing	41.8 kg
• during operation	313.9 kg
• after end of life	0.66 kg
ambient conditions	
ambient temperature	
• during operation	-25 ... +70 °C; with natural convection
• during transport	-40 ... +85 °C
• during storage	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation
connection method	
type of electrical connection	Plug-in terminals with screwed connection
• for rechargeable battery module	+, -: plug-in terminals each with 1 screw terminal for 0.2 ... 10 mm²
• for auxiliary contacts	X1, X2, X3, X3 (control contacts): plug-in terminal with one screw-type terminal each for 0.14 ... 1.5 mm²
• for signaling contact	13, 14, 23, 24, 33, 34 (signaling contacts): plug-in terminal with one screw-type terminal each for 0.14 ... 1.5 mm²
suitability for interaction modular system	Yes
type of connection to system components	Via integrated connector
number of expansion modules maximum	2
mechanical data	
width × height × depth of the enclosure	60 mm × 125 mm × 150 mm
installation width × mounting height	60 mm × 225 mm
required spacing	
• top	50 mm
• bottom	50 mm
• left	0 mm
• right	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x15

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Technical specifications (continued)

Article number product brand name type of current supply	6EP4197-8AB00-0XY0 SITOP UPS8600 960 W
• standard rail mounting	Yes
• S7 rail mounting	No
• wall mounting	No
housing can be lined up	Yes
net weight	0.9 kg
accessories	
electrical accessories	Battery module BAT8600
mechanical accessories	Device identification label 20 mm × 7 mm, TI-grey 3RT2900-1SB20
further information internet links	
internet link	
• to website: Industry Mall	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com
additional information	
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)

Article number product brand name type of current supply	6EP4197-8AB00-0XY0 SITOP UPS8600 960 W
security information	
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

Article number product brand name product designation	6EP4145-8GB00-0XY0 SITOP BAT8600 Pb Battery module 380 Wh	6EP4143-8JB00-0XY0 SITOP BAT8600 LiFePO4 Battery module 264 Wh
output		
energy content of energy storage	380 W·h	264 W·h
output current rated value	20 A	20 A
output voltage at DC rated value	48 V	48 V
design of the mains power cut bridging-connection	typ. 10 min at 960 W system load, typ. 25 min at 480 W system load (applies to new, fully charged battery module at ambient temperature 25°C)	typ. 14 min at 960 W system load, typ. 29 min at 480 W system load (applies to new, fully charged battery module at ambient temperature 25°C)
number of parallel-switched equipment resources for increasing the power	5	5
interfaces		
communication function	Yes	Yes
protection and monitoring		
design of short-circuit protection	Blade-type fuse 40 A, 58 V DC	Blade-type fuse 40 A, 58 V DC
design of the overload protection	Valve control	Valve control
display version for normal operation	3-color LED for operating state module	3-color LED for operating state module
safety		
operating resource protection class	Class III	Class III
protection class IP	IP20	IP20

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Technical specifications (continued)

Article number product brand name product designation	6EP4145-8GB00-0XY0 SITOP BAT8600 Pb Battery module 380 Wh	6EP4143-8JB00-0XY0 SITOP BAT8600 LiFePO4 Battery module 264 Wh
standards, specifications, approvals		
certificate of suitability		
• CE marking	Yes	Yes
• UL approval	Yes; cURus-Recognized (UL 1778, CSA C22.2 No. 107.1), File E219627	Yes
• CSA approval	Yes; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)	Yes; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)
• EAC approval	Yes	Yes
type of certification CB-certificate	Yes	Yes
standards, specifications, approvals hazardous environments		
certificate of suitability		
• ATEX	No	No
• cCSAus, Class 1, Division 2	No	No
standards, specifications, approvals marine classification		
shipbuilding approval	Yes	Yes
Marine classification association		
• American Bureau of Shipping Europe Ltd. (ABS)	Yes	Yes
• Det Norske Veritas (DNV)	Yes	Yes
standards, specifications, approvals Environmental Product Declaration		
Environmental Product Declaration	Yes	
Global Warming Potential [CO2 eq]		
• total	61.2 kg	
• during manufacturing	30.8 kg	
• during operation	24.7 kg	
• after end of life	1.94 kg	
ambient conditions		
ambient condition	For storage, mounting and operation of batteries, the relevant DIN/VDE regulations or country-specific regulations (e.g. VDE 0510 Part 2/EN 50272-2) must be observed.	For storage, mounting and operation of batteries, the relevant DIN/VDE regulations or country-specific regulations (e.g. VDE 0510 Part 2/EN 50272-2) must be observed.
ambient temperature		
• during operation	-10 ... +50 °C	-10 ... +50 °C
• during transport	-40 ... +60 °C	-40 ... +80 °C
• during storage	-15 ... +40 °C	-40 ... +35 °C
service life of energy storage		
• typical	capacity falls to 80 % of original capacity (according to EUROBAT)	capacity falls to 80 % of original capacity (according to EUROBAT)
• at 20 °C typical	4 a	15 a
• at 30 °C typical	2 a	10 a
• at 40 °C typical	1 a	9 a
• at 50 °C typical	0.5 a	2 a
note	In addition to the storage temperature, additional factors, such as storage duration and charging status during storage, have a major impact on the potential service life. This means batteries should preferably be stored fully charged for short periods of time in a dry, cool and frost-proof (temperature range 0 to +20 °C) location.	In addition to the storage temperature, additional factors, such as storage duration and charging status during storage, have a major impact on the potential service life. This means batteries should preferably be stored fully charged for short periods of time in a dry, cool and frost-proof (temperature range 0 to +20 °C) location.
connection method		
type of electrical connection	Plug-in terminals with screwed connection	Plug-in terminals with screwed connection
• for power supply unit	+, -: 2 plug-in terminals with 1 screwed connection each for 0.2 ... 10 mm²	+, -: 2 plug-in terminals with 1 screwed connection each for 0.2 ... 10 mm²

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Technical specifications (continued)

Article number product brand name product designation	6EP4145-8GB00-0XY0 SITOP BAT8600 Pb Battery module 380 Wh	6EP4143-8JB00-0XY0 SITOP BAT8600 LiFePO4 Battery module 264 Wh
mechanical data		
width × height × depth of the enclosure	322 mm × 187 mm × 110 mm	322 mm × 187 mm × 110 mm
installation width × mounting height	322 mm × 207 mm	322 mm × 207 mm
required spacing		
• top	20 mm	20 mm
• bottom	0 mm	0 mm
• left	0 mm	0 mm
• right	0 mm	0 mm
fastening method	Keyhole mounting for hooking in to M4 screws	Keyhole mounting for hooking in to M4 screws
• standard rail mounting	No	No
• S7 rail mounting	No	No
• wall mounting	Yes	Yes
net weight	13.5 kg	6.5 kg
number of batteries	4	4
accessories		
product component included	2x blade-type fuse 40 A, 58 V DC	2x blade-type fuse 40 A, 58 V DC
further information internet links		
internet link		
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax
additional information		
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information		
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

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Overview

Power supply with IO-Link offers impressive values

The SITOP PSU8400 3AC, 24 V/40 A three-phase power supply unit has an IO-Link interface and a display on the front of the device. The display enables easy and comfortable setting and diagnostics on site. Through the IO-Link interface the user is offered comprehensive parameterization possibilities as well as diagnostics information for further processing in higher-level automation systems.

The very high efficiency of up to 96% and the associated low thermal loss is one of the reasons for the very compact design. The robust wide-range input enables worldwide connection and the high static and dynamic overload capability ensures the reliable supply of high current loads.

Power supply units can be connected in parallel to increase performance or for the redundancy purposes. A synchronization cable ensures even current distribution between the power supply units to increase the service life.

To increase the 24 V availability, the power supply units can be combined with buffer, DC UPS, redundancy and selectivity modules.

Product highlights of the product line

- Stabilized 960 W-power supply with output 24 V DC/40 A
- 4-digit alphanumerical display with operating buttons on the front of the device
- Integrated communications interface IO-Link
- Full device integration in TIA:
  - Engineering in SIMATIC STEP 7 in TIA Portal (e.g. network integration via IO-Link master, device parameterization via IODD and SIMATIC PCT)
  - IODD description makes all parameterization functions, diagnostics and operating information of the SITOP PSU8400 usable via IO-Link
  - Integration in STEP 7 user programs through function blocks for SIMATIC S7-300/400/1200/1500
  - Integration in operator control and monitoring with SIMATIC WinCC faceplates (also including WinCC Unified)
- Support of energy management: Measurement of current and voltage of the output
- Hibernation can be activated via IO-Link
- Robust wide-range input 3 AC 400-500 V, continuous 2-phase operation possible

Overview (continued)

- DC capability of the input for use with 500-550 V DC supply networks
- Setting range of the output voltage 22 to 28 V
- Power reserve 120% up to 45 °C ambient temperature
- Dynamic overload capability 150% for 5 s/min and 300% for 25 ms/min
- Efficiency of up to 96%
- 3 LED displays for the operating status
- Control contact for even current distribution in parallel operation
- Signaling contact for "24 V OK" - configurable with further operating states via IO-Link
- Dimensions 99 mm x 145 mm x 125 mm (W x H x D)
- Range of ambient temperature -40 °C to +70 °C
- Comprehensive certifications

Selection and ordering data

SITOP PSU8400, 3-phase 24 V DC/40 A Stabilized power supply Input: 400 ... 500 V 3 AC Output: 24 V DC/40 A with IO-Link connection	**6EP3437-8SB00-4AY0**

Accessories

SITOP redundancy modules	For more information, visit: www.siemens.com/sitop-redundancy/mall
SITOP selectivity modules	For more information, visit: www.siemens.com/sitop-selectivity/mall
SITOP buffer modules	For more information, visit: www.siemens.com/sitop-buffering/mall

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Technical specifications

Article number product brand name type of current supply	6EP3437-8SB00-4AY0 SITOP PSU8400 24 V/40 A
input	
type of the power supply network	3-phase AC or DC
supply voltage at AC	
• minimum rated value	400 V
• maximum rated value	500 V
• initial value	323 V
• full-scale value	576 V
supply voltage at AC	Derating 323 ... 360 and 550 ... 576 V
supply voltage at DC	500 ... 550 V
input voltage at DC	450 ... 600 V
wide range input	Yes
buffering time for rated value of the output current in the event of power failure minimum	30 ms
operating condition of the mains buffering	at Vin = 400 V
line frequency	50 Hz/60 Hz
line frequency	47 ... 63 Hz
input current	
• at rated input voltage 400 V	1.5 A
• at rated input voltage 500 V	1.2 A
input current at DC	
• at rated input voltage 500 V	2 A
• at rated input voltage 550 V	1.8 A
current limitation of inrush current at 25 °C maximum	5 A
I2t value maximum	0.1 A^2·s
fuse protection type	none
fuse protection type in the feeder	required: 3-pole coupled miniature circuit breaker (IEC 898; for UL: UL489-listed/category DIVQ) characteristic C: 4 - 16 A, or circuit breaker (e.g. 3RV2011-1EA10, 3RV2711-1ED10 (UL489)), alternatively slow fuses (for UL: UL248-listed); suitable DC protection must be provided when operating with DC power supply.
output	
voltage curve at output	Controlled, isolated DC voltage
number of outputs	1
output voltage at DC rated value	24 V
output voltage	
• at output 1 at DC rated value	24 V
	24 V
output voltage adjustable	Yes; via display and IO-Link interface
adjustable output voltage	22 ... 28 V; Derating > 24 V: max. 960 W power output (1152 W to 45°C)
relative control precision of the output voltage	
• on slow fluctuation of input voltage	0.2 %
• on slow fluctuation of ohm loading	0.2 %
residual ripple	
• maximum	20 mV
voltage peak	
• maximum	100 mV
display version for normal operation	display and 3-color LED for operating, fault and communication status
type of signal at output	relay contact (NO contact, contact rating DC 30 V/0.1 A) for "24 V O.K."; configurable via IO-Link
behavior of the output voltage when switching on	No overshoot of Vout (soft start)
response delay maximum	0.5 s
voltage increase time of the output voltage	

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3437-8SB00-4AY0 SITOP PSU8400 24 V/40 A
• typical	50 ms
• maximum	50 ms
output current	
• rated value	40 A
• per output	40 A
• at output 1 rated value	40 A
• rated range	0 ... 40 A; 48 A up to +45°C; +60 ... +70 °C: Derating 3.75%/K
	40 A
supplied active power typical	960 W
short-term overload current	
• at short-circuit during operation typical	120 A
duration of overloading capability for excess current	
• at short-circuit during operation	25 ms
constant overload current	
• at short-circuit during operation typical	48 A
bridging of equipment	Yes; active load distribution via control contact or inclined output characteristic can be selected via display and IO-Link
number of parallel-switched equipment resources	2
efficiency	
efficiency in percent	96 %
power loss [W]	
• at rated output voltage for rated value of the output current typical	38 W
• during no-load operation maximum	5 W
closed-loop control	
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	1 %
relative control precision of the output voltage at load step of resistive load 10/90/10 % typical	3 %
setting time	
• maximum	3 ms
protection and monitoring	
design of the overvoltage protection	max. 32 V
property of the output short-circuit proof	Yes
design of short-circuit protection	constant current characteristic or latching shutdown (selectable via display and IO-Link)
response value current limitation	30 ... 49 A
design of the current limitation	adjustable via display and IO-Link
overcurrent overload capability	
• in normal operation	150 % IaRated up to 5 s/min (configurable via display and IO-Link)
enduring short circuit current RMS value	
• maximum	56 A
• typical	48 A
display version for overload and short circuit	display and 3-color LED for operating status
design of the reset device/resetting mechanism	via display and IO-Link
interfaces	
product function communication function	Yes
design of the interface	IO-Link
protocol is supported	
• IO-Link protocol	Yes
IO-Link transfer rate	COM3 (230.4 kBaud)

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3437-8SB00-4AY0 SITOP PSU8400 24 V/40 A
number of IO-Link ports	1
point-to-point cycle time between master and IO-Link device minimum	10 ms
data volume of the address range of the outputs with cyclical transfer for all IO-Link ports maximum	3 byte
data volume of the address range of the inputs with cyclical transfer for all IO-Link ports maximum	13 byte
Protocol between master and IO-Link device Version 1.1	Yes
safety	
galvanic isolation between input and output	Yes
galvanic isolation	Safety extra low output voltage Vout according to EN 61204-7
operating resource protection class	Class I
leakage current	
• maximum	3.5 mA
protection class IP	IP20
standard	
• for emitted interference	EN 55022 Class B
• for mains harmonics limitation	EN 61000-3-2
• for interference immunity	EN 61000-6-2
standards, specifications, approvals	
certificate of suitability	
• CE marking	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)
• UKCA marking	Yes
• EAC approval	Yes
• Regulatory Compliance Mark (RCM)	Yes
• NEC Class 2	No
• SEMI F47	Yes
type of certification	
• BIS	Yes; in preparation
• CB-certificate	Yes
MTBF at 40 °C	340 000 h
standards, specifications, approvals hazardous environments	
certificate of suitability	
• IECEx	No
• ATEX	No
• ULhazloc approval	No
• cCSAus, Class 1, Division 2	No
• UKEX	No
• CCC for hazardous zone according to GB standard	No
• FM registration	No
standards, specifications, approvals marine classification	
shipbuilding approval	No
Marine classification association	
• American Bureau of Shipping Europe Ltd. (ABS)	No
• French marine classification society (BV)	No
• Det Norske Veritas (DNV)	No
• Lloyds Register of Shipping (LRS)	No

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3437-8SB00-4AY0 SITOP PSU8400 24 V/40 A
ambient conditions	
ambient temperature	
• during operation	-40 ... +70 °C; with natural convection
• during transport	-40 ... +85 °C
• during storage	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation
connection method	
type of electrical connection	screw-type terminals and push-in terminals
• at input	L1, L2, L3, PE: 1 screw terminal each for 0.2 ... 4 mm² single-core/finely stranded
• at output	+1, +2, -1, -2, -3: 1 screw terminal each for 0.5 ... 16 mm² solid/finely stranded (10 mm² with ferrule)
• for auxiliary contacts	PAR SYNC OUT/IN: 1 push-in terminal each for 0.2 ... 1.5 mm²
• for signaling contact	13, 14: push-in for 0.2 ... 1.5 mm²
removable terminal at input	No
removable terminal at output	No
design of the interface for communication	L+, C/Q, L- (IO-Link): 1 push-in terminal each for 0.2 ... 1.5 mm²
mechanical data	
width × height × depth of the enclosure	99 mm × 125 mm
installation width × mounting height	99 mm
required spacing	
• top	40 mm
• bottom	40 mm
• left	0 mm
• right	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes
• S7 rail mounting	No
• wall mounting	No
housing can be lined up	Yes
net weight	1.9 kg
further information internet links	
internet link	
• to website: Industry Mall	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com
additional information	
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)

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Technical specifications (continued)

Article number	**6EP3437-8SB00-4AY0**
product brand name	**SITOP PSU8400**
type of current supply	**24 V/40 A**
security information	
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

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Overview

The technology power supply for demanding solutions

The single-phase, two-phase and three-phase SITOP PSU8200/PSU200M are the technology power supplies for challenging solutions. They offer maximum functionality for use in complex plants and machines. The wide-range input allows a connection to almost any electricity supply network worldwide and ensures a high degree of safety even if there are large voltage fluctuations. They offer outstanding overload characteristics: Power boost delivers up to three-times the rated current for short periods of time, and with extra power of 150%, loads with high power consumption can be connected without any problems. And in the event of an overload, you can choose between constant current or automatic restart. The extremely high efficiency keeps energy consumption and heat buildup in the control cabinet low, and the compact metal enclosure also saves space.

To further increase the 24 V availability, the power supplies can be combined with **buffer**, **DC UPS**, **redundancy** and **selectivity modules**.

Product highlights of the product line

- Extremely slim design – no lateral installation clearances required
- Power boost with 3 times rated current (for 25 ms) for tripping protective devices
- Extra power with 1.5 times rated current (5 s/min) for brief functional overload
- Choice of constant current characteristic or latching shutdown
- Symmetrical load distribution can be selected for parallel operation
- Operating state on 3 LEDs
- Extremely high efficiency up to 94%
- Wide temperature range from -25 to +70 °C

More information

Quick and easy selection of the appropriate power supply with the TIA Selection Tool:

http://www.siemens.com/tst

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Overview

The 1-phase SITOP PSU8200 are technology power supplies for challenging solutions. The version with wide-range input allows a connection to almost any electricity supply network worldwide and ensures a high degree of safety even if there are large voltage supply deviations.

To further increase the 24 V availability, the SITOP power supply units can be combined with **buffer**, **DC UPS**, **redundancy** and **selectivity modules**.

Product highlights

- 1-phase, 24 V DC/ 5 A, 10 A, 20 A and 40 A
- Wide-range input, input voltage 85 ... 132 V AC, 170 ... 264 V AC or 88 ... 350 V DC
- Up to 94% efficiency
- cULus, cCSAus, ABS and DNV GL certifications

Selection and ordering data

SITOP PSU8200 1-phase, 24 V DC/5 A Stabilized power supply Input: 120/230 V AC Output: 24 V DC/5 A	**6EP3333-8SB00-0AY0**
SITOP PSU8200 1-phase, 24 V DC/10 A Stabilized power supply Input: 120/230 V AC Output: 24 V DC/10 A	**6EP3334-8SB00-0AY0**
SITOP PSU8200 1-phase, 24 V DC/20 A Stabilized power supply Input: 120 ... 230 V AC/110 ... 220 V DC Output: 24 V DC/20 A	**6EP1336-3BA10**
SITOP PSU8200 1-phase, 24 V DC/40 A Stabilized power supply Input: 120/230 V AC Output: 24 V DC/40 A	**6EP3337-8SB00-0AY0**
SITOP PSU8200 Ex 1-phase, 24 V DC/40 A Stabilized power supply Input: 120/230 V AC Output: 24 V DC/40 A	**6EP3337-8SC00-0AY0**

Accessories

SITOP redundancy modules	For more information, visit: www.siemens.com/sitop-redundancy/mall
SITOP selectivity modules	For more information, visit: www.siemens.com/sitop-selectivity/mall
SITOP buffer modules	For more information, visit: www.siemens.com/sitop-buffering/mall
Device identification label	**3RT2900-1SB20**

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Technical specifications

Article number	6EP3333-8SB00-0A-Y0	6EP3334-8SB00-0A-Y0	6EP1336-3BA10	6EP3337-8SB00-0A-Y0	6EP3337-8SC00-0A-Y0
product brand name	SITOP PSU8200	SITOP PSU8200	SITOP PSU8200	SITOP PSU8200	SITOP PSU8200 EX
type of current supply	24 V/5 A	24 V/10 A	24 V/20 A	24 V/40 A	24 V/40 A
input					
type of the power supply network	1-phase AC	1-phase AC	1-phase and 2-phase AC or DC	1-phase and 2-phase AC	1-phase and 2-phase AC
supply voltage at AC					
• minimum rated value			120 V		
• maximum rated value			230 V		
• initial value			85 V		
• full-scale value			275 V		
supply voltage at AC	Automatic range selection	Automatic range selection	temperature derating necessary at Uin<100 V AC or DC at 50 °C; additional derating at Uin<100 V: Uin=95 V Pa max=460 W, Uin=90 V Pa max=440 W, Uin=85 V Pa max=420 W	Automatic selection; startup starting from Ue ≥ 90/180 V	Automatic selection; startup starting from Ue ≥ 90/180 V
supply voltage	120 V/230 V	120 V/230 V		120 V/230 V	120 V/230 V
input voltage 1 at AC	85 ... 132 V	85 ... 132 V		85 ... 132 V	85 ... 132 V
input voltage 2 at AC	170 ... 264 V	170 ... 264 V		170 ... 264 V	170 ... 264 V
supply voltage at DC			110 ... 220 V		
input voltage at DC			88 ... 350 V		
wide range input	No	No	Yes	No	No
buffering time for rated value of the output current in the event of power failure minimum	35 ms	35 ms	20 ms	25 ms	25 ms
operating condition of the mains buffering	at Vin = 120/230 V	at Vin = 120/230 V	at Vin = 230 V	at Vin = 230 V	at Vin = 230 V
line frequency	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz
line frequency	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz	45 ... 65 Hz	45 ... 65 Hz
input current					
• at rated input voltage 120 V	2.1 A	4 A	4.6 A	15 A	15 A
• at rated input voltage 230 V	1.2 A	1.9 A	2.5 A	9 A	9 A
current limitation of inrush current at 25 °C maximum	10 A	10 A	20 A	50 A	50 A
I2t value maximum	0.2 $A^2 \cdot s$	0.3 $A^2 \cdot s$	5 $A^2 \cdot s$	8 $A^2 \cdot s$	8 $A^2 \cdot s$
fuse protection type	T 3.15 A (not accessible)	T 6.3 A (not accessible)	Yes	Yes	Yes
fuse protection type in the feeder	Recommended miniature circuit breaker at 1-phase operation: from 6 A (10 A) characteristic C (B); required at 2-phase operation: circuit breaker 2-pole connected or circuit breaker 3RV2011-1EA10 (setting 3.8 A) or 3RV2711-1ED10 (UL 489) at 230 V; 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10 (UL 489) at 400/500 V	Recommended miniature circuit breaker at 1-phase operation: from 6 A (10 A) characteristic C (B); required at 2-phase operation: circuit breaker 2-pole connected or circuit breaker 3RV2011-1EA10 (setting 3.8 A) or 3RV2711-1ED10 (UL 489) at 230 V; 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10 (UL 489) at 400/500 V	Recommended miniature circuit breaker at 1-phase operation: 10 A characteristic C; required at 2-phase operation: circuit breaker 2-pole connected or circuit breaker 3RV2711-1HD10 (UL 489) at 120 V or 3RV2711-1ED10 (UL 489) at 230 V	Recommended miniature circuit breaker at 1-phase operation: 16 A characteristic C; required at 2-phase operation: circuit breaker 2-pole connected or circuit breaker 3RV2421-4BA10 (120 V) or 3RV2411-1JA10 (230 V)	Recommended miniature circuit breaker at 1-phase operation: 16 A characteristic C; required at 2-phase operation: circuit breaker 2-pole connected or circuit breaker 3RV2421-4BA10 (120 V) or 3RV2411-1JA10 (230 V)
output					
voltage curve at output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
output voltage at DC rated value	24 V	24 V	24 V	24 V	24 V
output voltage					
• at output 1 at DC rated value	24 V	24 V	24 V	24 V	24 V
	24 V	24 V	24 V	24 V	24 V

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Technical specifications (continued)

Article number	6EP3333-8SB00-0A-Y0	6EP3334-8SB00-0A-Y0	6EP1336-3BA10	6EP3337-8SB00-0A-Y0	6EP3337-8SC00-0A-Y0
product brand name	SITOP PSU8200	SITOP PSU8200	SITOP PSU8200	SITOP PSU8200	SITOP PSU8200 EX
type of current supply	24 V/5 A	24 V/10 A	24 V/20 A	24 V/40 A	24 V/40 A
output voltage adjustable	Yes; via potentiometer	Yes; via potentiometer	Yes; via potentiometer	Yes; via potentiometer	Yes; via potentiometer
adjustable output voltage	24 ... 28.8 V; max. 120 W	24 ... 28.8 V; max. 240 W	24 ... 28 V	24 ... 28 V; max. 960 W	24 ... 28 V; max. 960 W
relative control precision of the output voltage					
• on slow fluctuation of input voltage	0.1 %	0.1 %	0.1 %	0.1 %	0.1 %
• on slow fluctuation of ohm loading	0.2 %	0.3 %	0.3 %	0.1 %	0.1 %
residual ripple					
• maximum	50 mV	50 mV	100 mV	100 mV	100 mV
• typical			80 mV	50 mV	50 mV
voltage peak					
• maximum	200 mV	200 mV	200 mV	240 mV	240 mV
• typical			100 mV	220 mV	220 mV
display version for normal operation	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK; LED yellow for overload; LED red for short-circuit or latching shutdown	Green LED for 24 V OK; LED yellow for overload; LED red for short-circuit or latching shutdown
type of signal at output	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"
behavior of the output voltage when switching on	Overshoot of Vout approx. 3 %	Overshoot of Vout approx. 3 %	No overshoot of Vout (soft start)	Overshoot of Vout approx. 3 %	Overshoot of Vout approx. 3 %
response delay maximum	1.5 s	1.5 s	1.5 s	1.5 s	1.5 s
voltage increase time of the output voltage					
• typical	30 ms	70 ms	250 ms	30 ms	30 ms
output current					
• rated value	5 A	10 A	20 A	40 A	40 A
• rated range	0 ... 5 A; As of Ua>24 V: 4% [Ia]/V [Ua]; at Ue<100 V/<200 V: 80% Ia rated	0 ... 10 A; +60 ... +70 °C: Derating 2%/K; as of Ua>24 V: 4% [Ia]/V [Ua]; at Ue<100 V/<200 V: 80% Ia rated	0 ... 20 A; +60 ... +70 °C: Derating 3%/K	0 ... 40 A; +60 ... +70 °C: Derating 3%/K	0 ... 40 A; +60 ... +70 °C: Derating 3%/K
	5 A	10 A	20 A	40 A	40 A
supplied active power typical	120 W	240 W	480 W	960 W	960 W
short-term overload current					
• on short-circuiting during the start-up typical				120 A	120 A
• at short-circuit during operation typical	15 A	30 A	60 A	120 A	120 A
duration of overloading capability for excess current					
• on short-circuiting during the start-up				25 ms	25 ms
• at short-circuit during operation	25 ms	25 ms	25 ms	25 ms	25 ms
constant overload current					
• on short-circuiting during the start-up typical	6 A	12 A	30 A	60 A	60 A
bridging of equipment	Yes; switchable characteristic	Yes; switchable characteristic	Yes; switchable characteristic	Yes; switchable characteristic	No
number of parallel-switched equipment resources	2	2	2	2	
efficiency					
efficiency in percent	93 %	94 %	94 %	92 %	92 %
power loss [W]					

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Technical specifications (continued)

Article number	6EP3333-8SB00-0A-Y0	6EP3334-8SB00-0A-Y0	6EP1336-3BA10	6EP3337-8SB00-0A-Y0	6EP3337-8SC00-0A-Y0
product brand name	SITOP PSU8200	SITOP PSU8200	SITOP PSU8200	SITOP PSU8200	SITOP PSU8200 EX
type of current supply	24 V/5 A	24 V/10 A	24 V/20 A	24 V/40 A	24 V/40 A
• at rated output voltage for rated value of the output current typical	9 W	18 W	31 W	82 W	82 W
• during no-load operation maximum	1.5 W	1.5 W		6.8 W	6.8 W
closed-loop control					
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	0.1 %	0.1 %	0.5 %	1 %	1 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	2 %	4 %	1 %	1.9 %	1.9 %
setting time					
• load step 50 to 100% typical	0.25 ms	0.25 ms	1 ms	2 ms	2 ms
• load step 100 to 50% typical	0.5 ms	0.5 ms	1 ms	2 ms	2 ms
relative control precision of the output voltage at load step of resistive load 10/90/10 % typical	2 %	4 %		3.8 %	3.8 %
setting time					
• load step 10 to 90% typical	0.25 ms	0.25 ms		1 ms	1 ms
• load step 90 to 10% typical	0.5 ms	0.5 ms		1 ms	1 ms
• maximum	1 ms	1 ms	5 ms	1 ms	1 ms
protection and monitoring					
design of the overvoltage protection	< 33 V	< 33 V	< 31.8 V	< 32 V	< 32 V
property of the output short-circuit proof	Yes	Yes	Yes	Yes	Yes
design of short-circuit protection	Alternatively, constant current characteristic approx. 6 A or latching shutdown	Alternatively, constant current characteristic approx. 12 A or latching shutdown	Alternatively, constant current characteristic approx. 21.5 A or latching shutdown	Alternatively, constant current characteristic approx. 41 A or latching shutdown	Alternatively, constant current characteristic approx. 41 A or latching shutdown
• typical	6 A	12 A	21.5 A	41 A	41 A
overcurrent overload capability					
• in normal operation	overload capability 150 % Iout rated up to 5 s/min	overload capability 150 % Iout rated up to 5 s/min	overload capability 150 % Iout rated up to 5 s/min	250% Iout rated up to 25 ms, 150% Iout rated up to 5 s/min	250% Iout rated up to 25 ms, 150% Iout rated up to 5 s/min
enduring short circuit current RMS value					
• typical	6 A	12 A	21.5 A	41 A	41 A
display version for overload and short circuit	LED yellow for "overload", LED red for "latching shutdown"	LED yellow for "overload", LED red for "latching shutdown"	LED yellow for "overload", LED red for "latching shutdown"	LED yellow for "overload", LED red for "latching shutdown" or "short-circuit"	LED yellow for "overload", LED red for "latching shutdown" or "short-circuit"
safety					
galvanic isolation between input and output	Yes	Yes	Yes	Yes	Yes
galvanic isolation	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178	SELV (ES1) output voltage Vout according to EN 61204-7, transformer according to EN 61558-2-16	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178
operating resource protection class	Class I	Class I	Class I	Class I	Class I
leakage current					
• maximum	3.5 mA	3.5 mA	3.5 mA	0.1 mA	0.1 mA
• typical	1 mA	1 mA	1 mA	0.1 mA	0.1 mA
protection class IP	IP20	IP20	IP20	IP20	IP20
standard					

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Technical specifications (continued)

Article number	6EP3333-8SB00-0A-Y0	6EP3334-8SB00-0A-Y0	6EP1336-3BA10	6EP3337-8SB00-0A-Y0	6EP3337-8SC00-0A-Y0
product brand name	SITOP PSU8200	SITOP PSU8200	SITOP PSU8200	SITOP PSU8200	SITOP PSU8200 EX
type of current supply	24 V/5 A	24 V/10 A	24 V/20 A	24 V/40 A	24 V/40 A
• for emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
• for mains harmonics limitation	EN 61000-3-2	EN 61000-3-2	EN 61000-3-2	-	-
• for interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals					
certificate of suitability					
• CE marking	Yes	Yes	Yes	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; CSA C22.2 No. 62368-1
• UKCA marking			Yes		Yes
• EAC approval	Yes	Yes	Yes	Yes	
• Regulatory Compliance Mark (RCM)	Yes	Yes	Yes	Yes	Yes
• NEC Class 2	No	No	No	No	No
• SEMI F47		Yes	Yes		
type of certification					
• BIS			Yes; R-41183539	Yes; R-41183539	Yes; R-41183539
• CB-certificate	Yes	Yes	Yes	Yes	Yes
MTBF at 40 °C	1 421 519 h	1 292 102 h	583 500 h	838 156 h	838 156 h
standards, specifications, approvals hazardous environments					
certificate of suitability					
• IECEx	No	No	No	No	Yes; IECEx Ex ec nC IIC T3 Gc
• ATEX	No	No	No	No	Yes; ATEX (EX) II 3G Ex ec nC IIC T3 Gc
• ULhazloc approval	No	No	No	No	Yes
• cCSAus, Class 1, Division 2	No	No	No	No	Yes
• FM registration	No	No	No	No	No
standards, specifications, approvals marine classification					
shipbuilding approval	Yes	Yes	Yes	Yes	No
Marine classification association					
• American Bureau of Shipping Europe Ltd. (ABS)	Yes	Yes	Yes	Yes	No
• French marine classification society (BV)	No	No	No	No	No
• Det Norske Veritas (DNV)	Yes	Yes	Yes	Yes	No; in preparation
• Lloyds Register of Shipping (LRS)	No	No	No	No	No
standards, specifications, approvals Environmental Product Declaration					
Environmental Product Declaration	Yes	Yes	Yes	Yes	Yes
Global Warming Potential [CO2 eq]					

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Technical specifications (continued)

Article number	6EP3333-8SB00-0A-Y0	6EP3334-8SB00-0A-Y0	6EP1336-3BA10	6EP3337-8SB00-0A-Y0	6EP3337-8SC00-0A-Y0
product brand name	SITOP PSU8200	SITOP PSU8200	SITOP PSU8200	SITOP PSU8200	SITOP PSU8200 EX
type of current supply	24 V/5 A	24 V/10 A	24 V/20 A	24 V/40 A	24 V/40 A
• total	294.6 kg	579.4 kg	989.5 kg	2 616.1 kg	2 616.1 kg
• during manufacturing	12.6 kg	15.8 kg	18.9 kg	48.8 kg	48.8 kg
• during operation	281.6 kg	563.2 kg	970 kg	2 565.8 kg	2 565.8 kg
• after end of life	0.18 kg	0.23 kg	0.27 kg	0.7 kg	0.7 kg
ambient conditions					
ambient temperature					
• during operation	-25 ... +70 °C; With natural convection; startup tested starting from -40 °C nominal voltage	-25 ... +70 °C; With natural convection; startup tested starting from -40 °C nominal voltage	-25 ... +70 °C; With natural convection; startup tested starting from -40 °C nominal voltage	-25 ... +70 °C; with natural convection	-25 ... +70 °C; with natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method					
type of electrical connection	screw terminal	screw terminal	screw terminal	screw terminal	screw terminal
• at input	L, N, PE: 1 screw terminal each for 0.2 ... 2.5 mm² single-core/finely stranded	L, N, PE: 1 screw terminal each for 0.2 ... 2.5 mm² single-core/finely stranded	L, N, PE: 1 screw terminal each for 0.2 ... 4 mm² single-core/finely stranded	L, N, PE: 1 screw terminal each for 0.2 ... 4 mm² single-core/finely stranded	L, N, PE: 1 screw terminal each for 0.2 ... 4 mm² single-core/finely stranded
• at output	+, -: 2 screw terminals each for 0.2 ... 2.5 mm²	+, -: 2 screw terminals each for 0.2 ... 2.5 mm²	+, -: 2 screw terminals each for 0.2 ... 4 mm²	+, -: 2 screw terminals each for 0.5 ... 10 mm²	+, -: 2 screw terminals each for 0.5 ... 10 mm²
• for auxiliary contacts	13, 14 (alarm signal): 1 screw terminal each for 0.14 ... 1.5 mm²; 15, 16 (Remote): 1 screw terminal each for 0.14 ... 1.5 mm²	13, 14 (alarm signal): 1 screw terminal each for 0.14 ... 1.5 mm²; 15, 16 (Remote): 1 screw terminal each for 0.14 ... 1.5 mm²	13, 14 (alarm signal), 15, 16 (Remote ON OFF): 1 screw terminal each for 0.14 ... 1.5 mm²	13, 14 (alarm signal): 1 screw terminal each for 0.14 ... 1.5 mm²	13, 14 (alarm signal): 1 screw terminal each for 0.14 ... 1.5 mm²
mechanical data					
width × height × depth of the enclosure	45 mm × 125 mm	55 mm × 125 mm	90 mm × 125 mm	145 mm × 150 mm	145 mm × 150 mm
installation width × mounting height	45 mm	55 mm	90 mm	150 mm	150 mm
required spacing					
• top	50 mm	50 mm	50 mm	40 mm	40 mm
• bottom	50 mm	50 mm	50 mm	40 mm	40 mm
• left	0 mm	0 mm	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x15	Snaps onto DIN rail EN 60715 35x15
• standard rail mounting	Yes	Yes	Yes	Yes	Yes
• S7 rail mounting	No	No	No	No	No
• wall mounting	No	No	No	No	No
housing can be lined up	Yes	Yes	Yes	Yes	Yes
net weight	0.8 kg	1 kg	1.2 kg	3.1 kg	3.1 kg
accessories					
electrical accessories	Buffer module	Buffer module	Buffer module	Buffer module, redundancy module	Buffer module, redundancy module
mechanical accessories	Device identification label 20 mm × 7 mm, TI-grey 3RT2900-1SB20	Device identification label 20 mm × 7 mm, TI-grey 3RT2900-1SB20	Device identification label 20 mm × 7 mm, TI-grey 3RT2900-1SB20	Device identification label 20 mm × 7 mm, TI-grey 3RT2900-1SB20	Device identification label 20 mm × 7 mm, TI-grey 3RT2900-1SB20
further information internet links					
internet link					
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com

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Technical specifications (continued)

Article number	6EP3333-8SB00-0A-Y0	6EP3334-8SB00-0A-Y0	6EP1336-3BA10	6EP3337-8SB00-0A-Y0	6EP3337-8SC00-0A-Y0
product brand name	SITOP PSU8200	SITOP PSU8200	SITOP PSU8200	SITOP PSU8200	SITOP PSU8200 EX
type of current supply	24 V/5 A	24 V/10 A	24 V/20 A	24 V/40 A	24 V/40 A
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com
additional information					
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information					
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product ver-	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. 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Technical specifications (continued)

Article number	6EP3333-8SB00-0A-Y0	6EP3334-8SB00-0A-Y0	6EP1336-3BA10	6EP3337-8SB00-0A-Y0	6EP3337-8SC00-0A-Y0
product brand name	SITOP PSU8200	SITOP PSU8200	SITOP PSU8200	SITOP PSU8200	SITOP PSU8200 EX
type of current supply	24 V/5 A	24 V/10 A	24 V/20 A	24 V/40 A	24 V/40 A
	product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	sions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	sions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

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Overview

The 1- and 2-phase SITOP PSU200M are technology power supplies for challenging solutions. The ultra-wide-range input allows connection to almost any single-phase power supply system or directly between the line conductors of three-phase networks (2-phase) and ensures a high degree of safety even if there are large voltage fluctuations.

To further increase the 24 V availability, the SITOP power supplies can be combined with **buffer**, **DC UPS**, **redundancy** and **selectivity modules**.

Product highlights

- 1- and 2-phase, 24 V DC/5 A and 10 A
- Ultra-wide input range, input voltage 85 ... 264 V AC, 176 ... 550 V 2AC
- Optionally with PCB with protective coating
- Up to 91% efficiency
- cULus, cCSAus, ABS and DNV GL certifications

Selection and ordering data

SITOP PSU200M 1 and 2-phase, 24 V DC/5 A Stabilized power supply Input: 120 ... 230/230 ... 500 V AC Output: 24 V DC/5 A	**6EP1333-3BA10**
SITOP PSU200M 1 and 2-phase, 24 V DC/5 A Stabilized power supply Input: 120 ... 230/230 ... 500 V AC Output: 24 V DC/5 A Version with protective coating	**6EP1333-3BA10-8AC0**
SITOP PSU200M 1 and 2-phase, 24 V DC/10 A Stabilized power supply Input: 120 ... 230 V/230 ... 500 V AC Output: 24 V DC/10 A	**6EP1334-3BA10**
SITOP PSU200M 1 and 2-phase, 24 V DC/10 A Stabilized power supply Input: 120 ... 230/230 ... 500 V AC Output: 24 V DC/10 A version with protective coating	**6EP1334-3BA10-8AB0**

Accessories

SITOP redundancy modules	For more information, visit: www.siemens.com/sitop-redundancy/mall
SITOP selectivity modules	For more information, visit: www.siemens.com/sitop-selectivity/mall
SITOP buffer modules	For more information, visit: www.siemens.com/sitop-buffering/mall
Device identification label	**3RT2900-1SB20**

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Technical specifications

Article number product brand name type of current supply	6EP1333-3BA10 SITOP PSU200M 24 V/5 A	6EP1333-3BA10-8AC0 SITOP PSU200M 24 V/5 A	6EP1334-3BA10 SITOP PSU200M 24 V/10 A	6EP1334-3BA10-8AB0 SITOP PSU200M 24 V/10 A
input				
type of the power supply network	1-phase and 2-phase AC	1-phase and 2-phase AC	1-phase and 2-phase AC	1-phase and 2-phase AC
supply voltage at AC	Set by means of selector switch on the device; starting from Vin > 90/180 V	Set by means of selector switch on the device; starting from Vin > 90/180 V	Set by means of selector switch on the device	Set by means of selector switch on the device
supply voltage 1 at AC	120 ... 230 V	120 ... 230 V	120 ... 230 V	120 ... 230 V
supply voltage 2 at AC	230 ... 500 V	230 ... 500 V	230 ... 500 V	230 ... 500 V
input voltage 1 at AC	85 ... 264 V	85 ... 264 V	85 ... 264 V	85 ... 264 V
input voltage 2 at AC	176 ... 550 V	176 ... 550 V	176 ... 550 V	176 ... 550 V
wide range input	Yes	Yes	Yes	Yes
overvoltage overload capability	1300 Vpeak, 1.3 ms	1300 Vpeak, 1.3 ms	1300 Vpeak, 1.3 ms	1300 Vpeak, 1.3 ms
buffering time for rated value of the output current in the event of power failure minimum	25 ms	25 ms	25 ms	25 ms
operating condition of the mains buffering	at Vin = 120/230 V, typ. 150 ms at Vin = 400 V	at Vin = 120/230 V, typ. 150 ms at Vin = 400 V	at Vin = 120/230 V, typ. 150 ms at Vin = 400 V	at Vin = 120/230 V, typ. 150 ms at Vin = 400 V
line frequency	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz
line frequency	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz
input current				
• at rated input voltage 120 V	2.2 A	2.2 A	4.4 A	4.4 A
• at rated input voltage 230 V	1.2 A	1.2 A	2.4 A	2.4 A
• at rated input voltage 500 V	0.61 A	0.61 A	1.1 A	1.1 A
current limitation of inrush current at 25 °C maximum	35 A	35 A	35 A	35 A
I2t value maximum	1.7 $A^2 \cdot s$	1.7 $A^2 \cdot s$	4 $A^2 \cdot s$	4 $A^2 \cdot s$
fuse protection type	T 3.15 A (not accessible)	T 3.15 A (not accessible)	T 6.3 A (not accessible)	T 6.3 A (not accessible)
fuse protection type in the feeder	Recommended miniature circuit breaker at 1-phase operation: from 6 A (10 A) characteristic C (B); required at 2-phase operation: circuit breaker 2-pole connected or circuit breaker 3RV2011-1EA10 (setting 3.8 A) or 3RV2711-1ED10 (UL 489) at 230 V; 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10 (UL 489) at 400/500 V	Recommended miniature circuit breaker at 1-phase operation: from 6 A (10 A) characteristic C (B); required at 2-phase operation: circuit breaker 2-pole connected or circuit breaker 3RV2011-1EA10 (setting 3.8 A) or 3RV2711-1ED10 (UL 489) at 230 V; 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10 (UL 489) at 400/500 V	Recommended miniature circuit breaker at 1-phase operation: from 6 A (10 A) characteristic C (B); required at 2-phase operation: circuit breaker 2-pole connected or circuit breaker 3RV2011-1EA10 (setting 3.8 A) or 3RV2711-1ED10 (UL 489) at 230 V; 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10 (UL 489) at 400/500 V	Recommended miniature circuit breaker at 1-phase operation: from 6 A (10 A) characteristic C (B); required at 2-phase operation: circuit breaker 2-pole connected or circuit breaker 3RV2011-1EA10 (setting 3.8 A) or 3RV2711-1ED10 (UL 489) at 230 V; 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10 (UL 489) at 400/500 V
output				
voltage curve at output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
output voltage at DC rated value	24 V	24 V	24 V	24 V
output voltage				
• at output 1 at DC rated value	24 V	24 V	24 V	24 V
	24 V	24 V	24 V	24 V
output voltage adjustable	Yes; via potentiometer	Yes; via potentiometer	Yes; via potentiometer	Yes; via potentiometer
adjustable output voltage	24 ... 28.8 V	24 ... 28.8 V	24 ... 28.8 V	24 ... 28.8 V
relative control precision of the output voltage				
• on slow fluctuation of input voltage	0.1 %	0.1 %	0.1 %	0.1 %
• on slow fluctuation of ohm loading	0.1 %	0.1 %	0.1 %	0.1 %
residual ripple				
• maximum	50 mV	50 mV	50 mV	50 mV
voltage peak				
• maximum	200 mV	200 mV	200 mV	200 mV

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1333-3BA10 SITOP PSU200M 24 V/5 A	6EP1333-3BA10-8AC0 SITOP PSU200M 24 V/5 A	6EP1334-3BA10 SITOP PSU200M 24 V/10 A	6EP1334-3BA10-8AB0 SITOP PSU200M 24 V/10 A
display version for normal operation	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK
type of signal at output	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"
behavior of the output voltage when switching on	Overshoot of Vout approx. 3 %	Overshoot of Vout approx. 3 %	Overshoot of Vout approx. 3 %	Overshoot of Vout approx. 3 %
response delay maximum	1 s	1 s	1 s	1 s
voltage increase time of the output voltage				
• typical	50 ms	50 ms	50 ms	50 ms
output current				
• rated value	5 A	5 A	10 A	10 A
• rated range	0 ... 5 A	0 ... 5 A	0 ... 10 A; +60 ... +70 °C: Derating 2%/K (at 120 V, 230 V) or 3.5%/K (at 400 V)	0 ... 10 A; +60 ... +70 °C: Derating 2%/K (at 120 V, 230 V) or 3.5%/K (at 400 V)
	5 A	5 A	10 A	10 A
supplied active power typical	120 W	120 W	240 W	240 W
short-term overload current				
• at short-circuit during operation typical	15 A	15 A	30 A	30 A
duration of overloading capability for excess current				
• at short-circuit during operation	25 ms	25 ms	25 ms	25 ms
constant overload current				
• on short-circuiting during the start-up typical	6 A	6 A	12 A	12 A
bridging of equipment	Yes; switchable characteristic	Yes; switchable characteristic	Yes; switchable characteristic	Yes; switchable characteristic
number of parallel-switched equipment resources	2	2	2	2
efficiency				
efficiency in percent	88 %	88 %	91 %	91 %
power loss [W]				
• at rated output voltage for rated value of the output current typical	17 W	17 W	24 W	24 W
• during no-load operation maximum	4 W	4 W	6 W	6 W
closed-loop control				
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	0.1 %	0.1 %	0.1 %	0.1 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	3 %	3 %	3 %	3 %
setting time				
• load step 50 to 100% typical	2 ms	2 ms	2 ms	2 ms
• load step 100 to 50% typical	2 ms	2 ms	2 ms	2 ms
setting time				
• maximum	5 ms	5 ms	5 ms	5 ms
protection and monitoring				
design of the overvoltage protection	< 35 V	< 35 V	< 35 V	< 35 V
property of the output short-circuit proof	Yes	Yes	Yes	Yes
design of short-circuit protection	Alternatively, constant current characteristic approx. 5.5 A or latching shutdown	Alternatively, constant current characteristic approx. 5.5 A or latching shutdown	Alternatively, constant current characteristic approx. 12 A or latching shutdown	Alternatively, constant current characteristic approx. 12 A or latching shutdown
• typical	6 A	6 A	12 A	12 A
enduring short circuit current RMS value				

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1333-3BA10 SITOP PSU200M 24 V/5 A	6EP1333-3BA10-8AC0 SITOP PSU200M 24 V/5 A	6EP1334-3BA10 SITOP PSU200M 24 V/10 A	6EP1334-3BA10-8AB0 SITOP PSU200M 24 V/10 A
• typical	6 A	6 A	12 A	12 A
display version for overload and short circuit	LED yellow for "overload", LED red for "latching shutdown"	LED yellow for "overload", LED red for "latching shutdown"	LED yellow for "overload", LED red for "latching shutdown"	LED yellow for "overload", LED red for "latching shutdown"
safety				
galvanic isolation between input and output	Yes	Yes	Yes	Yes
galvanic isolation	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178
operating resource protection class	Class I	Class I	Class I	Class I
leakage current				
• maximum	3.5 mA	3.5 mA	3.5 mA	3.5 mA
• typical	0.25 mA	0.25 mA	0.32 mA	0.32 mA
protection class IP	IP20	IP20	IP20	IP20
standard				
• for emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
• for mains harmonics limitation	EN 61000-3-2	EN 61000-3-2	EN 61000-3-2	EN 61000-3-2
• for interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals				
certificate of suitability				
• CE marking	Yes	Yes	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• EAC approval	Yes	Yes	Yes	Yes
• Regulatory Compliance Mark (RCM)	Yes	Yes	Yes	Yes
• NEC Class 2	No	No	No	No
• SEMI F47	Yes		Yes	
type of certification				
• BIS	Yes; R-41183539, R-41188271			
• CB-certificate	Yes	No	Yes	No
MTBF at 40 °C	1 123 973 h	1 123 973 h	1 055 408 h	1 055 408 h
standards, specifications, approvals hazardous environments				
certificate of suitability				
• IECEx	No	No	No	No
• ATEX	No	No	No	No
• ULhazloc approval	No	No	No	No
• cCSAus, Class 1, Division 2	No	No	No	No
• FM registration	No	No	No	No
standards, specifications, approvals marine classification				
shipbuilding approval	Yes	Yes	Yes	Yes
Marine classification association				

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1333-3BA10 SITOP PSU200M 24 V/5 A	6EP1333-3BA10-8AC0 SITOP PSU200M 24 V/5 A	6EP1334-3BA10 SITOP PSU200M 24 V/10 A	6EP1334-3BA10-8AB0 SITOP PSU200M 24 V/10 A
• American Bureau of Shipping Europe Ltd. (ABS)	Yes	Yes	Yes	Yes
• French marine classification society (BV)	No	No	No	No
• Det Norske Veritas (DNV)	Yes	Yes	Yes	Yes
• Lloyds Register of Shipping (LRS)	No	No	No	No
standards, specifications, approvals Environmental Product Declaration				
Environmental Product Declaration	Yes	Yes	Yes	Yes
Global Warming Potential [CO2 eq]				
• total	541.7 kg	541.7 kg	763.9 kg	763.9 kg
• during manufacturing	9.5 kg	9.5 kg	12.6 kg	12.6 kg
• during operation	531.9 kg	531.9 kg	751 kg	751 kg
• after end of life	0.14 kg	0.14 kg	0.18 kg	0.18 kg
ambient conditions				
ambient temperature				
• during operation	-25 ... +70 °C; With natural convection; startup tested starting from -40 °C nominal voltage	-25 ... +70 °C; with natural convection	-25 ... +70 °C; With natural convection; startup tested starting from -40 °C nominal voltage	-25 ... +70 °C; with natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method				
type of electrical connection	screw terminal	screw terminal	screw terminal	screw terminal
• at input	L, N, PE: 1 screw terminal each for 0.2 ... 2.5 mm² single-core/finely stranded	L, N, PE: 1 screw terminal each for 0.2 ... 2.5 mm² single-core/finely stranded	L, N, PE: 1 screw terminal each for 0.2 ... 2.5 mm² single-core/finely stranded	L, N, PE: 1 screw terminal each for 0.2 ... 2.5 mm² single-core/finely stranded
• at output	+, -: 2 screw terminals each for 0.2 ... 2.5 mm²	+, -: 2 screw terminals each for 0.2 ... 2.5 mm²	+, -: 2 screw terminals each for 0.2 ... 2.5 mm²	+, -: 2 screw terminals each for 0.2 ... 2.5 mm²
• for auxiliary contacts	13, 14 (alarm signal): 1 screw terminal each for 0.14 ... 1.5 mm²	13, 14 (alarm signal): 1 screw terminal each for 0.14 ... 1.5 mm²	13, 14 (alarm signal): 1 screw terminal each for 0.14 ... 1.5 mm²	13, 14 (alarm signal): 1 screw terminal each for 0.14 ... 1.5 mm²
mechanical data				
width × height × depth of the enclosure	70 mm × 121 mm	70 mm × 121 mm	70 mm × 121 mm	70 mm × 121 mm
installation width × mounting height	70 mm	70 mm	70 mm	70 mm
required spacing				
• top	50 mm	50 mm	50 mm	50 mm
• bottom	50 mm	50 mm	50 mm	50 mm
• left	0 mm	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes	Yes	Yes	Yes
• S7 rail mounting	No	No	No	No
• wall mounting	No	No	No	No
housing can be lined up	Yes	Yes	Yes	Yes
net weight	0.6 kg	0.6 kg	0.8 kg	0.8 kg
accessories				
electrical accessories	Buffer module	Buffer module	Buffer module	Buffer module
further information internet links				
internet link				
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1333-3BA10 SITOP PSU200M 24 V/5 A	6EP1333-3BA10-8AC0 SITOP PSU200M 24 V/5 A	6EP1334-3BA10 SITOP PSU200M 24 V/10 A	6EP1334-3BA10-8AB0 SITOP PSU200M 24 V/10 A
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com
additional information				
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information				
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. 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To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. 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Overview

The 3-phase SITOP PSU8200 are technology power supplies for challenging solutions. The wide-range input allows a connection to almost any electricity supply network worldwide and ensures a high degree of safety even if there are large voltage fluctuations.

To further increase the 24 V availability, the SITOP power supplies can be combined with **buffer**, **DC UPS**, **redundancy** and **selectivity modules**.

Product highlights

- 3-phase, 24 V DC/ 20 A and 40 A
- Wide-range input, input voltage 320 ... 575 V AC
- Up to 94% efficiency
- cULus, cCSAus, ABS and DNV GL certifications

Selection and ordering data

SITOP PSU8200 3-phase, 24 V DC/20 A Stabilized power supply Input: 400 ... 500 V 3 AC Output: 24 V DC/20 A	**6EP3436-8SB00-0AY0**
SITOP PSU8200 3-phase, 24 V DC/40 A Stabilized power supply Input: 400 ... 500 V 3 AC Output: 24 V DC/20 A	**6EP3437-8SB00-0AY0**

Accessories

SITOP redundancy modules	For more information, visit: www.siemens.com/sitop-redundancy/mall
SITOP selectivity modules	For more information, visit: www.siemens.com/sitop-selectivity/mall
SITOP buffer modules	For more information, visit: www.siemens.com/sitop-buffering/mall
Device identification label	**3RT2900-1SB20**

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Technical specifications

Article number product brand name type of current supply	6EP3436-8SB00-0AY0 SITOP PSU8200 24 V/20 A	6EP3437-8SB00-0AY0 SITOP PSU8200 24 V/40 A
input		
type of the power supply network	3-phase AC	3-phase AC
supply voltage at AC		
• minimum rated value	400 V	400 V
• maximum rated value	500 V	500 V
• initial value	320 V	320 V
• full-scale value	575 V	575 V
wide range input	Yes	Yes
buffering time for rated value of the output current in the event of power failure minimum	15 ms	10 ms
operating condition of the mains buffering	at Vin = 400 V	at Vin = 400 V
line frequency	50 Hz/60 Hz	50 Hz/60 Hz
line frequency	47 ... 63 Hz	45 ... 65 Hz
input current		
• at rated input voltage 400 V	1.2 A	2.1 A
• at rated input voltage 500 V	1 A	1.7 A
current limitation of inrush current at 25 °C maximum	16 A	13 A
I2t value maximum	0.8 $A^2 \cdot s$	2.24 $A^2 \cdot s$
fuse protection type	none	none
fuse protection type in the feeder	Required: 3-pole connected miniature circuit breaker 6 ... 16 A characteristic C or circuit breaker 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10 (UL 489)	Required: 3-pole connected miniature circuit breaker 10 ... 16 A characteristic C or circuit breaker 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10 (UL 489)
output		
voltage curve at output	Controlled, isolated DC voltage	Controlled, isolated DC voltage
output voltage at DC rated value	24 V	24 V
output voltage		
• at output 1 at DC rated value	24 V	24 V
	24 V	24 V
output voltage adjustable	Yes; via potentiometer	Yes; via potentiometer
adjustable output voltage	24 ... 28 V; max. 480 W	24 ... 28 V; max. 960 W
relative control precision of the output voltage		
• on slow fluctuation of input voltage	0.1 %	0.1 %
• on slow fluctuation of ohm loading	0.2 %	0.2 %
residual ripple		
• maximum	100 mV	100 mV
voltage peak		
• maximum	200 mV	240 mV
display version for normal operation	Green LED for 24 V OK	Green LED for 24 V OK
type of signal at output	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"
behavior of the output voltage when switching on	No overshoot of Vout (soft start)	minimal overshooting (< 2 %)
response delay maximum	2.5 s	0.1 s
voltage increase time of the output voltage		
• maximum	500 ms	100 ms
output current		
• rated value	20 A	40 A
• rated range	0 ... 20 A; +60 ... +70 °C: Derating 2%/K	0 ... 40 A; +60 ... +70 °C: Derating 4%/K
	20 A	40 A
supplied active power typical	480 W	960 W
short-term overload current		

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3436-8SB00-0AY0 SITOP PSU8200 24 V/20 A	6EP3437-8SB00-0AY0 SITOP PSU8200 24 V/40 A
• at short-circuit during operation typical	60 A	120 A
duration of overloading capability for excess current		
• at short-circuit during operation	25 ms	25 ms
constant overload current		
• on short-circuiting during the start-up typical	22 A	44 A
bridging of equipment	Yes; switchable characteristic	Yes; switchable characteristic
number of parallel-switched equipment resources	2	2
efficiency		
efficiency in percent	94 %	94 %
power loss [W]		
• at rated output voltage for rated value of the output current typical	31 W	66 W
• during no-load operation maximum		4 W
closed-loop control		
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	0.1 %	1 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	1 %	3 %
setting time		
• load step 50 to 100% typical	0.2 ms	
• load step 100 to 50% typical	0.2 ms	
relative control precision of the output voltage at load step of resistive load 10/90/10 % typical	2 %	
setting time		
• load step 10 to 90% typical	0.2 ms	
• load step 90 to 10% typical	0.2 ms	
• maximum	10 ms	10 ms
protection and monitoring		
design of the overvoltage protection	< 32 V	< 31.8 V
property of the output short-circuit proof	Yes	Yes
design of short-circuit protection	Alternatively, constant current characteristic approx. 22 A or latching shutdown	Alternatively, constant current characteristic approx. 44 A or latching shutdown
• typical	22 A	44 A
overcurrent overload capability		
• in normal operation	overload capability 150 % Iout rated up to 5 s/min	overload capability 150 % Iout rated up to 5 s/min
enduring short circuit current RMS value		
• typical	22 A	50 A
display version for overload and short circuit	LED yellow for "overload", LED red for "latching shutdown"	LED yellow for "overload", LED red for "latching shutdown"
safety		
galvanic isolation between input and output	Yes	Yes
galvanic isolation	Safety extra low output voltage Vout according to EN 60950-1	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178
operating resource protection class	Class I	Class I
leakage current		
• maximum	3.5 mA	1 mA
• typical	0.9 mA	0.6 mA
protection class IP	IP20	IP20
standard		
• for emitted interference	EN 55022 Class B	EN 55022 Class B
• for mains harmonics limitation	EN 61000-3-2	EN 61000-3-2
• for interference immunity	EN 61000-6-2	EN 61000-6-2

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3436-8SB00-0AY0 SITOP PSU8200 24 V/20 A	6EP3437-8SB00-0AY0 SITOP PSU8200 24 V/40 A
standards, specifications, approvals		
certificate of suitability		
• CE marking	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
• EAC approval	Yes	Yes
• Regulatory Compliance Mark (RCM)	Yes	Yes
• NEC Class 2	No	No
• SEMI F47	Yes	Yes
type of certification		
• BIS	Yes; R-41188271	Yes; R-41183539
• CB-certificate	Yes	Yes
MTBF at 40 °C	590 573 h	517 015 h
standards, specifications, approvals hazardous environments		
certificate of suitability		
• IECEx	No	No
• ATEX	No	No
• ULhazloc approval	No	No
• cCSAus, Class 1, Division 2	No	No
• FM registration	No	No
standards, specifications, approvals marine classification		
shipbuilding approval	Yes	Yes
Marine classification association		
• American Bureau of Shipping Europe Ltd. (ABS)	Yes	Yes
• French marine classification society (BV)	No	No
• Det Norske Veritas (DNV)	Yes	Yes
• Lloyds Register of Shipping (LRS)	No	No
standards, specifications, approvals Environmental Product Declaration		
Environmental Product Declaration	Yes	Yes
Global Warming Potential [CO2 eq]		
• total	989 kg	2 118.7 kg
• during manufacturing	18.9 kg	52 kg
• during operation	970 kg	2 065.2 kg
• after end of life	0.27 kg	0.74 kg
ambient conditions		
ambient temperature		
• during operation	-25 ... +70 °C; With natural convection; start-up tested starting from -40 °C nominal voltage	-25 ... +70 °C; With natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method		
type of electrical connection	screw terminal	screw terminal
• at input	L1, L2, L3, PE: 1 screw terminal each for 0.2 ... 4 mm² single-core/finely stranded	L1, L2, L3, PE: 1 screw terminal each for 0.5 ... 4 mm² single-core/finely stranded

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3436-8SB00-0AY0 SITOP PSU8200 24 V/20 A	6EP3437-8SB00-0AY0 SITOP PSU8200 24 V/40 A
• at output	+, -: 2 screw terminals each for 0.2 ... 4 mm²	+: 2 screw terminals each for 0.5 ... 16 mm²; -: 3 screw terminals each for 0.5 ... 16 mm²
• for auxiliary contacts	13, 14 (alarm signal): 1 screw terminal each for 0.14 ... 1.5 mm²; 15, 16 (Remote): 1 screw terminal each for 0.14 ... 1.5 mm²	13, 14 (alarm signal), 15, 16 (Remote): 1 screw terminal each for 0.05 ... 2.5 mm²
mechanical data		
width × height × depth of the enclosure	70 mm × 125 mm	135 mm × 150 mm
installation width × mounting height	70 mm	135 mm
required spacing		
• top	50 mm	40 mm
• bottom	50 mm	40 mm
• left	0 mm	0 mm
• right	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x15
• standard rail mounting	Yes	Yes
• S7 rail mounting	No	No
• wall mounting	No	No
housing can be lined up	Yes	Yes
net weight	1.2 kg	3.3 kg
accessories		
electrical accessories	Buffer module	Buffer module
mechanical accessories	Device identification label 20 mm × 7 mm, TI-grey 3RT2900-1SB20	Device identification label 20 mm × 7 mm, TI-grey 3RT2900-1SB20
further information internet links		
internet link		
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com
additional information		
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information		
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3436-8SB00-0AY0 SITOP PSU8200 24 V/20 A	6EP3437-8SB00-0AY0 SITOP PSU8200 24 V/40 A
	soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

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Overview

The 3-phase SITOP PSU8200 are technology power supplies for challenging solutions. The wide-range input allows a connection to almost any electricity supply network worldwide and ensures a high degree of safety even if there are large voltage fluctuations.

To further increase 36 V availability, SITOP power supplies can be combined with redundancy modules.

Product highlights

- 3-phase, 36 V DC / 13 A
- Input voltage 320 ... 575 V AC
- Up to 94% efficiency
- cULus, cCSAus, ABS and DNV GL certifications

Selection and ordering data

SITOP PSU8200 3-phase, 36 V DC/13 A Stabilized power supply Input: 400 ... 500 V 3 AC Output: 36 V DC/13 A	**6EP3446-8SB10-0AY0**

Accessories

SITOP RED1200 redundancy modules	For more information, visit: www.siemens.com/sitop-redundancy/mall
Device identification labels	**3RT2900-1SB20**

Technical specifications

Article number **product brand name** **type of current supply**	**6EP3446-8SB10-0AY0** **SITOP PSU8200** **36 V/13 A**
input	
type of the power supply network	3-phase AC
supply voltage at AC	
• minimum rated value	400 V
• maximum rated value	500 V
• initial value	320 V
• full-scale value	575 V
wide range input	Yes
buffering time for rated value of the output current in the event of power failure minimum	15 ms
operating condition of the mains buffering	at Vin = 400 V
line frequency	50 Hz/60 Hz
line frequency	47 ... 63 Hz
input current	
• at rated input voltage 400 V	1.2 A
• at rated input voltage 500 V	1 A
current limitation of inrush current at 25 °C maximum	16 A
I2t value maximum	0.8 $A^2 \cdot s$
fuse protection type	none
fuse protection type in the feeder	Required: 3-pole connected miniature circuit breaker 6 ... 16 A characteristic C or circuit breaker 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10 (UL 489)
output	
voltage curve at output	Controlled, isolated DC voltage
output voltage at DC rated value	36 V
output voltage	
• at output 1 at DC rated value	36 V
	36 V
output voltage adjustable	Yes; via potentiometer
adjustable output voltage	36 ... 42 V; max. 480 W
relative control precision of the output voltage	
• on slow fluctuation of input voltage	0.1 %
• on slow fluctuation of ohm loading	0.2 %
residual ripple	
• maximum	100 mV
voltage peak	
• maximum	200 mV
display version for normal operation	Green LED for 36 V OK
type of signal at output	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for 36 V OK
behavior of the output voltage when switching on	No overshoot of Vout (soft start)
response delay maximum	2.5 s
voltage increase time of the output voltage	
• maximum	500 ms

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3446-8SB10-0AY0 SITOP PSU8200 36 V/13 A
output current	
• rated value	13 A
• rated range	0 ... 13 A; +60 ... +70 °C: Derating 2%/K
	10.1 ... 19.9 A
supplied active power typical	468 W
short-term overload current	
• at short-circuit during operation typical	39 A
duration of overloading capability for excess current	
• at short-circuit during operation	25 ms
constant overload current	
• on short-circuiting during the start-up typical	14 A
bridging of equipment	Yes; switchable characteristic
number of parallel-switched equipment resources	2
efficiency	
efficiency in percent	94 %
power loss [W]	
• at rated output voltage for rated value of the output current typical	30 W
closed-loop control	
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	0.1 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	1 %
setting time	
• load step 50 to 100% typical	0.2 ms
• load step 100 to 50% typical	0.2 ms
relative control precision of the output voltage at load step of resistive load 10/90/10 % typical	2 %
setting time	
• load step 10 to 90% typical	0.2 ms
• load step 90 to 10% typical	0.2 ms
• maximum	10 ms
protection and monitoring	
design of the overvoltage protection	< 48 V
property of the output short-circuit proof	Yes
design of short-circuit protection	Alternatively, constant current characteristic approx. 14 A or latching shutdown
• typical	14 A
overcurrent overload capability	
• in normal operation	overload capability 150 % Iout rated up to 5 s/min
enduring short circuit current RMS value	
• typical	14 A
display version for overload and short circuit	LED yellow for "overload", LED red for "latching shutdown"

Technical specifications (continued)

Article number product brand name type of current supply	6EP3446-8SB10-0AY0 SITOP PSU8200 36 V/13 A
safety	
galvanic isolation between input and output	Yes
galvanic isolation	Safety extra low output voltage Vout according to EN 60950-1
operating resource protection class	Class I
leakage current	
• maximum	3.5 mA
• typical	0.9 mA
protection class IP	IP20
standard	
• for emitted interference	EN 55022 Class B
• for mains harmonics limitation	EN 61000-3-2
• for interference immunity	EN 61000-6-2
standards, specifications, approvals	
certificate of suitability	
• CE marking	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
• EAC approval	Yes
• Regulatory Compliance Mark (RCM)	Yes
• NEC Class 2	No
• SEMI F47	Yes
type of certification	
• CB-certificate	Yes
standards, specifications, approvals hazardous environments	
certificate of suitability	
• IECEx	No
• ATEX	No
• ULhazloc approval	No
• cCSAus, Class 1, Division 2	No
• FM registration	No
standards, specifications, approvals marine classification	
shipbuilding approval	Yes
Marine classification association	
• American Bureau of Shipping Europe Ltd. (ABS)	No
• French marine classification society (BV)	No
• Det Norske Veritas (DNV)	Yes
• Lloyds Register of Shipping (LRS)	No
standards, specifications, approvals Environmental Product Declaration	
Environmental Product Declaration	Yes
Global Warming Potential [CO2 eq]	

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3446-8SB10-0AY0 SITOP PSU8200 36 V/13 A
• total	958.4 kg
• during manufacturing	18.9 kg
• during operation	939 kg
• after end of life	0.27 kg
ambient conditions	
ambient temperature	
• during operation	-25 ... +70 °C; with natural convection
• during transport	-40 ... +85 °C
• during storage	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation
connection method	
type of electrical connection	screw terminal
• at input	L1, L2, L3, PE: 1 screw terminal each for 0.2 ... 4 mm² single-core/finely stranded
• at output	+, -: 2 screw terminals each for 0.2 ... 4 mm²
• for auxiliary contacts	13, 14 (alarm signal): 1 screw terminal each for 0.14 ... 1.5 mm²; 15, 16 (Remote): 1 screw terminal each for 0.14 ... 1.5 mm²
mechanical data	
width × height × depth of the enclosure	70 mm × 125 mm
installation width × mounting height	70 mm
required spacing	
• top	50 mm
• bottom	50 mm
• left	0 mm
• right	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes
• S7 rail mounting	No
• wall mounting	No
housing can be lined up	Yes
net weight	1.2 kg
accessories	
mechanical accessories	Device identification label 20 mm × 7 mm, TI-grey 3RT2900-1SB20
further information internet links	
internet link	
• to website: Industry Mall	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com
additional information	
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)

Technical specifications (continued)

Article number product brand name type of current supply	6EP3446-8SB10-0AY0 SITOP PSU8200 36 V/13 A
security information	
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

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Overview

The 3-phase SITOP PSU8200 are technology power supplies for challenging solutions. The wide-range input allows a connection to almost any electricity supply network worldwide and ensures a high degree of safety even if there are large voltage fluctuations.

Product highlights

- 3-phase, 48 V DC/ 10 A and 20 A
- Input voltage 320 ... 575 V AC
- Up to 94% efficiency
- cULus, cCSAus, ABS and DNV GL certifications

Selection and ordering data

SITOP PSU8200 3-phase, 48 V DC/10 A Stabilized power supply Input: 400 ... 500 V 3 AC Output: 48 V DC/10 A	**6EP3446-8SB00-0AY0**
SITOP PSU8200 3-phase, 48 V DC/20 A Stabilized power supply Input: 400 ... 500 V 3 AC Output: 48 V DC/20 A	**6EP3447-8SB00-0AY0**

Accessories

SITOP RED1200 redundancy modules	For more information, visit: www.siemens.com/sitop-redundancy/mall
SITOP SEL1200 48 V/10 A selectivity module	For more information, visit: www.siemens.com/sitop-selectivity/mall
Device identification labels	**3RT2900-1SB20**

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Technical specifications

Article number product brand name type of current supply	6EP3446-8SB00-0AY0 SITOP PSU8200 48 V/10 A	6EP3447-8SB00-0AY0 SITOP PSU8200 48 V/20 A
input		
type of the power supply network	3-phase AC	3-phase AC
supply voltage at AC		
• minimum rated value	400 V	400 V
• maximum rated value	500 V	500 V
• initial value	320 V	320 V
• full-scale value	575 V	575 V
wide range input	Yes	Yes
buffering time for rated value of the output current in the event of power failure minimum	15 ms	10 ms
operating condition of the mains buffering	at Vin = 400 V	at Vin = 400 V
line frequency	50 Hz/60 Hz	50 Hz/60 Hz
line frequency	47 ... 63 Hz	45 ... 65 Hz
input current		
• at rated input voltage 400 V	1.2 A	2 A
• at rated input voltage 500 V	1 A	1.7 A
current limitation of inrush current at 25 °C maximum	16 A	13 A
I2t value maximum	0.8 $A^2 \cdot s$	2.24 $A^2 \cdot s$
fuse protection type	none	
fuse protection type in the feeder	Required: 3-pole connected miniature circuit breaker 6 ... 16 A characteristic C or circuit breaker 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10 (UL 489)	Required: 3-pole connected miniature circuit breaker 10 ... 16 A characteristic C or circuit breaker 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10 (UL 489)
output		
voltage curve at output	Controlled, isolated DC voltage	Controlled, isolated DC voltage
output voltage at DC rated value	48 V	48 V
output voltage		
• at output 1 at DC rated value	48 V	48 V
	48 V	48 V
output voltage adjustable	Yes; via potentiometer	Yes; via potentiometer
adjustable output voltage	42 ... 56 V; max. 480 W	46 ... 56 V; max. 960 W
relative control precision of the output voltage		
• on slow fluctuation of input voltage	0.1 %	0.1 %
• on slow fluctuation of ohm loading	0.2 %	0.2 %
residual ripple		
• maximum	100 mV	100 mV
voltage peak		
• maximum	200 mV	480 mV
display version for normal operation	Green LED for 48 V OK	Green LED for 48 V OK
type of signal at output	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for 48 V OK	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for 48 V OK
behavior of the output voltage when switching on	No overshoot of Vout (soft start)	minimal overshoot (< 3 %)
response delay maximum	2.5 s	0.1 s
voltage increase time of the output voltage		
• maximum	500 ms	100 ms
output current		
• rated value	10 A	20 A
• rated range	0 ... 10 A; +60 ... +70 °C: Derating 2%/K	0 ... 20 A; +60 ... +70 °C: Derating 4%/K
	10 A	20 A
supplied active power typical	480 W	960 W
short-term overload current		

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3446-8SB00-0AY0 SITOP PSU8200 48 V/10 A	6EP3447-8SB00-0AY0 SITOP PSU8200 48 V/20 A
• at short-circuit during operation typical	30 A	60 A
duration of overloading capability for excess current		
• at short-circuit during operation	25 ms	25 ms
constant overload current		
• on short-circuiting during the start-up typical	11 A	24 A
bridging of equipment	Yes; switchable characteristic	Yes; switchable characteristic
number of parallel-switched equipment resources	2	2
efficiency		
efficiency in percent	94 %	94 %
power loss [W]		
• at rated output voltage for rated value of the output current typical	31 W	58 W
• during no-load operation maximum		4 W
closed-loop control		
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	0.1 %	1 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	1 %	3 %
setting time		
• load step 50 to 100% typical	0.2 ms	
• load step 100 to 50% typical	0.2 ms	
relative control precision of the output voltage at load step of resistive load 10/90/10 % typical	2 %	
setting time		
• load step 10 to 90% typical	0.2 ms	
• load step 90 to 10% typical	0.2 ms	
• maximum	10 ms	10 ms
protection and monitoring		
design of the overvoltage protection	< 60 V	< 57.8 V
property of the output short-circuit proof	Yes	Yes
design of short-circuit protection	Alternatively, constant current characteristic approx. 11 A or latching shutdown	Alternatively, constant current characteristic approx. 22 A or latching shutdown
• typical	11 A	22 A
overcurrent overload capability		
• in normal operation	overload capability 150 % Iout rated up to 5 s/min	overload capability 150 % Iout rated up to 5 s/min
enduring short circuit current RMS value		
• typical	11 A	26 A
display version for overload and short circuit	LED yellow for "overload", LED red for "latching shutdown"	LED yellow for "overload", LED red for "latching shutdown"
safety		
galvanic isolation between input and output	Yes	Yes
galvanic isolation	Safety extra low output voltage Vout according to EN 60950-1	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178
operating resource protection class	Class I	Class I
leakage current		
• maximum	3.5 mA	1 mA
• typical	0.9 mA	0.6 mA
protection class IP	IP20	IP20
standard		
• for emitted interference	EN 55022 Class B	EN 55022 Class B
• for mains harmonics limitation	EN 61000-3-2	EN 61000-3-2
• for interference immunity	EN 61000-6-2	EN 61000-6-2

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3446-8SB00-0AY0 SITOP PSU8200 48 V/10 A	6EP3447-8SB00-0AY0 SITOP PSU8200 48 V/20 A
standards, specifications, approvals		
certificate of suitability		
• CE marking	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
• EAC approval	Yes	Yes
• Regulatory Compliance Mark (RCM)	Yes	Yes
• NEC Class 2	No	No
• SEMI F47	Yes	Yes
type of certification		
• CB-certificate	Yes	Yes
MTBF at 40 °C		520 782 h
standards, specifications, approvals hazardous environments		
certificate of suitability		
• IECEx	No	No
• ATEX	No	No
• ULhazloc approval	No	No
• cCSAus, Class 1, Division 2	No	No
• FM registration	No	No
standards, specifications, approvals marine classification		
shipbuilding approval	Yes	Yes
Marine classification association		
• American Bureau of Shipping Europe Ltd. (ABS)	Yes	No
• French marine classification society (BV)	No	No
• Det Norske Veritas (DNV)	Yes	Yes
• Lloyds Register of Shipping (LRS)	No	No
standards, specifications, approvals Environmental Product Declaration		
Environmental Product Declaration	Yes	Yes
Global Warming Potential [CO2 eq]		
• total	989.5 kg	1 865.9 kg
• during manufacturing	18.9 kg	49.6 kg
• during operation	970 kg	1 814.8 kg
• after end of life	0.27 kg	0.71 kg
ambient conditions		
ambient temperature		
• during operation	-25 ... +70 °C; with natural convection	-25 ... +70 °C; With natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method		
type of electrical connection	screw terminal	screw terminal
• at input	L1, L2, L3, PE: 1 screw terminal each for 0.2 ... 4 mm² single-core/finely stranded	L1, L2, L3, PE: 1 screw terminal each for 0.5 ... 4 mm² single-core/finely stranded
• at output	+, -: 2 screw terminals each for 0.2 ... 4 mm²	+: 2 screw terminals each for 0.5 ... 16 mm²; -: 3 screw terminals each for 0.5 ... 16 mm²
• for auxiliary contacts	13, 14 (alarm signal): 1 screw terminal each for 0.14 ... 1.5 mm²; 15, 16 (Remote): 1 screw terminal each for 0.14 ... 1.5 mm²	13, 14 (alarm signal), 15, 16 (Remote): 1 screw terminal each for 0.05 ... 2.5 mm²

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3446-8SB00-0AY0 SITOP PSU8200 48 V/10 A	6EP3447-8SB00-0AY0 SITOP PSU8200 48 V/20 A
mechanical data		
width × height × depth of the enclosure	70 mm × 125 mm	135 mm × 150 mm
installation width × mounting height	70 mm	135 mm
required spacing		
• top	50 mm	40 mm
• bottom	50 mm	40 mm
• left	0 mm	0 mm
• right	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x15
• standard rail mounting	Yes	Yes
• S7 rail mounting	No	No
• wall mounting	No	No
housing can be lined up	Yes	Yes
net weight	1.2 kg	3.3 kg
accessories		
mechanical accessories	Device identification label 20 mm × 7 mm, TI-grey 3RT2900-1SB20	Device identification label 20 mm × 7 mm, TI-grey 3RT2900-1SB20
further information internet links		
internet link		
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com
additional information		
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information		
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3446-8SB00-0AY0 SITOP PSU8200 48 V/10 A	6EP3447-8SB00-0AY0 SITOP PSU8200 48 V/20 A
	Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

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3/2	**Introduction**
3/3	**SITOP PSU6200**
3/3	Introduction
3/4	1-phase, 12 V DC
3/10	1-phase, 24 V DC
3/26	1-phase, 48 V DC
3/32	3-phase, 24 V DC
3/44	3-phase, 48 V DC
3/50	**SITOP smart**
3/50	Introduction
3/51	1-phase, 12 V DC
3/56	1-phase, 24 V DC
3/62	3-phase, 24 V DC

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Overview

Our standard portfolio has been designed with typical industrial requirements in mind, such as those in series machine production.

The versatile new SITOP PSU6200 power supply was developed based on our experience with the time-proven SITOP smart product line. This new SITOP Standard offers even more efficiency, extensive diagnostic options and enhanced robustness.

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Overview

High performance – Focused diagnostics – The all-round power supply for a wide variety of applications

The SITOP PSU6200 product family is the new standard power supply for customers with high technical requirements regarding reliability, efficiency and integration. It is suitable for many fields of application, particularly in the industrial environment, such as series machine building. The SITOP PSU6200 represents the state-of-the-art and takes the SITOP product portfolio into new dimensions of efficiency.

The slim and excellent design of the PSU6200 family combined with the push-in terminals means easy installation and wiring. The power supply units in this product family are all-rounders featuring a long service life and absolute reliability.

The high efficiency of up to 96% guarantees resource-saving energy consumption.

To further increase the 24 V availability, the SITOP PSU6200 power supplies can be combined with **buffer**, **DC UPS**, **redundancy** and **selectivity modules**.

Product highlights of the product line

- Diagnostics monitor[1)]
  - LED display for DC OK, utilization (<30%, >30%, >60%, >90%) and remaining life time
- Diagnostics interface[1)]
  - Provision of important operating parameters (e.g. output current/voltage, overload, temperature status, undervoltage and overvoltage detection at output, operating hours, device settings, etc.)
- Switchable output characteristic[1)]
  - Constant current: Power supply not switched off immediately in the event of overload
  - Parallel operation: Uniform load sharing between power supply units connected in parallel for longer service life in every scenario
- Rugged input
  - Active PFC (Power Factor Correction)[1)] for lower reactive and inrush current and protection against mains pulses
  - Optimized protection of the input circuit
  - Wide-range input
  - DC capability of 1-phase devices
  - Continuous duty possible on 2 phases of 3-phase devices
- Coordinated product family
  - For 12 V, 24 V and 48 V applications of varying power requirements
  - 24 V versions for NEC Class 2 and Ex protection applications

Overview (continued)

- Narrow overall width
  - For direct side-by-side mounting without lateral clearance requirements
  - Visually attractive design (IF Design Award 2019)
- Push-in connection system
  - Easy, time-saving installation without need for tools
  - Additional minus terminal[1)] (grounding) for wiring according to PELV (Protected Extra Low Voltage)
- High overload capability[2)]
  - Power reserves in case of overload 150% extra power for 5 s/min
  - Continuous 120% rated current up to 45 °C ambient temperature

1) from 24 V/10 A and 12 V/12 A
2) from 24 V/5 A and 12 V/7 A

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Overview

SITOP PSU6200 1-phase, 12 V family

Stabilized 1-phase power supplies with wide-range input in three power levels.

Product highlights

- 1-phase, 12 V DC/2 A, 7 A and 12 A
- 12 V/2 A with 100 VA power limitation acc. to NEC Class 2
- Enclosure
  - Attractive metal enclosure of the 7 A and 12 A power supply, plastic enclosure of the 2 A in comparable shape and color
- Can be expanded with SITOP RED1200 redundancy modules
  - Slim width
  - In SITOP PSU6200 design

Selection and ordering data

SITOP PSU6200 1-phase, 12 V DC/2 A Stabilized power supply Input: 120 - 230 V AC/120 - 240 V DC Output: 12 V DC/2 A	**6EP3321-7SB00-0AX0**
SITOP PSU6200 1-phase, 12 V DC/7 A Stabilized power supply Input: 120 - 230 V AC/120 - 240 V DC Output: 12 V DC/7 A	**6EP3323-7SB00-0AX0**
SITOP PSU6200 1-phase, 12 V DC/12 A Stabilized power supply Input: 120 - 230 V AC/120 - 240 V DC Output: 12 V DC/12 A	**6EP3324-7SB00-3AX0**

Accessories

SITOP RED1200 redundancy module Input/output: 12 V DC, 24 V, 48 V/20 A (maximum total current) Suitable for decoupling two SITOP power supplies with a maximum of 10 A output current each	**6EP4346-7RB00-0AX0**
SITOP RED1200 redundancy module Input/output: 12 V DC, 24 V, 48 V/40 A (maximum total current) Suitable for decoupling two SITOP power supplies with a maximum of 20 A output current each	**6EP4347-7RB00-0AX0**
SIMATIC ET 200SP labels 160 equipment labeling plates, 10 sheets (160 plates)	**6ES7193-6LF30-0AW0**

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Technical specifications

Article number product brand name type of current supply	6EP3321-7SB00-0AX0 SITOP PSU6200 12 V/2 A	6EP3323-7SB00-0AX0 SITOP PSU6200 12 V/7 A	6EP3324-7SB00-3AX0 SITOP PSU6200 12 V/12 A
input			
type of the power supply network	1-phase AC or DC	1-phase AC or DC	1-phase AC or DC
supply voltage at AC			
• minimum rated value	120 V	120 V	120 V
• maximum rated value	240 V	240 V	240 V
• initial value	85 V	85 V	85 V
• full-scale value	264 V	264 V	264 V
supply voltage at DC	120 ... 240 V	120 ... 240 V	110 ... 240 V
input voltage at DC	110 ... 275 V	99 ... 275 V	85 ... 275 V
wide range input	Yes	Yes	Yes
overvoltage overload capability	300 V AC for 30 s	300 V AC for 30 s	300 V AC for 30 s
buffering time for rated value of the output current in the event of power failure minimum	150 ms	90 ms	70 ms
operating condition of the mains buffering	at Vin = 240 V	at Vin = 240 V	at Vin = 240 V
line frequency	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz
line frequency	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz
input current			
• at rated input voltage 120 V	0.45 A	1.4 A	1.4 A
• at rated input voltage 240 V	0.25 A	0.8 A	0.8 A
current limitation of inrush current at 25 °C maximum	32 A	29 A	6 A
fuse protection type	3.15 A	5 A	5 A
fuse protection type in the feeder	Circuit breaker from 4 A characteristic C/6 A characteristic B to 16 A characteristic C or circuit breaker 3RV2011-1EA10 (setting 4 A) or 3RV2711-1ED10 (UL 489)	Circuit breaker 4 A characteristic C or 6 A characteristic B/C or circuit breaker 3RV2011-1EA10 (setting 4 A) or 3RV2711-1ED10 (UL 489)	Circuit breaker from 4 A characteristic C/6 A characteristic B to 10 A characteristic C or circuit breaker 3RV2011-1EA10 (setting 4 A) or 3RV2711-1ED10 (UL 489)
output			
voltage curve at output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
number of outputs	1	1	1
output voltage at DC rated value	12 V	12 V	12 V
output voltage			
• at output 1 at DC rated value	12 V	12 V	12 V
	12 V	12 V	12 V
output voltage adjustable	Yes; via potentiometer	Yes; via potentiometer	Yes; via potentiometer
adjustable output voltage	10.5 ... 12.9 V; max. 24 W	12 ... 15.5 V; max. 84 W (100 W up to 45°C)	12 ... 15.5 V; max. 144 W (173 W up to 45°C)
relative control precision of the output voltage			
• on slow fluctuation of input voltage	0.3 %	0.1 %	0.1 %
• on slow fluctuation of ohm loading	0.3 %	0.2 %	0.1 %
residual ripple			
• maximum	30 mV	30 mV	30 mV
• typical	20 mV	20 mV	20 mV
voltage peak			
• maximum	20 mV	100 mV	30 mV
• typical	10 mV	60 mV	20 mV
display version for normal operation	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK
type of signal at output		Electronic contact (NO contact, contact rating 30 V DC/0.1 A) for DC O.K.	Electronic contact (NO contact, contact rating 30 V DC/0.1 A) for DC O.K. or diagnostic interface
behavior of the output voltage when switching on	Overshoot of Vout approx. 3 %	Overshoot of Vout < 2 %	Overshoot of Vout < 2 %

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3321-7SB00-0AX0 SITOP PSU6200 12 V/2 A	6EP3323-7SB00-0AX0 SITOP PSU6200 12 V/7 A	6EP3324-7SB00-3AX0 SITOP PSU6200 12 V/12 A
response delay maximum	1 s	0.5 s	0.5 s
voltage increase time of the output voltage			
• typical	50 ms	100 ms	100 ms
output current			
• rated value	2 A	7 A	12 A
• rated range	0 ... 2 A	0 ... 7 A; 8.4 A up to +45°C; +60 ... +70 °C: Derating 3%/K	0 ... 12 A; 14.4 A up to +45°C; +60 ... +70 °C: Derating 3%/K
	0.0 ... 2.4 A	5.1 ... 9.9 A	10.1 ... 19.9 A
supplied active power typical	24 W	84 W	144 W
short-term overload current			
• on short-circuiting during the start-up typical	2 A	8.4 A	14.4 A
• at short-circuit during operation typical	2 A	8.4 A	14.4 A
parallel switching of outputs			can be set with DIP switch
bridging of equipment	No	No	Yes; switchable characteristic
number of parallel-switched equipment resources			2
efficiency			
efficiency in percent	83.3 %	87.1 %	89.3 %
power loss [W]			
• at rated output voltage for rated value of the output current typical	5 W	13 W	17 W
• during no-load operation maximum	0.8 W	1.8 W	3 W
closed-loop control			
relative control precision of the output voltage at load step of resistive load 10/90/10 % typical	4 %	3 %	3 %
setting time			
• load step 10 to 90% typical	2 ms	1 ms	2 ms
• load step 90 to 10% typical	2 ms	1 ms	2 ms
• maximum	3 ms	2 ms	3 ms
protection and monitoring			
design of the overvoltage protection	< 20 V	< 20 V	< 20 V
property of the output short-circuit proof	Yes	Yes	Yes
design of short-circuit protection	Shutdown and periodic restart attempts	Shutdown and periodic restart attempts	Shutdown and periodic restart attempts
• typical	2.8 A	8.4 A	14.4 A
overcurrent overload capability			
• in normal operation		overload capability 150 % Iout rated up to 5 s/min	overload capability 150 % Iout rated up to 5 s/min
safety			
galvanic isolation between input and output	Yes	Yes	Yes
galvanic isolation	Safety extra low output voltage Vout according to EN 60950-1	Safety extra low output voltage Vout according to EN 60950-1	Safety extra low output voltage Vout according to EN 60950-1
operating resource protection class	Class I	Class I	Class I
leakage current			
• maximum	3.5 mA	3.5 mA	3.5 mA
protection class IP	IP20	IP20	IP20
standard			
• for emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
• for mains harmonics limitation	EN 61000-3-2	EN 61000-3-2	EN 61000-3-2
• for interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals			
certificate of suitability			
• CE marking	Yes	Yes	Yes

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3321-7SB00-0AX0 SITOP PSU6200 12 V/2 A	6EP3323-7SB00-0AX0 SITOP PSU6200 12 V/7 A	6EP3324-7SB00-3AX0 SITOP PSU6200 12 V/12 A
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
• EAC approval	Yes	Yes	Yes
• Regulatory Compliance Mark (RCM)	Yes	Yes	Yes
• NEC Class 2	Yes; according to UL1310, File E151273	No	No
• SEMI F47	Yes	Yes	Yes
type of certification			
• BIS	Yes; R-41183539	Yes; R-41188271	Yes; R-41188271
• CB-certificate	Yes	Yes	Yes
standards, specifications, approvals hazardous environments			
certificate of suitability			
• IECEx	No	No	No
• ATEX	No	No	No
• ULhazloc approval	No	No	No
• cCSAus, Class 1, Division 2	No	No	No
• FM registration	No	No	No
standards, specifications, approvals marine classification			
shipbuilding approval	Yes	Yes	Yes
Marine classification association			
• American Bureau of Shipping Europe Ltd. (ABS)	Yes	Yes	Yes
• French marine classification society (BV)	No	No	No
• Det Norske Veritas (DNV)	No; in preparation	No; in preparation	No; in preparation
• Lloyds Register of Shipping (LRS)	No	No	No
standards, specifications, approvals Environmental Product Declaration			
Environmental Product Declaration		Yes	Yes
Global Warming Potential [CO2 eq]			
• total		420.3 kg	549.5 kg
• during manufacturing		13.1 kg	16.8 kg
• during operation		406.8 kg	532.1 kg
• after end of life		0.33 kg	0.42 kg
ambient conditions			
ambient temperature			
• during operation	-25 ... +70 °C; with natural convection	-30 ... +70 °C; with natural convection a monotonically increasing start-up from -25 °C, safe start-up from -40 °C	-30 ... +70 °C; with natural convection a monotonically increasing start-up from -25 °C, safe start-up from -40 °C
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method			
type of electrical connection	push-in terminals	push-in terminals	push-in terminals
• at input	L1/+, L2/N/-, PE: push-in for 0.5 ... 2.5 mm² single-core/finely stranded	L1/+, L2/N/-, PE: push-in for 0.5 ... 4 mm² single-core/finely stranded	L1/+, L2/N/-, PE: push-in for 0.5 ... 4 mm² single-core/finely stranded

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3321-7SB00-0AX0 SITOP PSU6200 12 V/2 A	6EP3323-7SB00-0AX0 SITOP PSU6200 12 V/7 A	6EP3324-7SB00-3AX0 SITOP PSU6200 12 V/12 A
• at output	+1, -1, -2: push-in for 0.5 ... 2.5 mm²	+1, +2, -1, -2, -3: push-in for 0.5 ... 2.5 mm²	+1, +2, -1, -2, -3: push-in for 0.5 ... 2.5 mm²
• for auxiliary contacts	-	13, 14 (alarm signal): 1 push-in terminal each for 0.2 ... 1.5 mm²	13, 14 (alarm signal): 1 push-in terminal each for 0.2 ... 1.5 mm²
mechanical data			
width × height × depth of the enclosure	25 mm × 88 mm	35 mm × 125 mm	45 mm × 125 mm
installation width × mounting height	25 mm	35 mm	45 mm
required spacing			
• top	50 mm	45 mm	45 mm
• bottom	50 mm	45 mm	45 mm
• left	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes	Yes	Yes
• S7 rail mounting	No	No	No
• wall mounting	No	No	No
housing can be lined up	Yes	Yes	Yes
net weight	0.2 kg	0.7 kg	0.9 kg
accessories			
electrical accessories	Redundancy module	Redundancy module	Redundancy module
mechanical accessories	Identification labels SIMATIC ET 200SP 6ES7193-6LF30-0AW0	Identification labels SIMATIC ET 200SP 6ES7193-6LF30-0AW0	Identification labels SIMATIC ET 200SP 6ES7193-6LF30-0AW0
further information internet links			
internet link			
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com
identification link		Yes; according to IEC 61406-1:2022	Yes; according to IEC 61406-1:2022
additional information			
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information			
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3321-7SB00-0AX0 SITOP PSU6200 12 V/2 A	6EP3323-7SB00-0AX0 SITOP PSU6200 12 V/7 A	6EP3324-7SB00-3AX0 SITOP PSU6200 12 V/12 A
	connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

More information

Select the appropriate power supply quickly and easily with the TIA Selection Tool:

http://www.siemens.com/tst

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Overview

SITOP PSU6200 family 24 V, the power supply units starting at 10 A have extensive diagnostic options - see Siemens on the Web

Stabilized single-phase power supplies with wide-range input in six power levels with variants for NEC Class 2 requirements and explosion protection.

Product highlights

- 1-phase, 24 V DC/1.3 A, 2.5 A, 3.7 A, 5 A, 10 A and 20 A
- 1.3 A, 2.5 A and 3.7 A with 100 VA power limitation acc. to NEC Class 2
- PSU6200 EX 24 V/5 A, 10 A and 20 A: For use in Zone 2 hazardous environments (gases, vapors or mists)
- Enclosure
  - Attractive metal enclosure from 3.7 A, plastic enclosure with similar form and color up to 2.5 A
- Can be expanded with SITOP add-on and DC UPS modules
  - BUF1200 buffer module, SEL1200/1400 selectivity modules and RED1200 redundancy modules in the design of the SITOP PSU6200

Selection and ordering data

SITOP PSU6200 1-phase, 24 V DC/1.3 A Stabilized power supply Input: 120 - 240 V AC/120 - 240 V DC Output: 24 V DC/1.3 A	**6EP3331-7SB00-0AX0**
SITOP PSU6200 1-phase, 24 V DC/2.5 A Stabilized power supply Input: 120 - 240 V AC/120 - 240 V DC Output: 24 V DC/2.5 A	**6EP3332-7SB00-0AX0**
SITOP PSU6200 1-phase, 24 V DC/3.7 A Stabilized power supply Input: 120 - 240 V AC/120 - 240 V DC Output: 24 V DC/3.7 A	**6EP3333-7LB00-0AX0**
SITOP PSU6200 1-phase, 24 V DC/5 A Stabilized power supply Input: 120 - 240 V AC/120 - 240 V DC Output: 24 V DC/5 A	**6EP3333-7SB00-0AX0**
SITOP PSU6200 1-phase, 24 V DC/10 A Stabilized power supply Input: 120 - 240 V AC/120 - 240 V DC Output: 24 V DC/10 A	**6EP3334-7SB00-3AX0**
SITOP PSU6200 1-phase, 24 V DC/20 A Stabilized power supply Input: 120 - 240 V AC/120 - 240 V DC Output: 24 V DC/20 A	**6EP3336-7SB00-3AX0**
SITOP PSU6200 Ex 1-phase, 24 V DC/5 A Stabilized power supply Input: 120 - 240 V AC/120 - 240 V DC Output: 24 V DC/5 A	**6EP3333-7SC00-0AX0**
SITOP PSU6200 Ex 1-phase, 24 V DC/10 A Stabilized power supply Input: 120 - 240 V AC/120 - 240 V DC Output: 24 V DC/10 A	**6EP3334-7SC00-3AX0**
SITOP PSU6200 Ex 1-phase, 24 V DC/20 A Stabilized power supply Input: 120 - 240 V AC/120 - 240 V DC Output: 24 V DC/20 A	**6EP3336-7SC00-3AX0**

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Accessories

SITOP BUF1200 buffer module Buffer time 300 ms at 40 A Buffer time depends on load current	**6EP4231-7HB00-0AX0**
SITOP RED1200 redundancy module Input/output: 12 V DC, 24 V, 48 V/20 A (maximum total current) Suitable for decoupling two SITOP power supplies with a maximum of 10 A output current each	**6EP4346-7RB00-0AX0**
SITOP RED1200 redundancy module Input/output: 12 V DC, 24 V, 48 V/40 A (maximum total current) Suitable for decoupling two SITOP power supplies with a maximum of 20 A output current each	**6EP4347-7RB00-0AX0**
SITOP SEL1200 Selectivity module, 4-channel, switching Input: 24 V DC Output: 24 V DC/10 A per output Adjustable response threshold 2 ... 10 A	**6EP4437-7FB00-3CX0**
SITOP SEL1200 Selectivity module, 8-channel, switching Input: 24 V DC Output: 24 V DC/5 A per output Adjustable response threshold 1 ... 5 A	**6EP4437-7FB00-3DX0**
SITOP SEL1200 Selectivity module, 8-channel, switching Input: 24 V DC Output: 24 V DC/10 A per output Adjustable response threshold 2 ... 10 A	**6EP4438-7FB00-3DX0**
SITOP SEL1400 Selectivity module, 4-channel, limiting Input: 24 V DC Output: 24 V DC/10 A per output Adjustable response threshold 2 ... 10 A	**6EP4437-7EB00-3CX0**
SITOP SEL1400 Selectivity module, 8-channel, limiting Input: 24 V DC Output: 24 V DC/5 A per output Adjustable response threshold 1 ... 5 A	**6EP4437-7EB00-3DX0**
SITOP SEL1400 Selectivity module, 8-channel, limiting Input: 24 V DC Output: 24 V DC/10 A per output Adjustable response threshold 2 ... 10 A	**6EP4438-7EB00-3DX0**
SIMATIC ET 200SP labels 160 reference labeling plates, 10 sheets (160 plates)	**6ES7193-6LF30-0AW0**
SITOP DC UPS	For more information, visit: www.siemens.com/sitop-ups/mall

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Technical specifications

Article number product brand name type of current supply	6EP3331-7SB00-0AX0 SITOP PSU6200 24 V/1.3 A	6EP3332-7SB00-0AX0 SITOP PSU6200 24 V/2.5 A	6EP3333-7LB00-0AX0 SITOP PSU6200 24 V/3.7 A
input			
type of the power supply network	1-phase AC or DC	1-phase AC or DC	1-phase AC or DC
supply voltage at AC			
• minimum rated value	120 V	120 V	120 V
• maximum rated value	240 V	240 V	240 V
• initial value	85 V	85 V	85 V
• full-scale value	264 V	264 V	264 V
supply voltage at DC	120 ... 240 V	120 ... 240 V	120 ... 240 V
input voltage at DC	110 ... 275 V	110 ... 275 V	99 ... 275 V
wide range input	Yes	Yes	Yes
overvoltage overload capability	300 V AC for 30 s	300 V AC for 30 s	300 V AC for 30 s
buffering time for rated value of the output current in the event of power failure minimum	150 ms	150 ms	90 ms
operating condition of the mains buffering	at Vin = 240 V	at Vin = 240 V	at Vin = 240 V
line frequency	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz
line frequency	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz
input current			
• at rated input voltage 120 V	0.6 A	1.1 A	1.5 A
• at rated input voltage 240 V	0.3 A	0.6 A	0.9 A
current limitation of inrush current at 25 °C maximum	32 A	32 A	29 A
fuse protection type	3.15 A	3.15 A	3.15 A
fuse protection type in the feeder	Circuit breaker from 4 A characteristic C/6 A characteristic B to 16 A characteristic C or circuit breaker 3RV2011-1EA10 (setting 4 A) or 3RV2711-1ED10 (UL 489)	Circuit breaker from 4 A characteristic C/6 A characteristic B to 16 A characteristic C or circuit breaker 3RV2011-1EA10 (setting 4 A) or 3RV2711-1ED10 (UL 489)	Circuit breaker 4 A characteristic C or 6 A characteristic B/C or circuit breaker 3RV2011-1EA10 (setting 4 A) or 3RV2711-1ED10 (UL 489)
output			
voltage curve at output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
number of outputs	1	1	1
output voltage at DC rated value	24 V	24 V	24 V
output voltage			
• at output 1 at DC rated value	24 V	24 V	24 V
	24 V	24 V	24 V
output voltage adjustable	Yes; via potentiometer	Yes; via potentiometer	Yes; via potentiometer
adjustable output voltage	22.2 ... 26.4 V; max. 31.2 W	22.2 ... 26.4 V; max. 60 W	24 ... 28 V; max. 89 W (106 W up to 45°C)
relative control precision of the output voltage			
• on slow fluctuation of input voltage	0.1 %	0.1 %	0.2 %
• on slow fluctuation of ohm loading	0.1 %	0.1 %	0.3 %
residual ripple			
• maximum	30 mV	30 mV	30 mV
• typical	20 mV	20 mV	20 mV
voltage peak			
• maximum	30 mV	30 mV	100 mV
• typical	20 mV	20 mV	60 mV
display version for normal operation	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK
type of signal at output			Electronic contact (NO contact, contact rating 30 V DC/0.1 A) for DC O.K.
behavior of the output voltage when switching on	Overshoot of Vout approx. 3 %	Overshoot of Vout approx. 3 %	Overshoot of Vout < 2 %

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3331-7SB00-0AX0 SITOP PSU6200 24 V/1.3 A	6EP3332-7SB00-0AX0 SITOP PSU6200 24 V/2.5 A	6EP3333-7LB00-0AX0 SITOP PSU6200 24 V/3.7 A
response delay maximum	1 s	1 s	0.5 s
voltage increase time of the output voltage			
• typical	50 ms	100 ms	100 ms
output current			
• rated value	1.3 A	2.5 A	3.7 A
• rated range	0 ... 1.3 A; +60 ... +70 °C: Derating 2.5%/K	0 ... 2.5 A; +60 ... +70 °C: Derating 2.5%/K	0 ... 3.7 A; +60 ... +70 °C: Derating 1.5%/K
	0.0 ... 2.4 A	2.5 A	2.6 ... 4.9 A
supplied active power typical	31.2 W	60 W	89 W
short-term overload current			
• on short-circuiting during the start-up typical	1.3 A	2.5 A	3.7 A
• at short-circuit during operation typical	1.3 A	2.5 A	3.7 A
bridging of equipment	No	No	No
efficiency			
efficiency in percent	86.3 %	89 %	89.3 %
power loss [W]			
• at rated output voltage for rated value of the output current typical	5 W	7 W	11 W
• during no-load operation maximum	0.8 W	0.8 W	2.2 W
closed-loop control			
relative control precision of the output voltage at load step of resistive load 10/90/10 % typical	2 %	3 %	2 %
setting time			
• load step 10 to 90% typical	0.5 ms	1 ms	2 ms
• load step 90 to 10% typical	0.5 ms	1 ms	2 ms
• maximum	1 ms	2 ms	3 ms
protection and monitoring			
design of the overvoltage protection	< 32 V	< 32 V	< 32 V
property of the output short-circuit proof	Yes	Yes	Yes
design of short-circuit protection	Shutdown and periodic restart attempts	Shutdown and periodic restart attempts	Shutdown and periodic restart attempts
• typical	1.6 A	3.1 A	3.7 A
safety			
galvanic isolation between input and output	Yes	Yes	Yes
galvanic isolation	Safety extra low output voltage Vout according to EN 60950-1	Safety extra low output voltage Vout according to EN 60950-1	Safety extra low output voltage Vout according to EN 60950-1
operating resource protection class	Class I	Class I	Class I
leakage current			
• maximum	3.5 mA	3.5 mA	3.5 mA
protection class IP	IP20	IP20	IP20
standard			
• for emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
• for mains harmonics limitation	EN 61000-3-2	EN 61000-3-2	EN 61000-3-2
• for interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals			
certificate of suitability			
• CE marking	Yes	Yes	Yes

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3331-7SB00-0AX0 SITOP PSU6200 24 V/1.3 A	6EP3332-7SB00-0AX0 SITOP PSU6200 24 V/2.5 A	6EP3333-7LB00-0AX0 SITOP PSU6200 24 V/3.7 A
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
• EAC approval	Yes	Yes	Yes
• Regulatory Compliance Mark (RCM)	Yes	Yes	Yes
• NEC Class 2	Yes; according to UL1310, File E151273	Yes; according to UL1310, File E151273	Yes; according to UL1310, File E151273
• SEMI F47	Yes	Yes	Yes
type of certification			
• BIS	Yes; R-41183539	Yes; R-41183539	Yes; R-41188271
• CB-certificate	Yes	Yes	Yes
standards, specifications, approvals hazardous environments			
certificate of suitability			
• IECEx	No	No	No
• ATEX	No	No	No
• ULhazloc approval	No	No	No
• cCSAus, Class 1, Division 2	No	No	No
• FM registration	No	No	No
standards, specifications, approvals marine classification			
shipbuilding approval	Yes	Yes	Yes
Marine classification association			
• American Bureau of Shipping Europe Ltd. (ABS)	Yes	Yes	Yes
• French marine classification society (BV)	No	No	No
• Det Norske Veritas (DNV)	No; in preparation	No; in preparation	No; in preparation
• Lloyds Register of Shipping (LRS)	No	No	No
standards, specifications, approvals Environmental Product Declaration			
Environmental Product Declaration	Yes	Yes	Yes
Global Warming Potential [CO2 eq]			
• total	161.7 kg	225.6 kg	357.7 kg
• during manufacturing	5.2 kg	6.5 kg	13.1 kg
• during operation	156.4 kg	218.9 kg	344.2 kg
• after end of life	0.14 kg	0.18 kg	0.33 kg
ambient conditions			
ambient temperature			
• during operation	-25 ... +70 °C; with natural convection	-25 ... +70 °C; with natural convection	-30 ... +70 °C; with natural convection a monotonically increasing start-up from -25 °C, safe start-up from -40 °C
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method			
type of electrical connection	push-in terminals	push-in terminals	push-in terminals
• at input	L1/+, L2/N/-, PE: push-in for 0.5 ... 2.5 mm² single-core/finely stranded	L1/+, L2/N/-, PE: push-in for 0.5 ... 2.5 mm² single-core/finely stranded	L1/+, L2/N/-, PE: push-in for 0.5 ... 4 mm² single-core/finely stranded

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3331-7SB00-0AX0 SITOP PSU6200 24 V/1.3 A	6EP3332-7SB00-0AX0 SITOP PSU6200 24 V/2.5 A	6EP3333-7LB00-0AX0 SITOP PSU6200 24 V/3.7 A
• at output	+1, -1, -2: push-in for 0.5 ... 2.5 mm²	+1, -1, -2: push-in for 0.5 ... 2.5 mm²	+1, +2, -1, -2, -3: push-in for 0.5 ... 2.5 mm²
• for auxiliary contacts	-	-	13, 14 (alarm signal): 1 push-in terminal each for 0.2 ... 1.5 mm²
mechanical data			
width × height × depth of the enclosure	25 mm × 88 mm	40 mm × 88 mm	35 mm × 125 mm
installation width × mounting height	25 mm	40 mm	35 mm
required spacing			
• top	50 mm	50 mm	45 mm
• bottom	50 mm	50 mm	45 mm
• left	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes	Yes	Yes
• S7 rail mounting	No	No	No
• wall mounting	No	No	No
housing can be lined up	Yes	Yes	Yes
net weight	0.2 kg	0.25 kg	0.7 kg
accessories			
electrical accessories	Buffer module, redundancy module	Buffer module, redundancy module	Buffer module, redundancy module
mechanical accessories	Identification labels SIMATIC ET 200SP 6ES7193-6LF30-0AW0	Identification labels SIMATIC ET 200SP 6ES7193-6LF30-0AW0	Identification labels SIMATIC ET 200SP 6ES7193-6LF30-0AW0
further information internet links			
internet link			
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com
identification link			Yes; according to IEC 61406-1:2022
additional information			
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information			
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3331-7SB00-0AX0 SITOP PSU6200 24 V/1.3 A	6EP3332-7SB00-0AX0 SITOP PSU6200 24 V/2.5 A	6EP3333-7LB00-0AX0 SITOP PSU6200 24 V/3.7 A
	internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

Article number product brand name type of current supply	6EP3333-7SB00-0AX0 SITOP PSU6200 24 V/5 A	6EP3334-7SB00-3AX0 SITOP PSU6200 24 V/10 A	6EP3336-7SB00-3AX0 SITOP PSU6200 24 V/20 A
input			
type of the power supply network	1-phase AC or DC	1-phase AC or DC	1-phase AC or DC
supply voltage at AC			
• minimum rated value	120 V	120 V	120 V
• maximum rated value	240 V	240 V	240 V
• initial value	85 V	85 V	85 V
• full-scale value	264 V	264 V	264 V
supply voltage at DC	120 ... 240 V	110 ... 240 V	110 ... 240 V
input voltage at DC	99 ... 275 V	85 ... 275 V	85 ... 275 V
wide range input	Yes	Yes	Yes
overvoltage overload capability	300 V AC for 30 s	300 V AC for 30 s	300 V AC for 30 s
buffering time for rated value of the output current in the event of power failure minimum	80 ms	45 ms	25 ms
operating condition of the mains buffering	at Vin = 240 V	at Vin = 240 V	at Vin = 240 V
line frequency	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz
line frequency	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz
input current			
• at rated input voltage 120 V	1.9 A	2.2 A	4.3 A
• at rated input voltage 240 V	1.1 A	1.2 A	2.3 A
current limitation of inrush current at 25 °C maximum	29 A	6 A	12 A
fuse protection type	3.15 A	5 A	10 A
fuse protection type in the feeder	Circuit breaker 4 A characteristic C or 6 A characteristic B/C or circuit breaker 3RV2011-1EA10 (setting 4 A) or 3RV2711-1ED10 (UL 489)	Circuit breaker from 4 A characteristic C/6 A characteristic B to 10 A characteristic C or circuit breaker 3RV2011-1EA10 (setting 4 A) or 3RV2711-1ED10 (UL 489)	Circuit breaker from 6 A characteristic B to 16 A characteristic C or circuit breaker 3RV2011-1HA10 (setting 8A) or 3RV2711-1HD10 (UL 489)
output			
voltage curve at output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
number of outputs	1	1	1

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3333-7SB00-0AX0 SITOP PSU6200 24 V/5 A	6EP3334-7SB00-3AX0 SITOP PSU6200 24 V/10 A	6EP3336-7SB00-3AX0 SITOP PSU6200 24 V/20 A
output voltage at DC rated value	24 V	24 V	24 V
output voltage			
• at output 1 at DC rated value	24 V	24 V	24 V
	24 V	24 V	24 V
output voltage adjustable	Yes; via potentiometer	Yes; via potentiometer	Yes; via potentiometer
adjustable output voltage	24 ... 28 V; max. 120 W (144 W up to 45°C)	24 ... 28 V; max. 240 W (288 W up to 45°C)	24 ... 28 V; max. 480 W (576 W up to 45°C)
relative control precision of the output voltage			
• on slow fluctuation of input voltage	0.1 %	0.1 %	0.2 %
• on slow fluctuation of ohm loading	0.2 %	0.1 %	0.2 %
residual ripple			
• maximum	30 mV	30 mV	80 mV
• typical	20 mV	20 mV	50 mV
voltage peak			
• maximum	100 mV	30 mV	100 mV
• typical	60 mV	20 mV	60 mV
display version for normal operation	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK
type of signal at output	Electronic contact (NO contact, contact rating 30 V DC/0.1 A) for DC O.K.	Electronic contact (NO contact, contact rating 30 V DC/0.1 A) for DC O.K. or diagnostic interface	Electronic contact (NO contact, contact rating 30 V DC/0.1 A) for DC O.K. or diagnostic interface
behavior of the output voltage when switching on	Overshoot of Vout < 2 %	Overshoot of Vout < 2 %	Overshoot of Vout approx. 3 %
response delay maximum	0.5 s	0.5 s	0.5 s
voltage increase time of the output voltage			
• typical	100 ms	200 ms	100 ms
output current			
• rated value	5 A	10 A	20 A
• rated range	0 ... 5 A; 6 A up to +45°C; +60 ... +70 °C: Derating 3%/K	0 ... 10 A; 12 A up to +45°C; +60 ... +70 °C: Derating 3%/K	0 ... 20 A; 24 A up to +45°C; +60 ... +70 °C: Derating 3%/K
	5 A	10 A	20 A
supplied active power typical	120 W	240 W	480 W
short-term overload current			
• on short-circuiting during the start-up typical	6 A	12 A	30 A
• at short-circuit during operation typical	6 A	12 A	30 A
parallel switching of outputs		can be set with DIP switch	can be set with DIP switch
bridging of equipment	No	Yes; switchable characteristic	Yes; switchable characteristic
number of parallel-switched equipment resources		2	2
efficiency			
efficiency in percent	90.2 %	92.8 %	95.5 %
power loss [W]			
• at rated output voltage for rated value of the output current typical	13 W	18 W	25 W
• during no-load operation maximum	2 W	2.2 W	2.6 W
closed-loop control			
relative control precision of the output voltage at load step of resistive load 10/90/10 % typical	2 %	2 %	3 %
setting time			
• load step 10 to 90% typical	1 ms	2 ms	0.5 ms
• load step 90 to 10% typical	1 ms	2 ms	0.5 ms
• maximum	2 ms	3 ms	1 ms
protection and monitoring			
design of the overvoltage protection	< 32 V	< 32 V	< 32 V
property of the output short-circuit proof	Yes	Yes	Yes

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3333-7SB00-0AX0 SITOP PSU6200 24 V/5 A	6EP3334-7SB00-3AX0 SITOP PSU6200 24 V/10 A	6EP3336-7SB00-3AX0 SITOP PSU6200 24 V/20 A
design of short-circuit protection	Shutdown and periodic restart attempts	Shutdown and periodic restart attempts	Shutdown and periodic restart attempts
• typical	6 A	12 A	30 A
overcurrent overload capability			
• in normal operation	overload capability 150 % Iout rated up to 5 s/min	overload capability 150 % Iout rated up to 5 s/min	overload capability 150 % Iout rated up to 5 s/min
safety			
galvanic isolation between input and output	Yes	Yes	Yes
galvanic isolation	Safety extra low output voltage Vout according to EN 60950-1	Safety extra low output voltage Vout according to EN 60950-1	Safety extra low output voltage Vout according to EN 60950-1
operating resource protection class	Class I	Class I	Class I
leakage current			
• maximum	3.5 mA	3.5 mA	3.5 mA
protection class IP	IP20	IP20	IP20
standard			
• for emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
• for mains harmonics limitation	EN 61000-3-2	EN 61000-3-2	EN 61000-3-2
• for interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals			
certificate of suitability			
• CE marking	Yes	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
• EAC approval	Yes	Yes	Yes
• Regulatory Compliance Mark (RCM)	Yes	Yes	Yes
• NEC Class 2	No	No	No
• SEMI F47	Yes		Yes
type of certification			
• BIS	Yes; R-41188271	Yes; R-41188271	Yes; R-41188271
• CB-certificate	Yes	Yes	Yes
standards, specifications, approvals hazardous environments			
certificate of suitability			
• IECEx	No	No	No
• ATEX	No	No	No
• ULhazloc approval	No	No	No
• cCSAus, Class 1, Division 2	No	No	No
• FM registration	No	No	No
standards, specifications, approvals marine classification			
shipbuilding approval	Yes	Yes	Yes
Marine classification association			
• American Bureau of Shipping Europe Ltd. (ABS)	Yes	Yes	Yes
• French marine classification society (BV)	No	No	No
• Det Norske Veritas (DNV)	No; in preparation	No; in preparation	No; in preparation
• Lloyds Register of Shipping (LRS)	No	No	No

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3333-7SB00-0AX0 SITOP PSU6200 24 V/5 A	6EP3334-7SB00-3AX0 SITOP PSU6200 24 V/10 A	6EP3336-7SB00-3AX0 SITOP PSU6200 24 V/20 A
standards, specifications, approvals Environmental Product Declaration			
Environmental Product Declaration	Yes	Yes	Yes
Global Warming Potential [CO2 eq]			
• total	420.3 kg	581.2 kg	811.6 kg
• during manufacturing	13.1 kg	16.8 kg	28 kg
• during operation	406.8 kg	563.8 kg	782.6 kg
• after end of life	0.33 kg	0.42 kg	0.7 kg
ambient conditions			
ambient temperature			
• during operation	-30 ... +70 °C; with natural convection a monotonically increasing start-up from -25 °C, safe start-up from -40 °C	-30 ... +70 °C; with natural convection a monotonically increasing start-up from -25 °C, safe start-up from -40 °C	-30 ... +70 °C; with natural convection a monotonically increasing start-up from -25 °C, safe start-up from -40 °C
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method			
type of electrical connection	push-in terminals	push-in terminals	push-in terminals
• at input	L1/+, L2/N/-, PE: push-in for 0.5 ... 4 mm² single-core/finely stranded	L1/+, L2/N/-, PE: push-in for 0.5 ... 4 mm² single-core/finely stranded	L1/+, L2/N/-, PE: push-in for 0.5 ... 4 mm² single-core/finely stranded
• at output	+1, +2, -1, -2, -3: push-in for 0.5 ... 2.5 mm²	+1, +2, -1, -2, -3: push-in for 0.5 ... 2.5 mm²	+1, +2, -1, -2, -3: push-in for 0.5 ... 6 mm²
• for auxiliary contacts	13, 14 (alarm signal): 1 push-in terminal each for 0.2 ... 1.5 mm²	13, 14 (alarm signal): 1 push-in terminal each for 0.2 ... 1.5 mm²	13, 14 (alarm signal): 1 push-in terminal each for 0.2 ... 1.5 mm²
mechanical data			
width × height × depth of the enclosure	35 mm × 125 mm	45 mm × 125 mm	70 mm × 155 mm
installation width × mounting height	35 mm	45 mm	70 mm
required spacing			
• top	45 mm	45 mm	45 mm
• bottom	45 mm	45 mm	45 mm
• left	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes	Yes	Yes
• S7 rail mounting	No	No	No
• wall mounting	No	No	No
housing can be lined up	Yes	Yes	Yes
net weight	0.7 kg	0.9 kg	1.5 kg
accessories			
electrical accessories	Buffer module, redundancy module	Buffer module, redundancy module	Buffer module, redundancy module
mechanical accessories	Identification labels SIMATIC ET 200SP 6ES7193-6LF30-0AW0	Identification labels SIMATIC ET 200SP 6ES7193-6LF30-0AW0	Identification labels SIMATIC ET 200SP 6ES7193-6LF30-0AW0
further information internet links			
internet link			
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3333-7SB00-0AX0 SITOP PSU6200 24 V/5 A	6EP3334-7SB00-3AX0 SITOP PSU6200 24 V/10 A	6EP3336-7SB00-3AX0 SITOP PSU6200 24 V/20 A
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com
identification link	Yes; according to IEC 61406-1:2022	Yes; according to IEC 61406-1:2022	
additional information			
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information			
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

Article number product brand name type of current supply	6EP3333-7SC00-0AX0 SITOP PSU6200 24 V/5 A	6EP3334-7SC00-3AX0 SITOP PSU6200 24 V/10 A	6EP3336-7SC00-3AX0 SITOP PSU6200 24 V/20 A
input			
type of the power supply network	1-phase AC or DC	1-phase AC or DC	1-phase AC or DC
supply voltage at AC			
• minimum rated value	120 V	120 V	120 V
• maximum rated value	240 V	240 V	240 V
• initial value	85 V	85 V	85 V

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3333-7SC00-0AX0 SITOP PSU6200 24 V/5 A	6EP3334-7SC00-3AX0 SITOP PSU6200 24 V/10 A	6EP3336-7SC00-3AX0 SITOP PSU6200 24 V/20 A
• full-scale value	264 V	264 V	264 V
supply voltage at DC	120 ... 240 V	110 ... 240 V	110 ... 240 V
input voltage at DC	99 ... 275 V	85 ... 275 V	85 ... 275 V
wide range input	Yes	Yes	Yes
overvoltage overload capability	300 V AC for 30 s	300 V AC for 30 s	300 V AC for 30 s
buffering time for rated value of the output current in the event of power failure minimum	80 ms	45 ms	25 ms
operating condition of the mains buffering	at Vin = 240 V	at Vin = 240 V	at Vin = 240 V
line frequency	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz
line frequency	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz
input current			
• at rated input voltage 120 V	1.9 A	2.2 A	4.3 A
• at rated input voltage 240 V	1.1 A	1.2 A	2.3 A
current limitation of inrush current at 25 °C maximum	29 A	6 A	12 A
fuse protection type	3.15 A	5 A	10 A
fuse protection type in the feeder	Circuit breaker 4 A characteristic C or 6 A characteristic B/C or circuit breaker 3RV2011-1EA10 (setting 4 A) or 3RV2711-1ED10 (UL 489)	Circuit breaker from 4 A characteristic C/6 A characteristic B to 10 A characteristic C or circuit breaker 3RV2011-1EA10 (setting 4 A) or 3RV2711-1ED10 (UL 489)	Circuit breaker from 6 A characteristic B to 16 A characteristic C or circuit breaker 3RV2011-1HA10 (setting 8A) or 3RV2711-1HD10 (UL 489)
output			
voltage curve at output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
number of outputs	1	1	1
output voltage at DC rated value	24 V	24 V	24 V
output voltage			
• at output 1 at DC rated value	24 V	24 V	24 V
	24 V	24 V	24 V
output voltage adjustable	Yes; via potentiometer	Yes; via potentiometer	Yes; via potentiometer
adjustable output voltage	24 ... 28 V; max. 120 W (144 W up to 45°C)	24 ... 28 V; max. 240 W (288 W up to 45°C)	24 ... 28 V; max. 480 W (576 W up to 45°C)
relative control precision of the output voltage			
• on slow fluctuation of input voltage	0.1 %	0.1 %	0.2 %
• on slow fluctuation of ohm loading	0.2 %	0.1 %	0.2 %
residual ripple			
• maximum	30 mV	30 mV	80 mV
• typical	20 mV	20 mV	50 mV
voltage peak			
• maximum	100 mV	30 mV	100 mV
• typical	60 mV	20 mV	60 mV
display version for normal operation	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK
type of signal at output	Electronic contact (NO contact, contact rating 30 V DC/0.1 A) for DC O.K.	Electronic contact (NO contact, contact rating 30 V DC/0.1 A) for DC O.K. or diagnostic interface	Electronic contact (NO contact, contact rating 30 V DC/0.1 A) for DC O.K. or diagnostic interface
behavior of the output voltage when switching on	Overshoot of Vout < 2 %	Overshoot of Vout < 2 %	Overshoot of Vout approx. 3 %
response delay maximum	0.5 s	0.5 s	0.5 s
voltage increase time of the output voltage			
• typical	100 ms	200 ms	100 ms
output current			
• rated value	5 A	10 A	20 A
• rated range	0 ... 5 A; 6 A up to +45°C; +60 ... +70 °C: Derating 3%/K	0 ... 10 A; 12 A up to +45°C; +60 ... +70 °C: Derating 3%/K	0 ... 20 A; 24 A up to +45°C; +60 ... +70 °C: Derating 3%/K

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3333-7SC00-0AX0 SITOP PSU6200 24 V/5 A	6EP3334-7SC00-3AX0 SITOP PSU6200 24 V/10 A	6EP3336-7SC00-3AX0 SITOP PSU6200 24 V/20 A
	5 A	10 A	20 A
supplied active power typical	120 W	240 W	480 W
short-term overload current			
• on short-circuiting during the start-up typical	6 A	12 A	30 A
• at short-circuit during operation typical	6 A	12 A	30 A
parallel switching of outputs		can be set with DIP switch	can be set with DIP switch
bridging of equipment	No	Yes; switchable characteristic	Yes; switchable characteristic
number of parallel-switched equipment resources		2	2
efficiency			
efficiency in percent	90.2 %	92.8 %	95.5 %
power loss [W]			
• at rated output voltage for rated value of the output current typical	13 W	18 W	25 W
• during no-load operation maximum	2 W	2.2 W	2.6 W
closed-loop control			
relative control precision of the output voltage at load step of resistive load 10/90/10 % typical	2 %	2 %	3 %
setting time			
• load step 10 to 90% typical	1 ms	2 ms	0.5 ms
• load step 90 to 10% typical	1 ms	2 ms	0.5 ms
• maximum	2 ms	3 ms	1 ms
protection and monitoring			
design of the overvoltage protection	< 32 V	< 32 V	< 32 V
property of the output short-circuit proof	Yes	Yes	Yes
design of short-circuit protection	Shutdown and periodic restart attempts	Shutdown and periodic restart attempts	Shutdown and periodic restart attempts
• typical	6 A	12 A	30 A
overcurrent overload capability			
• in normal operation	overload capability 150 % Iout rated up to 5 s/min	overload capability 150 % Iout rated up to 5 s/min	overload capability 150 % Iout rated up to 5 s/min
safety			
galvanic isolation between input and output	Yes	Yes	Yes
galvanic isolation	Safety extra low output voltage Vout according to EN 60950-1	Safety extra low output voltage Vout according to EN 60950-1	Safety extra low output voltage Vout according to EN 60950-1
operating resource protection class	Class I	Class I	Class I
leakage current			
• maximum	3.5 mA	3.5 mA	3.5 mA
protection class IP	IP20	IP20	IP20
standard			
• for emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
• for mains harmonics limitation	EN 61000-3-2	EN 61000-3-2	EN 61000-3-2
• for interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals			
certificate of suitability			
• CE marking	Yes	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• CSA approval	Yes; CSA C22.2 No. 62368-1	Yes; CSA C22.2 No. 62368-1	Yes; CSA C22.2 No. 62368-1
• UKCA marking	Yes	Yes	Yes
• Regulatory Compliance Mark (RCM)	Yes	Yes	Yes
• NEC Class 2	No	No	No
• SEMI F47	Yes		Yes

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3333-7SC00-0AX0 SITOP PSU6200 24 V/5 A	6EP3334-7SC00-3AX0 SITOP PSU6200 24 V/10 A	6EP3336-7SC00-3AX0 SITOP PSU6200 24 V/20 A
type of certification			
• BIS	Yes; R-41188271	Yes; R-41188271	Yes; R-41188271
• CB-certificate	Yes	Yes	Yes
standards, specifications, approvals hazardous environments			
certificate of suitability			
• IECEx	Yes; IECEx Ex ec IIC T3 Gc	Yes; IECEx Ex ec nC IIC T3 Gc	Yes; IECEx Ex ec nC IIC T3 Gc
• ATEX	Yes; ATEX (EX) II 3G Ex ec IIC T3 Gc	Yes; ATEX (EX) II 3G Ex ec nC IIC T3 Gc	Yes; ATEX (EX) II 3G Ex ec nA nC IIC T4 Gc
• ULhazloc approval	Yes	Yes	Yes
• cCSAus, Class 1, Division 2	Yes	Yes	Yes
• FM registration	No	No	No
standards, specifications, approvals marine classification			
shipbuilding approval	Yes	Yes	Yes
Marine classification association			
• American Bureau of Shipping Europe Ltd. (ABS)	Yes	Yes	Yes
• French marine classification society (BV)	No	No	No
• Det Norske Veritas (DNV)	No; in preparation	No; in preparation	No; in preparation
• Lloyds Register of Shipping (LRS)	No	No	No
standards, specifications, approvals Environmental Product Declaration			
Environmental Product Declaration	Yes	Yes	Yes
Global Warming Potential [CO2 eq]			
• total	420.3 kg	581.2 kg	811.6 kg
• during manufacturing	13.1 kg	16.8 kg	28 kg
• during operation	406.8 kg	563.8 kg	782.6 kg
• after end of life	0.33 kg	0.42 kg	0.7 kg
ambient conditions			
ambient temperature			
• during operation	-30 ... +70 °C; with natural convection a monotonically increasing start-up from -25 °C, safe start-up from -40 °C	-30 ... +70 °C; with natural convection a monotonically increasing start-up from -25 °C, safe start-up from -40 °C	-30 ... +70 °C; with natural convection a monotonically increasing start-up from -25 °C, safe start-up from -40 °C
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method			
type of electrical connection	push-in terminals	push-in terminals	push-in terminals
• at input	L1/+, L2/N/-, PE: push-in for 0.5 ... 4 mm² single-core/finely stranded	L1/+, L2/N/-, PE: push-in for 0.5 ... 4 mm² single-core/finely stranded	L1/+, L2/N/-, PE: push-in for 0.5 ... 4 mm² single-core/finely stranded
• at output	+1, +2, -1, -2, -3: push-in for 0.5 ... 2.5 mm²	+1, +2, -1, -2, -3: push-in for 0.5 ... 2.5 mm²	+1, +2, -1, -2, -3: push-in for 0.5 ... 6 mm²
• for auxiliary contacts	13, 14 (alarm signal): 1 push-in terminal each for 0.2 ... 1.5 mm²	13, 14 (alarm signal): 1 push-in terminal each for 0.2 ... 1.5 mm²	13, 14 (alarm signal): 1 push-in terminal each for 0.2 ... 1.5 mm²
mechanical data			
width × height × depth of the enclosure	35 mm × 125 mm	45 mm × 125 mm	70 mm × 155 mm
installation width × mounting height	35 mm	45 mm	70 mm
required spacing			
• top	45 mm	45 mm	45 mm
• bottom	45 mm	45 mm	45 mm

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3333-7SC00-0AX0 SITOP PSU6200 24 V/5 A	6EP3334-7SC00-3AX0 SITOP PSU6200 24 V/10 A	6EP3336-7SC00-3AX0 SITOP PSU6200 24 V/20 A
• left	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes	Yes	Yes
• S7 rail mounting	No	No	No
• wall mounting	No	No	No
housing can be lined up	Yes	Yes	Yes
net weight	0.7 kg	0.9 kg	1.5 kg
accessories			
electrical accessories	Buffer module, redundancy module	Buffer module, redundancy module	Buffer module, redundancy module
mechanical accessories	Identification labels SIMATIC ET 200SP 6ES7193-6LF30-0AW0	Identification labels SIMATIC ET 200SP 6ES7193-6LF30-0AW0	Identification labels SIMATIC ET 200SP 6ES7193-6LF30-0AW0
further information internet links			
internet link			
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com
identification link	Yes; according to IEC 61406-1:2022	Yes; according to IEC 61406-1:2022	
additional information			
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information			
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3333-7SC00-0AX0 SITOP PSU6200 24 V/5 A	6EP3334-7SC00-3AX0 SITOP PSU6200 24 V/10 A	6EP3336-7SC00-3AX0 SITOP PSU6200 24 V/20 A
	applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

More information

Select the appropriate power supply quickly and easily with the TIA Selection Tool:

http://www.siemens.com/tst

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Overview

SITOP PSU6200 1-phase, 48 V, 5 A and 10 A

Stabilized 1-phase power supply with wide-range input.

Product highlights

- 1-phase, 48 V DC/5 A and 10 A
- Can be expanded with SITOP RED1200 redundancy modules
  - Slim width
  - High dielectric strength
  - In SITOP PSU6200 design
- Expandable with SITOP SEL1200 48 V/4 x 10 A selectivity module
  - Switching characteristic
  - With monitoring interface
  - In PSU6200 design

Selection and ordering data

SITOP PSU6200 1-phase, 48 V DC/5 A Stabilized power supply Input: 120 - 240 V AC/110 - 240 V DC Output: 48 V DC/5 A	**6EP3344-7SB00-3AX0**
SITOP PSU6200 1-phase, 48 V DC/10 A Stabilized power supply Input: 120 - 240 V AC/110 - 240 V DC Output: 48 V DC/10 A	**6EP3346-7SB00-3AX0**

Accessories

SITOP RED1200 redundancy module Input/output: 12 V DC, 24 V, 48 V/20 A (maximum total current) Suitable for decoupling two SITOP power supplies with a maximum of 10 A output current each	**6EP4346-7RB00-0AX0**
SITOP RED1200 redundancy module Input/output: 12 V DC, 24 V, 48 V/40 A (maximum total current) Suitable for decoupling two SITOP power supplies with a maximum of 20 A output current each	**6EP4347-7RB00-0AX0**
SITOP SEL1200 48 V/4 x 10 A selectivity module Selectivity module 4-channel with switching characteristic Input: 48 V DC/40 A Output: 48 V DC/4 x 10 A Threshold value adjustable 1-10 A, with monitoring interface	**6EP4448-7FB00-3CX0**
SIMATIC ET 200SP labels 160 equipment labeling plates, 10 sheets (160 plates)	**6ES7193-6LF30-0AW0**

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Technical specifications

Article number product brand name type of current supply	6EP3344-7SB00-3AX0 SITOP PSU6200 48 V/5 A	6EP3346-7SB00-3AX0 SITOP PSU6200 48 V/10 A
input		
type of the power supply network	1-phase AC or DC	1-phase AC or DC
supply voltage at AC		
• minimum rated value	120 V	120 V
• maximum rated value	240 V	240 V
• initial value	85 V	85 V
• full-scale value	264 V	264 V
supply voltage at DC	110 ... 240 V	110 ... 240 V
input voltage at DC	85 ... 275 V	85 ... 275 V
wide range input	Yes	Yes
overvoltage overload capability	300 V AC for 30 s	300 V AC for 30 s
buffering time for rated value of the output current in the event of power failure minimum	46 ms	25 ms
operating condition of the mains buffering	at Vin = 240 V	at Vin = 240 V
line frequency	50 Hz/60 Hz	50 Hz/60 Hz
line frequency	47 ... 63 Hz	47 ... 63 Hz
input current		
• at rated input voltage 120 V	2.2 A	4.3 A
• at rated input voltage 240 V	1.2 A	2.3 A
current limitation of inrush current at 25 °C maximum	6 A	11 A
fuse protection type	5 A	10 A
fuse protection type in the feeder	Circuit breaker from 4 A characteristic C/6 A characteristic B to 10 A characteristic C or circuit breaker 3RV2011-1EA10 (setting 4 A) or 3RV2711-1ED10 (UL 489)	Circuit breaker from 6 A characteristic B to 16 A characteristic C or circuit breaker 3RV2011-1HA10 (setting 8A) or 3RV2711-1HD10 (UL 489)
output		
voltage curve at output	Controlled, isolated DC voltage	Controlled, isolated DC voltage
number of outputs	1	1
output voltage at DC rated value	48 V	48 V
output voltage		
• at output 1 at DC rated value	48 V	48 V
	48 V	48 V
output voltage adjustable	Yes; via potentiometer	Yes; via potentiometer
adjustable output voltage	48 ... 56 V; max. 240 W (288 W up to 45°C)	48 ... 56 V; max. 480 W (576 W up to 45°C)
relative control precision of the output voltage		
• on slow fluctuation of input voltage	0.1 %	0.3 %
• on slow fluctuation of ohm loading	0.1 %	0.2 %
residual ripple		
• maximum	50 mV	70 mV
• typical	30 mV	20 mV
voltage peak		
• maximum	60 mV	40 mV
• typical	40 mV	20 mV
display version for normal operation	Green LED for 48 V OK	Green LED for 48 V OK
type of signal at output	Electronic contact (NO contact, contact rating 30 V DC/0.1 A) for DC O.K. or diagnostic interface	Electronic contact (NO contact, contact rating 30 V DC/0.1 A) for DC O.K. or diagnostic interface
behavior of the output voltage when switching on	Overshoot of Vout < 2 %	Overshoot of Vout < 2 %
response delay maximum	0.5 s	0.5 s
voltage increase time of the output voltage		
• typical	250 ms	200 ms

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3344-7SB00-3AX0 SITOP PSU6200 48 V/5 A	6EP3346-7SB00-3AX0 SITOP PSU6200 48 V/10 A
output current		
• rated value	5 A	10 A
• rated range	0 ... 5 A; 6 A up to +45°C; +60 ... +70 °C: Derating 3%/K	0 ... 10 A; 12 A up to +45°C; +60 ... +70 °C: Derating 3%/K
	5 A	10 A
supplied active power typical	240 W	480 W
short-term overload current		
• on short-circuiting during the start-up typical	6 A	15 A
• at short-circuit during operation typical	6 A	15 A
parallel switching of outputs	can be set with DIP switch	can be set with DIP switch
bridging of equipment	Yes; switchable characteristic	Yes; switchable characteristic
number of parallel-switched equipment resources	2	2
efficiency		
efficiency in percent	93.9 %	95.8 %
power loss [W]		
• at rated output voltage for rated value of the output current typical	15 W	21 W
• during no-load operation maximum	2.4 W	2.5 W
closed-loop control		
relative control precision of the output voltage at load step of resistive load 10/90/10 % typical	1 %	3 %
setting time		
• load step 10 to 90% typical	4 ms	5 ms
• load step 90 to 10% typical	4 ms	5 ms
• maximum	6 ms	5 ms
protection and monitoring		
design of the overvoltage protection	< 60 V	< 60 V
property of the output short-circuit proof	Yes	Yes
design of short-circuit protection	Shutdown and periodic restart attempts	Shutdown and periodic restart attempts
• typical	6 A	15 A
overcurrent overload capability		
• in normal operation	overload capability 150 % Iout rated up to 5 s/min	overload capability 150 % Iout rated up to 5 s/min
safety		
galvanic isolation between input and output	Yes	Yes
galvanic isolation	Safety extra low output voltage Vout according to EN 60950-1	Safety extra low output voltage Vout according to EN 60950-1
operating resource protection class	Class I	Class I
leakage current		
• maximum	3.5 mA	3.5 mA
protection class IP	IP20	IP20
standard		
• for emitted interference	EN 55022 Class B	EN 55022 Class B
• for mains harmonics limitation	EN 61000-3-2	EN 61000-3-2
• for interference immunity	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals		
certificate of suitability		
• CE marking	Yes	Yes

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3344-7SB00-3AX0 SITOP PSU6200 48 V/5 A	6EP3346-7SB00-3AX0 SITOP PSU6200 48 V/10 A
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)
• EAC approval	Yes	Yes
• Regulatory Compliance Mark (RCM)	Yes	Yes
• NEC Class 2	No	No
• SEMI F47	Yes	Yes
type of certification		
• BIS	Yes; R-41188271	Yes; R-41188271
• CB-certificate	Yes	Yes
standards, specifications, approvals hazardous environments		
certificate of suitability		
• IECEx	No	No
• ATEX	No	No
• ULhazloc approval	No	No
• cCSAus, Class 1, Division 2	No	No
• FM registration	No	No
standards, specifications, approvals marine classification		
shipbuilding approval	Yes	Yes
Marine classification association		
• American Bureau of Shipping Europe Ltd. (ABS)	Yes	Yes
• French marine classification society (BV)	No	No
• Det Norske Veritas (DNV)	No; in preparation	No; in preparation
• Lloyds Register of Shipping (LRS)	No	No
standards, specifications, approvals Environmental Product Declaration		
Environmental Product Declaration	Yes	Yes
Global Warming Potential [CO2 eq]		
• total	486.8 kg	686.3 kg
• during manufacturing	16.8 kg	28 kg
• during operation	469.4 kg	657.4 kg
• after end of life	0.42 kg	0.7 kg
ambient conditions		
ambient temperature		
• during operation	-30 ... +70 °C; with natural convection a monotonically increasing start-up from -25 °C, safe start-up from -40 °C	-30 ... +70 °C; with natural convection a monotonically increasing start-up from -25 °C, safe start-up from -40 °C
• during transport	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method		
type of electrical connection	push-in terminals	push-in terminals
• at input	L1/+, L2/N/-, PE: push-in for 0.5 ... 4 mm² single-core/finely stranded	L1/+, L2/N/-, PE: push-in for 0.5 ... 4 mm² single-core/finely stranded
• at output	+1, +2, -1, -2, -3: push-in for 0.5 ... 2.5 mm²	+1, +2, -1, -2, -3: push-in for 0.5 ... 6 mm²
• for auxiliary contacts	13, 14 (alarm signal): 1 push-in terminal each for 0.2 ... 1.5 mm²	13, 14 (alarm signal): 1 push-in terminal each for 0.2 ... 1.5 mm²

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3344-7SB00-3AX0 SITOP PSU6200 48 V/5 A	6EP3346-7SB00-3AX0 SITOP PSU6200 48 V/10 A
mechanical data		
width × height × depth of the enclosure	45 mm × 125 mm	70 mm × 155 mm
installation width × mounting height	45 mm	70 mm
required spacing		
• top	45 mm	45 mm
• bottom	45 mm	45 mm
• left	0 mm	0 mm
• right	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes	Yes
• S7 rail mounting	No	No
• wall mounting	No	No
housing can be lined up	Yes	Yes
net weight	0.9 kg	1.5 kg
accessories		
electrical accessories	Buffer module, redundancy module	Redundancy module
mechanical accessories	Identification labels SIMATIC ET 200SP 6ES7193-6LF30-0AW0	
further information internet links		
internet link		
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com
identification link	Yes; according to IEC 61406-1:2022	
additional information		
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information		
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3344-7SB00-3AX0 SITOP PSU6200 48 V/5 A	6EP3346-7SB00-3AX0 SITOP PSU6200 48 V/10 A
	increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

More information

Select the appropriate power supply quickly and easily with the TIA Selection Tool:

http://www.siemens.com/tst

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Overview

SITOP PSU6200 3-phase, 24 V family

Stabilized 3-phase power supplies with 400 to 500 V AC input in three power levels.

Product highlights

- 3-phase, 24 V DC/5 A, 10 A, 20 A and 40 A
- All variants also available in Ex-version for use in Zone 2 hazardous environments (gases, vapors or mists)
- Rugged input
  - Input voltage 323 ... 576 V AC, 450 ... 600 V DC
  - In the event of a phase failure, continuous operation with only 2 phases possible
- Enclosure
  - Attractive metal enclosure
- Can be expanded with SITOP add-on and DC UPS modules
  - BUF1200 buffer module, SEL1200/1400 selectivity modules and RED1200 redundancy modules in the design of the SITOP PSU6200

Selection and ordering data

SITOP PSU6200 3-phase, 24 V DC/5 A Stabilized power supply Input: 400-500 V 3 AC Output: 24 V DC/5 A	**6EP3433-7SB00-0AX0**
SITOP PSU6200 Ex 3-phase, 24 V DC/5 A Stabilized power supply Input: 400 ... 500 V AC Output: 24 V DC/5 A with coated PCBs	**6EP3433-7SC00-0AX0**
SITOP PSU6200 3-phase, 24 V DC/10 A Stabilized power supply Input: 400-500 V 3 AC Output: 24 V DC/10 A	**6EP3434-7SB00-3AX0**
SITOP PSU6200 Ex 3-phase, 24 V DC/10 A Stabilized power supply Input: 400 ... 500 V AC Output: 24 V DC/10 A with diagnostic interface with coated PCBs	**6EP3434-7SC00-3AX0**
SITOP PSU6200 3-phase, 24 V DC/20 A Stabilized power supply Input: 400-500 V 3 AC Output: 24 V DC/20 A	**6EP3436-7SB00-3AX0**
SITOP PSU6200 Ex 3-phase, 24 V DC/20 A Stabilized power supply Input: 400 ... 500 V AC Output: 24 V DC/20 A with diagnostic interface with coated PCBs	**6EP3436-7SC00-3AX0**
SITOP PSU6200, 3-phase 24 V DC/40 A Stabilized power supply Input: 400-500 V 3 AC Output: 24 V DC/40 A	**6EP3437-7SB00-3AX0**
SITOP PSU6200 Ex 3-phase, 24 V DC/40 A Stabilized power supply Input: 400 ... 500 V AC Output: 24 V DC/40 A with diagnostic interface with coated PCBs	**6EP3437-7SC00-3AX0**

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Accessories

SITOP BUF1200 buffer module Buffer time 300 ms at 40 A Buffer time depends on load current	**6EP4231-7HB00-0AX0**
SITOP RED1200 redundancy module Input/output: 12 V DC, 24 V, 48 V/20 A (maximum total current) Suitable for decoupling two SITOP power supplies with a maximum of 10 A output current each	**6EP4346-7RB00-0AX0**
SITOP RED1200 redundancy module Input/output: 12 V DC, 24 V, 48 V/40 A (maximum total current) Suitable for decoupling two SITOP power supplies with a maximum of 20 A output current each	**6EP4347-7RB00-0AX0**
SITOP SEL1200 Selectivity module, 8-channel, switching Input: 24 V DC Output: 24 V DC/10 A per output Adjustable response threshold 2 ... 10 A	**6EP4438-7FB00-3DX0**
SITOP SEL1400 Selectivity module, 8-channel, limiting Input: 24 V DC Output: 24 V DC/10 A per output Adjustable response threshold 2 ... 10 A	**6EP4438-7EB00-3DX0**
SIMATIC ET 200SP labels 160 reference labeling plates, 10 sheets (160 plates)	**6ES7193-6LF30-0AW0**
SITOP DC UPS	For more information, visit: www.siemens.com/sitop-ups/mall

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Technical specifications

Article number product brand name type of current supply	6EP3433-7SB00-0AX0 SITOP PSU6200 24 V/5 A	6EP3434-7SB00-3AX0 SITOP PSU6200 24 V/10 A	6EP3436-7SB00-3AX0 SITOP PSU6200 24 V/20 A	6EP3437-7SB00-3AX0 SITOP PSU6200 24 V/40 A
input				
type of the power supply network	3-phase AC or DC	3-phase AC or DC	3-phase AC or DC	3-phase AC or DC
supply voltage at AC				
• minimum rated value	400 V	400 V	400 V	400 V
• maximum rated value	500 V	500 V	500 V	500 V
• initial value	323 V	323 V	323 V	323 V
• full-scale value	576 V	576 V	576 V	576 V
input voltage at DC	450 ... 600 V	450 ... 600 V	450 ... 600 V	450 ... 600 V
buffering time for rated value of the output current in the event of power failure minimum	20 ms	30 ms	25 ms	18 ms
operating condition of the mains buffering	at Vin = 400 V	at Vin = 400 V	at Vin = 400 V	at Vin = 400 V
line frequency	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz
line frequency	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz
input current				
• at rated input voltage 400 V	0.33 A	0.39 A	0.77 A	1.5 A
• at rated input voltage 500 V	0.28 A	0.32 A	0.62 A	1.2 A
current limitation of inrush current at 25 °C maximum	22 A	13 A	17 A	10 A
fuse protection type in the feeder	three-poled coupled circuit breaker from 4 A characteristic C to 10 A characteristic C or circuit breaker 3RV2011-1EA10 (setting 4 A) or 3RV2711-1ED10 (UL 489)	three-poled coupled circuit breaker from 4 A characteristic C to 16 A characteristic C or circuit breaker 3RV2011-1EA10 (setting 4 A) or 3RV2711-1ED10 (UL 489)	three-poled coupled circuit breaker from 4 A characteristic C to 16 A characteristic C or circuit breaker 3RV2011-1EA10 (setting 4 A) or 3RV2711-1ED10 (UL 489)	three-poled coupled circuit breaker from 4 A characteristic C to 16 A characteristic C or circuit breaker 3RV2011-1EA10 (setting 4 A) or 3RV2711-1ED10 (UL 489)
output				
voltage curve at output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
number of outputs	1	1	1	1
output voltage at DC rated value	24 V	24 V	24 V	24 V
output voltage				
• at output 1 at DC rated value	24 V	24 V	24 V	24 V
	24 V	24 V	24 V	24 V
output voltage adjustable	Yes; via potentiometer	Yes; via potentiometer	Yes; via potentiometer	Yes; via potentiometer
adjustable output voltage	24 ... 28 V; max. 120 W (144 W up to 45°C)	24 ... 28 V; max. 240 W (288 W up to 45°C)	24 ... 28 V; max. 480 W (576 W up to 45°C)	24 ... 28 V; max. 960 W (1152 W up to 45°C)
relative control precision of the output voltage				
• on slow fluctuation of input voltage	0.6 %	0.2 %	0.2 %	0.2 %
• on slow fluctuation of ohm loading	0.6 %	0.1 %	0.1 %	0.1 %
residual ripple				
• maximum	30 mV	30 mV	30 mV	80 mV
• typical	20 mV	20 mV	20 mV	50 mV
voltage peak				
• maximum	30 mV	30 mV	30 mV	80 mV
• typical	20 mV	20 mV	20 mV	30 mV
display version for normal operation	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK
type of signal at output	Electronic contact (NO contact, contact rating 30 V DC/0.1 A) for DC O.K.	Electronic contact (NO contact, contact rating 30 V DC/0.1 A) for DC O.K. or diagnostic interface	Electronic contact (NO contact, contact rating 30 V DC/0.1 A) for DC O.K. or diagnostic interface	Electronic contact (NO contact, contact rating 30 V DC/0.1 A) for DC O.K. or diagnostic interface
behavior of the output voltage when switching on	Overshoot of Vout < 2 %	Overshoot of Vout < 2 %	Overshoot of Vout < 2 %	Overshoot of Vout < 2 %

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3433-7SB00-0AX0 SITOP PSU6200 24 V/5 A	6EP3434-7SB00-3AX0 SITOP PSU6200 24 V/10 A	6EP3436-7SB00-3AX0 SITOP PSU6200 24 V/20 A	6EP3437-7SB00-3AX0 SITOP PSU6200 24 V/40 A
response delay maximum	0.5 s	0.5 s	0.5 s	0.5 s
voltage increase time of the output voltage				
• typical	100 ms	100 ms	100 ms	100 ms
output current				
• rated value	5 A	10 A	20 A	40 A
• rated range	0 ... 5 A; 6 A up to +45°C; +60 ... +70 °C: Derating 3%/K	0 ... 10 A; 12 A up to +45°C; +60 ... +70 °C: Derating 3%/K	0 ... 20 A; 24 A up to +45°C; +60 ... +70 °C: Derating 3%/K	0 ... 40 A; 48 A up to +45°C; +60 ... +70 °C: Derating 3%/K
	5 A	10 A	20 A	40 A
supplied active power typical	120 W	240 W	480 W	960 W
short-term overload current				
• on short-circuiting during the start-up typical	6 A	12 A	24 A	48 A
• at short-circuit during operation typical	6 A	12 A	24 A	48 A
parallel switching of outputs		can be set with DIP switch	can be set with DIP switch	can be set with DIP switch
bridging of equipment	No	Yes; switchable characteristic	Yes; switchable characteristic	Yes; switchable characteristic
number of parallel-switched equipment resources		2	2	2
efficiency				
efficiency in percent	91.2 %	95.4 %	95.9 %	96 %
power loss [W]				
• at rated output voltage for rated value of the output current typical	11 W	12 W	23 W	40 W
• during no-load operation maximum	2 W	2.9 W	2.9 W	4.5 W
closed-loop control				
relative control precision of the output voltage at load step of resistive load 10/90/10 % typical	2 %	2 %	3 %	2 %
setting time				
• load step 10 to 90% typical	1 ms	1 ms	2 ms	2 ms
• load step 90 to 10% typical	1 ms	1 ms	2 ms	10 ms
• maximum	2 ms	2 ms	3 ms	10 ms
protection and monitoring				
design of the overvoltage protection	< 32 V	< 32 V	< 32 V	< 32 V
property of the output short-circuit proof	Yes	Yes	Yes	Yes
design of short-circuit protection	Shutdown and periodic restart attempts	Shutdown and periodic restart attempts	Shutdown and periodic restart attempts	Shutdown and periodic restart attempts
• typical	6 A	12 A	24 A	48 A
overcurrent overload capability				
• in normal operation	overload capability 150 % Iout rated up to 5 s/min	overload capability 150 % Iout rated up to 5 s/min	overload capability 150 % Iout rated up to 5 s/min	overload capability 150 % Iout rated up to 5 s/min
safety				
galvanic isolation between input and output	Yes	Yes	Yes	Yes
galvanic isolation	Safety extra low output voltage Vout according to EN 60950-1	Safety extra low output voltage Vout according to EN 60950-1	Safety extra low output voltage Vout according to EN 60950-1	Safety extra low output voltage Vout according to EN 60950-1
operating resource protection class	Class I	Class I	Class I	Class I
leakage current				
• maximum	3.5 mA	3.5 mA	3.5 mA	3.5 mA
protection class IP	IP20	IP20	IP20	IP20
standard				
• for emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3433-7SB00-0AX0 SITOP PSU6200 24 V/5 A	6EP3434-7SB00-3AX0 SITOP PSU6200 24 V/10 A	6EP3436-7SB00-3AX0 SITOP PSU6200 24 V/20 A	6EP3437-7SB00-3AX0 SITOP PSU6200 24 V/40 A
• for mains harmonics limitation	EN 61000-3-2	EN 61000-3-2	EN 61000-3-2	EN 61000-3-2
• for interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals				
certificate of suitability				
• CE marking	Yes	Yes	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
• EAC approval	Yes	Yes	Yes	Yes
• Regulatory Compliance Mark (RCM)	Yes	Yes	Yes	Yes
• NEC Class 2	No	No	No	No
• SEMI F47	Yes	Yes	Yes	Yes
type of certification				
• BIS	Yes; R-41188271	Yes; R-41188271	Yes; R-41188271	Yes; R-41183539
• CB-certificate	Yes	Yes	Yes	Yes
standards, specifications, approvals hazardous environments				
certificate of suitability				
• IECEx	No	No	No	No
• ATEX	No	No	No	No
• ULhazloc approval	No	No	No	No
• cCSAus, Class 1, Division 2	No	No	No	No
• FM registration	No	No	No	No
standards, specifications, approvals marine classification				
shipbuilding approval	Yes	Yes	Yes	Yes
Marine classification association				
• American Bureau of Shipping Europe Ltd. (ABS)	Yes	Yes	Yes	Yes
• French marine classification society (BV)	No	No	No	No
• Det Norske Veritas (DNV)	No; in preparation	No; in preparation	No; in preparation	No; in preparation
• Lloyds Register of Shipping (LRS)	No	No	No	No
standards, specifications, approvals Environmental Product Declaration				
Environmental Product Declaration	Yes	Yes	Yes	Yes
Global Warming Potential [CO2 eq]				
• total	357.7 kg	393.2 kg	749 kg	1 292.7 kg
• during manufacturing	13.1 kg	16.8 kg	28 kg	39.2 kg
• during operation	344.2 kg	375.8 kg	720 kg	1 252.1 kg
• after end of life	0.33 kg	0.42 kg	0.7 kg	0.97 kg
ambient conditions				
ambient temperature				
• during operation	-30 ... +70 °C; with natural convection a monotonically increasing start-up from -25 °C, safe start-up from -40 °C	-30 ... +70 °C; with natural convection a monotonically increasing start-up from -25 °C, safe start-up from -40 °C	-30 ... +70 °C; with natural convection a monotonically increasing start-up from -25 °C, safe start-up from -40 °C	-30 ... +70 °C; with natural convection a monotonically increasing start-up from -25 °C, safe start-up from -40 °C

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3433-7SB00-0AX0 SITOP PSU6200 24 V/5 A	6EP3434-7SB00-3AX0 SITOP PSU6200 24 V/10 A	6EP3436-7SB00-3AX0 SITOP PSU6200 24 V/20 A	6EP3437-7SB00-3AX0 SITOP PSU6200 24 V/40 A
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method				
type of electrical connection	push-in terminals	push-in terminals	push-in terminals	push-in terminals
• at input	L1, L2, L3, PE: push-in for 0.5 ... 6 mm²	L1, L2, L3, PE: push-in for 0.5 ... 6 mm²	L1, L2, L3, PE: push-in for 0.5 ... 10 mm²	L1, L2, L3, PE: push-in for 0.5 ... 10 mm²
• at output	+1, +2, -1, -2, -3: push-in for 0.5 ... 2.5 mm²	+1, +2, -1, -2, -3: push-in for 0.5 ... 2.5 mm²	+1, +2, -1, -2, -3: push-in for 0.5 ... 6 mm²	+1, +2, -1, -2, -3: push-in for 0.75 ... 16 mm²
• for auxiliary contacts	13, 14 (alarm signal): 1 push-in terminal each for 0.2 ... 1.5 mm²	13, 14 (alarm signal): 1 push-in terminal each for 0.2 ... 1.5 mm²	13, 14 (alarm signal): 1 push-in terminal each for 0.2 ... 1.5 mm²	13, 14 (alarm signal): 1 push-in terminal each for 0.2 ... 1.5 mm²
mechanical data				
width × height × depth of the enclosure	35 mm × 125 mm	45 mm × 155 mm	70 mm × 155 mm	95 mm × 155 mm
installation width × mounting height	35 mm	45 mm	70 mm	95 mm
required spacing				
• top	45 mm	45 mm	45 mm	45 mm
• bottom	45 mm	45 mm	45 mm	45 mm
• left	0 mm	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes	Yes	Yes	Yes
• S7 rail mounting	No	No	No	No
• wall mounting	No	No	No	No
housing can be lined up	Yes	Yes	Yes	Yes
net weight	0.7 kg	0.9 kg	1.5 kg	2.1 kg
accessories				
electrical accessories	Buffer module, redundancy module	Buffer module, redundancy module	Buffer module, redundancy module	Buffer module, redundancy module
mechanical accessories	Identification labels SIMATIC ET 200SP 6ES7193-6LF30-0AW0	Identification labels SIMATIC ET 200SP 6ES7193-6LF30-0AW0	Identification labels SIMATIC ET 200SP 6ES7193-6LF30-0AW0	Identification labels SIMATIC ET 200SP 6ES7193-6LF30-0AW0
further information internet links				
internet link				
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com
identification link	Yes; according to IEC 61406-1:2022	Yes; according to IEC 61406-1:2022		
additional information				
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3433-7SB00-0AX0 SITOP PSU6200 24 V/5 A	6EP3434-7SB00-3AX0 SITOP PSU6200 24 V/10 A	6EP3436-7SB00-3AX0 SITOP PSU6200 24 V/20 A	6EP3437-7SB00-3AX0 SITOP PSU6200 24 V/40 A
security information				
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

Article number product brand name type of current supply	6EP3433-7SC00-0AX0 SITOP PSU6200 24 V/5 A	6EP3434-7SC00-3AX0 SITOP PSU6200 24 V/10 A	6EP3436-7SC00-3AX0 SITOP PSU6200 24 V/20 A	6EP3437-7SC00-3AX0 SITOP PSU6200 24 V/40 A
input				
type of the power supply network	3-phase AC or DC	3-phase AC or DC	3-phase AC or DC	3-phase AC or DC
supply voltage at AC				
• minimum rated value	400 V	400 V	400 V	400 V
• maximum rated value	500 V	500 V	500 V	500 V
• initial value	323 V	323 V	323 V	323 V

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3433-7SC00-0AX0 SITOP PSU6200 24 V/5 A	6EP3434-7SC00-3AX0 SITOP PSU6200 24 V/10 A	6EP3436-7SC00-3AX0 SITOP PSU6200 24 V/20 A	6EP3437-7SC00-3AX0 SITOP PSU6200 24 V/40 A
• full-scale value	576 V	576 V	576 V	576 V
input voltage at DC	450 ... 600 V	450 ... 600 V	450 ... 600 V	450 ... 600 V
buffering time for rated value of the output current in the event of power failure minimum	20 ms	30 ms	25 ms	18 ms
operating condition of the mains buffering	at Vin = 400 V	at Vin = 400 V	at Vin = 400 V	at Vin = 400 V
line frequency	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz
line frequency	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz
input current				
• at rated input voltage 400 V	0.33 A	0.39 A	0.77 A	1.5 A
• at rated input voltage 500 V	0.28 A	0.32 A	0.62 A	1.2 A
current limitation of inrush current at 25 °C maximum	22 A	13 A	17 A	10 A
fuse protection type in the feeder	three-poled coupled circuit breaker from 4 A characteristic C to 10 A characteristic C or circuit breaker 3RV2011-1EA10 (setting 4 A) or 3RV2711-1ED10 (UL 489)	three-poled coupled circuit breaker from 4 A characteristic C to 16 A characteristic C or circuit breaker 3RV2011-1EA10 (setting 4 A) or 3RV2711-1ED10 (UL 489)	three-poled coupled circuit breaker from 4 A characteristic C to 16 A characteristic C or circuit breaker 3RV2011-1EA10 (setting 4 A) or 3RV2711-1ED10 (UL 489)	three-poled coupled circuit breaker from 4 A characteristic C to 16 A characteristic C or circuit breaker 3RV2011-1EA10 (setting 4 A) or 3RV2711-1ED10 (UL 489)
output				
voltage curve at output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
number of outputs	1	1	1	1
output voltage at DC rated value	24 V	24 V	24 V	24 V
output voltage				
• at output 1 at DC rated value	24 V	24 V	24 V	24 V
	24 V	24 V	24 V	24 V
output voltage adjustable	Yes; via potentiometer	Yes; via potentiometer	Yes; via potentiometer	Yes; via potentiometer
adjustable output voltage	24 ... 28 V; max. 120 W (144 W up to 45°C)	24 ... 28 V; max. 240 W (288 W up to 45°C)	24 ... 28 V; max. 480 W (576 W up to 45°C)	24 ... 28 V; max. 960 W (1152 W up to 45°C)
relative control precision of the output voltage				
• on slow fluctuation of input voltage	0.6 %	0.2 %	0.2 %	0.2 %
• on slow fluctuation of ohm loading	0.6 %	0.1 %	0.1 %	0.1 %
residual ripple				
• maximum	30 mV	30 mV	30 mV	80 mV
• typical	20 mV	20 mV	20 mV	50 mV
voltage peak				
• maximum	30 mV	30 mV	30 mV	80 mV
• typical	20 mV	20 mV	20 mV	30 mV
display version for normal operation	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK
type of signal at output	Electronic contact (NO contact, contact rating 30 V DC/0.1 A) for DC O.K.	Electronic contact (NO contact, contact rating 30 V DC/0.1 A) for DC O.K. or diagnostic interface	Electronic contact (NO contact, contact rating 30 V DC/0.1 A) for DC O.K. or diagnostic interface	Electronic contact (NO contact, contact rating 30 V DC/0.1 A) for DC O.K. or diagnostic interface
behavior of the output voltage when switching on	Overshoot of Vout < 2 %	Overshoot of Vout < 2 %	Overshoot of Vout < 2 %	Overshoot of Vout < 2 %
response delay maximum	0.5 s	0.5 s	0.5 s	0.5 s
voltage increase time of the output voltage				
• typical	100 ms	100 ms	100 ms	100 ms
output current				
• rated value	5 A	10 A	20 A	40 A
• rated range	0 ... 5 A; 6 A up to +45°C; +60 ... +70 °C: Derating 3%/K	0 ... 10 A; 12 A up to +45°C; +60 ... +70 °C: Derating 3%/K	0 ... 20 A; 24 A up to +45°C; +60 ... +70 °C: Derating 3%/K	0 ... 40 A; 48 A up to +45°C; +60 ... +70 °C: Derating 3%/K

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3433-7SC00-0AX0 SITOP PSU6200 24 V/5 A	6EP3434-7SC00-3AX0 SITOP PSU6200 24 V/10 A	6EP3436-7SC00-3AX0 SITOP PSU6200 24 V/20 A	6EP3437-7SC00-3AX0 SITOP PSU6200 24 V/40 A
	5 A	10 A	20 A	40 A
supplied active power typical	120 W	240 W	480 W	960 W
short-term overload current				
• on short-circuiting during the start-up typical	6 A	12 A	24 A	48 A
• at short-circuit during operation typical	6 A	12 A	24 A	48 A
parallel switching of outputs		can be set with DIP switch	can be set with DIP switch	can be set with DIP switch
bridging of equipment	No	Yes; switchable characteristic	Yes; switchable characteristic	Yes; switchable characteristic
number of parallel-switched equipment resources		2	2	2
efficiency				
efficiency in percent	91.2 %	95.4 %	95.9 %	96 %
power loss [W]				
• at rated output voltage for rated value of the output current typical	11 W	12 W	23 W	40 W
• during no-load operation maximum	2 W	2.9 W	2.9 W	4.5 W
closed-loop control				
relative control precision of the output voltage at load step of resistive load 10/90/10 % typical	2 %	2 %	3 %	2 %
setting time				
• load step 10 to 90% typical	1 ms	1 ms	2 ms	2 ms
• load step 90 to 10% typical	1 ms	1 ms	2 ms	10 ms
• maximum	2 ms	2 ms	3 ms	10 ms
protection and monitoring				
design of the overvoltage protection	< 32 V	< 32 V	< 32 V	< 32 V
property of the output short-circuit proof	Yes	Yes	Yes	Yes
design of short-circuit protection	Shutdown and periodic restart attempts	Shutdown and periodic restart attempts	Shutdown and periodic restart attempts	Shutdown and periodic restart attempts
• typical	6 A	12 A	24 A	48 A
overcurrent overload capability				
• in normal operation	overload capability 150 % Iout rated up to 5 s/min	overload capability 150 % Iout rated up to 5 s/min	overload capability 150 % Iout rated up to 5 s/min	overload capability 150 % Iout rated up to 5 s/min
safety				
galvanic isolation between input and output	Yes	Yes	Yes	Yes
galvanic isolation	Safety extra low output voltage Vout according to EN 60950-1	Safety extra low output voltage Vout according to EN 60950-1	Safety extra low output voltage Vout according to EN 60950-1	Safety extra low output voltage Vout according to EN 60950-1
operating resource protection class	Class I	Class I	Class I	Class I
leakage current				
• maximum	3.5 mA	3.5 mA	3.5 mA	3.5 mA
protection class IP	IP20	IP20	IP20	IP20
standard				
• for emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
• for mains harmonics limitation	EN 61000-3-2	EN 61000-3-2	EN 61000-3-2	EN 61000-3-2
• for interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals				
certificate of suitability				
• CE marking	Yes	Yes	Yes	Yes

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3433-7SC00-0AX0 SITOP PSU6200 24 V/5 A	6EP3434-7SC00-3AX0 SITOP PSU6200 24 V/10 A	6EP3436-7SC00-3AX0 SITOP PSU6200 24 V/20 A	6EP3437-7SC00-3AX0 SITOP PSU6200 24 V/40 A
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• CSA approval	Yes; CSA C22.2 No. 62368-1	Yes; CSA C22.2 No. 62368-1	Yes; CSA C22.2 No. 62368-1	Yes; CSA C22.2 No. 62368-1
• UKCA marking	Yes	Yes	Yes	Yes
• EAC approval	Yes	Yes	Yes	Yes
• Regulatory Compliance Mark (RCM)	Yes	Yes	Yes	Yes
• NEC Class 2	No	No	No	No
• SEMI F47	Yes	Yes	Yes	Yes
type of certification				
• BIS	Yes; R-41188271	Yes; R-41188271	Yes; R-41188271	
• CB-certificate	Yes	Yes	Yes	Yes
standards, specifications, approvals hazardous environments				
certificate of suitability				
• IECEx	Yes; IECEx Ex ec IIC T4 Gc	Yes; IECEx Ex ec IIC T4 Gc	Yes; IECEx Ex ec IIC T4 Gc	Yes; IECEx Ex ec IIC T4 Gc
• ATEX	Yes; ATEX (EX) II 3G Ex ec IIC T4 Gc	Yes; ATEX (EX) II 3G Ex ec IIC T4 Gc	Yes; ATEX (EX) II 3G Ex ec IIC T4 Gc	Yes; ATEX (EX) II 3G Ex ec IIC T4 Gc
• ULhazloc approval	Yes	Yes	Yes	Yes
• cCSAus, Class 1, Division 2	Yes	Yes	Yes	Yes
• FM registration	No	No	No	No
standards, specifications, approvals marine classification				
shipbuilding approval	Yes	Yes	Yes	Yes
Marine classification association				
• American Bureau of Shipping Europe Ltd. (ABS)	Yes	Yes	Yes	Yes
• French marine classification society (BV)	No	No	No	No
• Det Norske Veritas (DNV)	No; in preparation	No; in preparation	No; in preparation	No; in preparation
• Lloyds Register of Shipping (LRS)	No	No	No	No
standards, specifications, approvals Environmental Product Declaration				
Environmental Product Declaration	Yes	Yes	Yes	Yes
Global Warming Potential [CO2 eq]				
• total	357.7 kg	393.2 kg	749 kg	1 292.7 kg
• during manufacturing	13.1 kg	16.8 kg	28 kg	39.2 kg
• during operation	344.2 kg	375.8 kg	720 kg	1 252.1 kg
• after end of life	0.33 kg	0.42 kg	0.7 kg	0.97 kg
ambient conditions				
ambient temperature				
• during operation	-30 ... +70 °C; with natural convection a monotonically increasing start-up from -25 °C, safe start-up from -40 °C	-30 ... +70 °C; with natural convection a monotonically increasing start-up from -25 °C, safe start-up from -40 °C	-30 ... +70 °C; with natural convection a monotonically increasing start-up from -25 °C, safe start-up from -40 °C	-30 ... +70 °C; with natural convection a monotonically increasing start-up from -25 °C, safe start-up from -40 °C
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method				
type of electrical connection	push-in terminals	push-in terminals	push-in terminals	push-in terminals
• at input	L1, L2, L3, PE: push-in for 0.5 ... 6 mm²	L1, L2, L3, PE: push-in for 0.5 ... 6 mm²	L1, L2, L3, PE: push-in for 0.5 ... 10 mm²	L1, L2, L3, PE: push-in for 0.5 ... 10 mm²

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3433-7SC00-0AX0 SITOP PSU6200 24 V/5 A	6EP3434-7SC00-3AX0 SITOP PSU6200 24 V/10 A	6EP3436-7SC00-3AX0 SITOP PSU6200 24 V/20 A	6EP3437-7SC00-3AX0 SITOP PSU6200 24 V/40 A
• at output	+1, +2, -1, -2, -3: push-in for 0.5 ... 2.5 mm²	+1, +2, -1, -2, -3: push-in for 0.5 ... 2.5 mm²	+1, +2, -1, -2, -3: push-in for 0.5 ... 6 mm²	+1, +2, -1, -2, -3: push-in for 0.75 ... 16 mm²
• for auxiliary contacts	13, 14 (alarm signal): 1 push-in terminal each for 0.2 ... 1.5 mm²	13, 14 (alarm signal): 1 push-in terminal each for 0.2 ... 1.5 mm²	13, 14 (alarm signal): 1 push-in terminal each for 0.2 ... 1.5 mm²	13, 14 (alarm signal): 1 push-in terminal each for 0.2 ... 1.5 mm²
mechanical data				
width × height × depth of the enclosure	35 mm × 125 mm	45 mm × 155 mm	70 mm × 155 mm	95 mm × 155 mm
installation width × mounting height	35 mm	45 mm	70 mm	95 mm
required spacing				
• top	45 mm	45 mm	45 mm	45 mm
• bottom	45 mm	45 mm	45 mm	45 mm
• left	0 mm	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes	Yes	Yes	Yes
• S7 rail mounting	No	No	No	No
• wall mounting	No	No	No	No
housing can be lined up	Yes	Yes	Yes	Yes
net weight	0.7 kg	0.9 kg	1.5 kg	2.1 kg
accessories				
electrical accessories	Buffer module, redundancy module	Buffer module, redundancy module	Buffer module, redundancy module	Buffer module, redundancy module
mechanical accessories	Identification labels SIMATIC ET 200SP 6ES7193-6LF30-0AW0	Identification labels SIMATIC ET 200SP 6ES7193-6LF30-0AW0	Identification labels SIMATIC ET 200SP 6ES7193-6LF30-0AW0	Identification labels SIMATIC ET 200SP 6ES7193-6LF30-0AW0
further information internet links				
internet link				
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com
identification link	Yes; according to IEC 61406-1:2022	Yes; according to IEC 61406-1:2022		
additional information				
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3433-7SC00-0AX0 SITOP PSU6200 24 V/5 A	6EP3434-7SC00-3AX0 SITOP PSU6200 24 V/10 A	6EP3436-7SC00-3AX0 SITOP PSU6200 24 V/20 A	6EP3437-7SC00-3AX0 SITOP PSU6200 24 V/40 A
security information				
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

More information

Select the appropriate power supply quickly and easily with the TIA Selection Tool:

http://www.siemens.com/tst

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Overview

SITOP PSU6200 3-phase, 48 V family

Stabilized 3-phase power supplies with 400 to 500 V AC input in two power levels.

Product highlights

- 3-phase, 48 V DC/5 A, 10 A and 20 A
- Can be expanded with SITOP RED1200 redundancy modules
  - Slim width
  - High dielectric strength
  - In SITOP PSU6200 design
- Expandable with SITOP SEL1200 48 V/4 x 10 A selectivity module
  - Switching characteristic
  - With monitoring interface
  - In PSU6200 design

Selection and ordering data

SITOP PSU6200 3-phase, 48 V DC/5 A Stabilized power supply Input: 400 ... 500 V AC Output: 48 V DC/5 A	**6EP3444-7SB00-3AX0**
SITOP PSU6200 3-phase, 48 V DC/10 A Stabilized power supply Input: 400 ... 500 V AC Output: 48 V DC/10 A	**6EP3446-7SB00-3AX0**
SITOP PSU6200 3-phase, 48 V DC/20 A Stabilized power supply Input: 400 ... 500 V AC Output: 48 V DC/20 A	**6EP3447-7SB00-3AX0**

Accessories

SITOP RED1200 redundancy module Input/output: 12 V DC, 24 V, 48 V/20 A (maximum total current) Suitable for decoupling two SITOP power supplies with a maximum of 10 A output current each	**6EP4346-7RB00-0AX0**
SITOP RED1200 redundancy module Input/output: 12 V DC, 24 V, 48 V/40 A (maximum total current) Suitable for decoupling two SITOP power supplies with a maximum of 20 A output current each	**6EP4347-7RB00-0AX0**
SITOP SEL1200 48 V/4 x 10 A selectivity module Selectivity module 4-channel with switching characteristic Input: 48 V DC/40 A Output: 48 V DC/4 x 10 A Threshold value adjustable 1-10 A, with monitoring interface	**6EP4448-7FB00-3CX0**
SIMATIC ET 200SP labels 160 equipment labeling plates, 10 sheets (160 plates)	**6ES7193-6LF30-0AW0**

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Technical specifications

Article number product brand name type of current supply	6EP3444-7SB00-3AX0 SITOP PSU6200 48 V/5 A	6EP3446-7SB00-3AX0 SITOP PSU6200 48 V/10 A	6EP3447-7SB00-3AX0 SITOP PSU6200 48 V/20 A
input			
type of the power supply network	3-phase AC or DC	3-phase AC or DC	3-phase AC or DC
supply voltage at AC			
• minimum rated value	400 V	400 V	400 V
• maximum rated value	500 V	500 V	500 V
• initial value	323 V	323 V	323 V
• full-scale value	576 V	576 V	576 V
input voltage at DC	450 ... 600 V	450 ... 600 V	450 ... 600 V
buffering time for rated value of the output current in the event of power failure minimum	30 ms	25 ms	18 ms
operating condition of the mains buffering	at Vin = 400 V	at Vin = 400 V	at Vin = 400 V
line frequency	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz
line frequency	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz
input current			
• at rated input voltage 400 V	0.39 A	0.77 A	1.5 A
• at rated input voltage 500 V	0.31 A	0.62 A	1.2 A
current limitation of inrush current at 25 °C maximum	12 A	17 A	10 A
fuse protection type in the feeder	three-poled coupled circuit breaker from 4 A characteristic C to 16 A characteristic C or circuit breaker 3RV2011-1EA10 (setting 4 A) or 3RV2711-1ED10 (UL 489)	three-poled coupled circuit breaker from 4 A characteristic C to 16 A characteristic C or circuit breaker 3RV2011-1EA10 (setting 4 A) or 3RV2711-1ED10 (UL 489)	three-poled coupled circuit breaker from 4 A characteristic C to 16 A characteristic C or circuit breaker 3RV2011-1EA10 (setting 4 A) or 3RV2711-1ED10 (UL 489)
output			
voltage curve at output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
number of outputs	1	1	1
output voltage at DC rated value	48 V	48 V	48 V
output voltage			
• at output 1 at DC rated value	48 V	48 V	48 V
	48 V	48 V	48 V
output voltage adjustable	Yes; via potentiometer	Yes; via potentiometer	Yes; via potentiometer
adjustable output voltage	48 ... 56 V; max. 240 W (288 W up to 45°C)	48 ... 56 V; max. 480 W (576 W up to 45°C)	48 ... 56 V; max. 960 W (1152 W up to 45°C)
relative control precision of the output voltage			
• on slow fluctuation of input voltage	0.2 %	0.3 %	0.2 %
• on slow fluctuation of ohm loading	0.2 %	0.3 %	0.1 %
residual ripple			
• maximum	40 mV	40 mV	100 mV
• typical	10 mV	10 mV	80 mV
voltage peak			
• maximum	40 mV	30 mV	80 mV
• typical	10 mV	20 mV	30 mV
display version for normal operation	Green LED for 48 V OK	Green LED for 48 V OK	Green LED for 48 V OK
type of signal at output	Electronic contact (NO contact, contact rating 30 V DC/0.1 A) for DC O.K. or diagnostic interface	Electronic contact (NO contact, contact rating 30 V DC/0.1 A) for DC O.K. or diagnostic interface	Electronic contact (NO contact, contact rating 30 V DC/0.1 A) for DC O.K. or diagnostic interface
behavior of the output voltage when switching on	Overshoot of Vout < 2 %	Overshoot of Vout < 2 %	Overshoot of Vout < 1 %
response delay maximum	0.5 s	0.5 s	0.5 s
voltage increase time of the output voltage			
• typical	200 ms	200 ms	200 ms
output current			
• rated value	5 A	10 A	20 A
• rated range	0 ... 5 A; 6 A up to +45°C; +60 ... +70 °C: Derating 3%/K	0 ... 10 A; 12 A up to +45°C; +60 ... +70 °C: Derating 3%/K	0 ... 20 A; 24 A up to +45°C; +60 ... +70 °C: Derating 3%/K

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3444-7SB00-3AX0 SITOP PSU6200 48 V/5 A	6EP3446-7SB00-3AX0 SITOP PSU6200 48 V/10 A	6EP3447-7SB00-3AX0 SITOP PSU6200 48 V/20 A
	5 A	10 A	20 A
supplied active power typical	240 W	480 W	960 W
short-term overload current			
• on short-circuiting during the start-up typical	7.5 A	15 A	30 A
• at short-circuit during operation typical	7.5 A	15 A	30 A
parallel switching of outputs	can be set with DIP switch	can be set with DIP switch	can be set with DIP switch
bridging of equipment	Yes; switchable characteristic	Yes; switchable characteristic	Yes; switchable characteristic
number of parallel-switched equipment resources	2	2	2
efficiency			
efficiency in percent	95.6 %	96.2 %	96.6 %
power loss [W]			
• at rated output voltage for rated value of the output current typical	11 W	19 W	32 W
• during no-load operation maximum	2.9 W	3 W	4.5 W
closed-loop control			
relative control precision of the output voltage at load step of resistive load 10/90/10 % typical	1 %	3 %	4 %
setting time			
• load step 10 to 90% typical	5 ms	5 ms	4 ms
• load step 90 to 10% typical	5 ms	5 ms	10 ms
• maximum	5 ms	5 ms	10 ms
protection and monitoring			
design of the overvoltage protection	< 60 V	< 60 V	< 60 V
property of the output short-circuit proof	Yes	Yes	Yes
design of short-circuit protection	Shutdown and periodic restart attempts	Shutdown and periodic restart attempts	Shutdown and periodic restart attempts
• typical	7.5 A	15 A	24 A
overcurrent overload capability			
• in normal operation	overload capability 150 % Iout rated up to 5 s/min	overload capability 150 % Iout rated up to 5 s/min	overload capability 150 % Iout rated up to 5 s/min
safety			
galvanic isolation between input and output	Yes	Yes	Yes
galvanic isolation	Safety extra low output voltage Vout according to EN 60950-1	Safety extra low output voltage Vout according to EN 60950-1	Safety extra low output voltage Vout according to EN 60950-1
operating resource protection class	Class I	Class I	Class I
leakage current			
• maximum	3.5 mA	3.5 mA	3.5 mA
protection class IP	IP20	IP20	IP20
standard			
• for emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
• for mains harmonics limitation	EN 61000-3-2	EN 61000-3-2	EN 61000-3-2
• for interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals			
certificate of suitability			
• CE marking	Yes	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)
• EAC approval	Yes	Yes	Yes

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3444-7SB00-3AX0 SITOP PSU6200 48 V/5 A	6EP3446-7SB00-3AX0 SITOP PSU6200 48 V/10 A	6EP3447-7SB00-3AX0 SITOP PSU6200 48 V/20 A
• Regulatory Compliance Mark (RCM)	Yes	Yes	Yes
• NEC Class 2	No	No	No
• SEMI F47	Yes	Yes	Yes
type of certification			
• BIS	Yes; R-41188271	Yes; R-41188271	Yes; R-41183539
• CB-certificate	Yes	Yes	Yes
standards, specifications, approvals hazardous environments			
certificate of suitability			
• IECEx	No	No	No
• ATEX	No	No	No
• ULhazloc approval	No	No	No
• cCSAus, Class 1, Division 2	No	No	No
• FM registration	No	No	No
standards, specifications, approvals marine classification			
shipbuilding approval	Yes	Yes	Yes
Marine classification association			
• American Bureau of Shipping Europe Ltd. (ABS)	Yes	Yes	Yes
• French marine classification society (BV)	No	No	No
• Det Norske Veritas (DNV)	No; in preparation	No; in preparation	No; in preparation
• Lloyds Register of Shipping (LRS)	No	No	No
standards, specifications, approvals Environmental Product Declaration			
Environmental Product Declaration	Yes	Yes	Yes
Global Warming Potential [CO2 eq]			
• total	361.6 kg	623.7 kg	1 042.1 kg
• during manufacturing	16.8 kg	28 kg	39.2 kg
• during operation	344.2 kg	594.7 kg	1 001.5 kg
• after end of life	0.42 kg	0.7 kg	0.97 kg
ambient conditions			
ambient temperature			
• during operation	-30 ... +70 °C; with natural convection a monotonically increasing start-up from -25 °C, safe start-up from -40 °C	-30 ... +70 °C; with natural convection a monotonically increasing start-up from -25 °C, safe start-up from -40 °C	-30 ... +70 °C; with natural convection a monotonically increasing start-up from -25 °C, safe start-up from -40 °C
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method			
type of electrical connection	push-in terminals	push-in terminals	push-in terminals
• at input	L1, L2, L3, PE: push-in for 0.5 ... 6 mm²	L1, L2, L3, PE: push-in for 0.5 ... 10 mm²	L1, L2, L3, PE: push-in for 0.5 ... 10 mm²
• at output	+1, +2, -1, -2, -3: push-in for 0.5 ... 2.5 mm²	+1, +2, -1, -2, -3: push-in for 0.5 ... 6 mm²	+1, +2, -1, -2, -3: push-in for 0.75 ... 16 mm²
• for auxiliary contacts	13, 14 (alarm signal): 1 push-in terminal each for 0.2 ... 1.5 mm²	13, 14 (alarm signal): 1 push-in terminal each for 0.2 ... 1.5 mm²	13, 14 (alarm signal): 1 push-in terminal each for 0.2 ... 1.5 mm²
mechanical data			
width × height × depth of the enclosure	45 mm × 155 mm	70 mm × 155 mm	95 mm × 155 mm
installation width × mounting height	45 mm	70 mm	95 mm

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3444-7SB00-3AX0 SITOP PSU6200 48 V/5 A	6EP3446-7SB00-3AX0 SITOP PSU6200 48 V/10 A	6EP3447-7SB00-3AX0 SITOP PSU6200 48 V/20 A
required spacing			
• top	45 mm	45 mm	45 mm
• bottom	45 mm	45 mm	45 mm
• left	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes	Yes	Yes
• S7 rail mounting	No	No	No
• wall mounting	No	No	No
housing can be lined up	Yes	Yes	Yes
net weight	0.9 kg	1.5 kg	2.1 kg
accessories			
electrical accessories	Redundancy module	Redundancy module	Buffer module, redundancy module
mechanical accessories			Identification labels SIMATIC ET 200SP 6ES7193-6LF30-0AW0
further information internet links			
internet link			
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com
identification link	Yes; according to IEC 61406-1:2022		
additional information			
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information			
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3444-7SB00-3AX0 SITOP PSU6200 48 V/5 A	6EP3446-7SB00-3AX0 SITOP PSU6200 48 V/10 A	6EP3447-7SB00-3AX0 SITOP PSU6200 48 V/20 A
	industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

More information

Select the appropriate power supply quickly and easily with the TIA Selection Tool:

http://www.siemens.com/tst

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Overview

The powerful standard power supply

The single-phase and three-phase SITOP smart (SITOP PSU100S, PSU300S) are the universal and powerful standard power supplies for machine and plant construction. Despite their compact design, they offer an excellent overload response: Thanks to a power boost of 150%, loads with high power consumption can be connected without any problems and the permanent overload capability of the 24 V power supplies from 120% to 45 °C offers power reserves in case of expansions. The high degree of efficiency results in low energy consumption and minimal heat generation inside the control cabinet.

To further increase the 24 V availability, the SITOP smart power supplies can be combined with **buffer**, **DC UPS**, **redundancy** and **selectivity modules**.

Product highlights of the product line

- Compact design - no lateral clearances required
- Extra power with 1.5 times the rated current (5 s/min) for brief, operational overload
- Adjustable output voltage for compensating voltage drops
- Signaling contact for easy integration in the plant monitoring system
- Wide temperature range from -25 or -10 to +70 °C
- Comprehensive certifications, such as cULus, cCSAus and DNV GL

More information

Select the appropriate power supply quickly and easily with the TIA Selection Tool:

http://www.siemens.com/tst

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Overview

Stabilized single-phase, universal and powerful standard power supplies for machine and plant construction.

Product highlights

- Single-phase, 12 V DC/7 A and 14 A
- Input voltage 120 V and 230 V AC with automatic range switching
- Up to 87% efficiency
- cULus, cCSAus and DNV GL certifications

Selection and ordering data

SITOP PSU100S 1-phase, 12 V DC/7 A	
Stabilized power supply Input: 120/230 V AC Output: 12 V DC/7 A	**6EP1322-2BA00**
SITOP PSU100S 1-phase, 12 V DC/14 A	
Stabilized power supply Input: 120/230 V AC Output: 12 V DC/14 A	**6EP1323-2BA00**

Accessories

SITOP RED1200 redundancy modules	For more information, visit: www.siemens.com/sitop-redundancy/mall

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Technical specifications

Article number product brand name type of current supply	6EP1322-2BA00 SITOP PSU100S 12 V/7 A	6EP1323-2BA00 SITOP PSU100S 12 V/14 A
input		
type of the power supply network	1-phase AC	1-phase AC
supply voltage at AC	Automatic range selection	Automatic range selection
supply voltage	120 V/230 V	120 V/230 V
input voltage 1 at AC	85 ... 132 V	85 ... 132 V
input voltage 2 at AC	170 ... 264 V	170 ... 264 V
wide range input	No	No
overvoltage overload capability	2.3 × Vin rated, 1.3 ms	2.3 × Vin rated, 1.3 ms
buffering time for rated value of the output current in the event of power failure minimum	20 ms	20 ms
operating condition of the mains buffering	at Vin = 93/187 V	at Vin = 93/187 V
line frequency	50 Hz/60 Hz	50 Hz/60 Hz
line frequency	47 ... 63 Hz	47 ... 63 Hz
input current		
• at rated input voltage 120 V	1.73 A	3.24 A
• at rated input voltage 230 V	0.99 A	1.41 A
current limitation of inrush current at 25 °C maximum	45 A	60 A
fuse protection type	T 3,15 A/250 V (not accessible)	T 6.3 A/250 V (not accessible)
fuse protection type in the feeder	Recommended miniature circuit breaker: from 6 A characteristic C	Recommended miniature circuit breaker: from 10 A characteristic C
output		
voltage curve at output	Controlled, isolated DC voltage	Controlled, isolated DC voltage
output voltage at DC rated value	12 V	12 V
output voltage		
• at output 1 at DC rated value	12 V	12 V
	12 V	12 V
output voltage adjustable	Yes; via potentiometer	Yes; via potentiometer
adjustable output voltage	11.5 ... 15.5 V	11.5 ... 15.5 V
relative control precision of the output voltage		
• on slow fluctuation of input voltage	0.1 %	0.1 %
• on slow fluctuation of ohm loading	1 %	1 %
residual ripple		
• maximum	150 mV	150 mV
• typical	20 mV	20 mV
voltage peak		
• maximum	240 mV	240 mV
• typical	100 mV	100 mV
display version for normal operation	Green LED for 12 V OK	Green LED for 12 V OK
type of signal at output	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for 12 V OK	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for 12 V OK
behavior of the output voltage when switching on	Overshoot of Vout < 3 %	Overshoot of Vout < 3 %
response delay maximum	0.3 s	0.3 s
voltage increase time of the output voltage		
• typical	10 ms	10 ms
output current		
• rated value	7 A	14 A
• rated range	0 ... 7 A; +50 ... +70 °C: Derating 0.75%/K	0 ... 14 A; +50 ... +70 °C: Derating 3.5%/K
	5.1 ... 9.9 A	10.1 ... 19.9 A
supplied active power typical	84 W	168 W
short-term overload current		
• on short-circuiting during the start-up typical	25 A	40 A

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1322-2BA00 SITOP PSU100S 12 V/7 A	6EP1323-2BA00 SITOP PSU100S 12 V/14 A
• at short-circuit during operation typical	25 A	40 A
duration of overloading capability for excess current		
• on short-circuiting during the start-up	800 ms	800 ms
• at short-circuit during operation	800 ms	800 ms
bridging of equipment	Yes	Yes
number of parallel-switched equipment resources	2	2
efficiency		
efficiency in percent	84 %	87 %
power loss [W]		
• at rated output voltage for rated value of the output current typical	15 W	24 W
closed-loop control		
relative control precision of the output voltage at load step of resistive load 10/90/10 % typical	5 %	5 %
setting time		
• load step 10 to 90% typical	1 ms	1 ms
• load step 90 to 10% typical	1 ms	1 ms
protection and monitoring		
design of the overvoltage protection	< 20 V	< 20 V
property of the output short-circuit proof	Yes	Yes
design of short-circuit protection	Constant current characteristic	Constant current characteristic
response value current limitation	7 ... 8.8 A	14 ... 16.4 A
overcurrent overload capability		
• in normal operation	overload capability 150 % Iout rated up to 5 s/min	overload capability 150 % Iout rated up to 5 s/min
enduring short circuit current RMS value		
• typical	8.8 A	16.4 A
safety		
galvanic isolation between input and output	Yes	Yes
galvanic isolation	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178
operating resource protection class	Class I	Class I
leakage current		
• maximum	3.5 mA	3.5 mA
• typical	0.4 mA	0.8 mA
protection class IP	IP20	IP20
standard		
• for emitted interference	EN 55022 Class B	EN 55022 Class B
• for mains harmonics limitation	EN 61000-3-2	EN 61000-3-2
• for interference immunity	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals		
certificate of suitability		
• CE marking	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
• EAC approval	Yes	Yes
• NEC Class 2	No	No
type of certification		
• CB-certificate	Yes	Yes
MTBF at 40 °C	1 998 441 h	1 614 510 h

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1322-2BA00 SITOP PSU100S 12 V/7 A	6EP1323-2BA00 SITOP PSU100S 12 V/14 A
standards, specifications, approvals hazardous environments		
certificate of suitability		
• IECEx	No	No
• ATEX	No	No
• ULhazloc approval	No	No
• cCSAus, Class 1, Division 2	No	No
• FM registration	No	No
standards, specifications, approvals marine classification		
shipbuilding approval	Yes	Yes
Marine classification association		
• American Bureau of Shipping Europe Ltd. (ABS)	No	No
• French marine classification society (BV)	No	No
• Det Norske Veritas (DNV)	Yes	Yes
• Lloyds Register of Shipping (LRS)	No	No
standards, specifications, approvals Environmental Product Declaration		
Environmental Product Declaration	Yes	Yes
Global Warming Potential [CO2 eq]		
• total	482.5 kg	769.3 kg
• during manufacturing	12.9 kg	18.1 kg
• during operation	469.1 kg	750.6 kg
• after end of life	0.35 kg	0.49 kg
ambient conditions		
ambient temperature		
• during operation	-25 ... +70 °C; with natural convection	-25 ... +70 °C; with natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method		
type of electrical connection	screw terminal	screw terminal
• at input	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm² single-core/finely stranded	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm² single-core/finely stranded
• at output	+, -: 2 screw terminals each for 0.5 ... 2.5 mm²	+, -: 2 screw terminals each for 0.5 ... 2.5 mm²
• for auxiliary contacts	Alarm signals: 2 screw terminals for 0.5 ... 2.5 mm²	Alarm signals: 2 screw terminals for 0.5 ... 2.5 mm²
• for signaling contact	2 screw terminals for 0.5 ... 2.5 mm²	2 screw terminals for 0.5 ... 2.5 mm²
mechanical data		
width × height × depth of the enclosure	50 mm × 120 mm	70 mm × 120 mm
installation width × mounting height	50 mm	70 mm
required spacing		
• top	50 mm	50 mm
• bottom	50 mm	50 mm
• left	0 mm	0 mm
• right	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes	Yes
• S7 rail mounting	No	No
• wall mounting	No	No
housing can be lined up	Yes	Yes
net weight	0.5 kg	0.7 kg

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1322-2BA00 SITOP PSU100S 12 V/7 A	6EP1323-2BA00 SITOP PSU100S 12 V/14 A
further information internet links		
internet link		
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com
additional information		
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information		
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

More information

Select the appropriate power supply quickly and easily with the TIA Selection Tool:

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Overview

Stabilized single-phase, universal and powerful standard power supplies for machine and plant construction.

To further increase the 24 V availability, the SITOP smart power supplies can be combined with **buffer**, **DC UPS**, **redundancy** and **selectivity modules**.

Product highlights

- Single-phase, 24 V DC/2.5 A, 5 A, 10 A and 20 A
- Input voltage 120 V and 230 V AC with automatic range switching
- Permanent overload capability with 1.2 times the rated current up to 45 °C ambient temperature
- Up to 90% efficiency
- cULus, cCSAus and DNV GL certifications

Selection and ordering data

SITOP PSU100S 1-phase, 24 V DC/2.5 A Stabilized power supply Input: 120/230 V AC Output: 24 V DC/2.5 A	**6EP1332-2BA20**
SITOP PSU100S 1-phase, 24 V DC/5 A Stabilized power supply Input: 120/230 V AC Output: 24 V DC/5 A	**6EP1333-2BA20**
SITOP PSU100S 1-phase, 24 V DC/10 A Stabilized power supply Input: 120/230 V AC Output: 24 V DC/10 A	**6EP1334-2BA20**
SITOP PSU100S 1-phase, 24 V DC/20 A Stabilized power supply Input: 120/230 V AC Output: 24 V DC/20 A	**6EP1336-2BA10**

Accessories

SITOP redundancy modules	For more information, visit: www.siemens.com/sitop-redundancy/mall
SITOP selectivity modules	For more information, visit: www.siemens.com/sitop-selectivity/mall
SITOP buffer modules	For more information, visit: www.siemens.com/sitop-buffering/mall
SITOP DC UPS	For more information, visit: www.siemens.com/sitop-ups/mall
Unit labeling plate	**3RT2900-1SB20**

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Technical specifications

Article number product brand name type of current supply	6EP1332-2BA20 SITOP PSU100S 24 V/2.5 A	6EP1333-2BA20 SITOP PSU100S 24 V/5 A	6EP1334-2BA20 SITOP PSU100S 24 V/10 A	6EP1336-2BA10 SITOP PSU100S 24 V/20 A
input				
type of the power supply network	1-phase AC	1-phase AC	1-phase AC	1-phase AC
supply voltage at AC	Automatic range selection	Automatic range selection	Automatic range selection	Automatic range selection
supply voltage	120 V/230 V	120 V/230 V	120 V/230 V	120 V/230 V
input voltage 1 at AC	85 ... 132 V	85 ... 132 V	85 ... 132 V	85 ... 132 V
input voltage 2 at AC	170 ... 264 V	170 ... 264 V	170 ... 264 V	176 ... 264 V
wide range input	No	No	No	No
overvoltage overload capability	2.3 × Vin rated, 1.3 ms	2.3 × Vin rated, 1.3 ms	2.3 × Vin rated, 1.3 ms	2.3 × Vin rated, 1.3 ms
buffering time for rated value of the output current in the event of power failure minimum	20 ms	20 ms	20 ms	20 ms
operating condition of the mains buffering	at Vin = 93/187 V	at Vin = 93/187 V	at Vin = 93/187 V	at Vin = 120/230 V
line frequency	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz
line frequency	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz
input current				
• at rated input voltage 120 V	1.25 A	2.34 A	4.49 A	7.5 A
• at rated input voltage 230 V	0.74 A	1.36 A	1.91 A	3.5 A
current limitation of inrush current at 25 °C maximum	33 A	40 A	60 A	11 A
I2t value maximum	0.4 $A^2 \cdot s$	1 $A^2 \cdot s$	5.6 $A^2 \cdot s$	10 $A^2 \cdot s$
fuse protection type	T 3,15 A/250 V (not accessible)	T 3,15 A/250 V (not accessible)	T 6.3 A/250 V (not accessible)	T 10 A (not accessible)
fuse protection type in the feeder	Recommended miniature circuit breaker: from 3 A characteristic C	Recommended miniature circuit breaker: from 6 A characteristic C	Recommended miniature circuit breaker: from 10 A characteristic C	Recommended miniature circuit breaker: from 10 A characteristic C or circuit-breaker 3RV2411-1JA10 (120 V) or 3RV2411-1FA10 (230 V)
output				
voltage curve at output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
output voltage at DC rated value	24 V	24 V	24 V	24 V
output voltage				
• at output 1 at DC rated value	24 V	24 V	24 V	24 V
	24 V	24 V	24 V	24 V
output voltage adjustable	Yes; via potentiometer	Yes; via potentiometer	Yes; via potentiometer	Yes; via potentiometer
adjustable output voltage	22.8 ... 28 V	22.8 ... 28 V	22.8 ... 28 V	24 ... 28 V; max. 480 W
relative control precision of the output voltage				
• on slow fluctuation of input voltage	0.1 %	0.1 %	0.1 %	0.5 %
• on slow fluctuation of ohm loading	1 %	1 %	1 %	1 %
residual ripple				
• maximum	150 mV	150 mV	150 mV	150 mV
• typical	30 mV	30 mV	20 mV	
voltage peak				
• maximum	240 mV	240 mV	240 mV	240 mV
• typical	70 mV	140 mV	160 mV	
display version for normal operation	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK
type of signal at output	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"	Relay contact (NO contact, rating 50 V DC/ 0.3 A) for "24 V OK"
behavior of the output voltage when switching on	Overshoot of Vout < 3 %	Overshoot of Vout < 3 %	Overshoot of Vout < 3 %	No overshoot of Vout (soft start)
response delay maximum	0.3 s	0.3 s	0.3 s	1.5 s

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1332-2BA20 SITOP PSU100S 24 V/2.5 A	6EP1333-2BA20 SITOP PSU100S 24 V/5 A	6EP1334-2BA20 SITOP PSU100S 24 V/10 A	6EP1336-2BA10 SITOP PSU100S 24 V/20 A
voltage increase time of the output voltage				
• typical	15 ms	15 ms	20 ms	50 ms
• maximum				500 ms
output current				
• rated value	2.5 A	5 A	10 A	20 A
• rated range	0 ... 3 A; 3 A up to +45°C; +60 ... +70 °C: Derating 3%/K	0 ... 6 A; 6 A up to +45°C; +60 ... +70 °C: Derating 1.6%/K	0 ... 12 A; 12 A up to +45°C; +60 ... +70 °C: Derating 3%/K	0 ... 20 A; 24 A up to +45°C; +60 ... +70 °C: Derating 5%/K
	2.5 A	5 A	10 A	20 A
supplied active power typical	60 W	144 W	288 W	480 W
short-term overload current				
• on short-circuiting during the start-up typical	9 A	18 A	32 A	35 A
• at short-circuit during operation typical	8 A	18 A	32 A	35 A
duration of overloading capability for excess current				
• on short-circuiting during the start-up	800 ms	800 ms	1 000 ms	100 ms
• at short-circuit during operation	100 ms	800 ms	1 000 ms	100 ms
bridging of equipment	Yes	Yes	Yes	Yes
number of parallel-switched equipment resources	2	2	2	2
efficiency				
efficiency in percent	85 %	88 %	90 %	90 %
power loss [W]				
• at rated output voltage for rated value of the output current typical	10 W	16 W	25 W	53 W
closed-loop control				
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	0.3 %	0.3 %	0.3 %	1 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical				3 %
relative control precision of the output voltage at load step of resistive load 10/90/10 % typical	5 %	3 %	3 %	
setting time				
• load step 10 to 90% typical	1 ms	1 ms	1 ms	
• load step 90 to 10% typical	1 ms	1 ms	1 ms	
• maximum				10 ms
protection and monitoring				
design of the overvoltage protection	protection against over-voltage in case of internal fault Vout < 33 V	protection against over-voltage in case of internal fault Vout < 33 V	protection against over-voltage in case of internal fault Vout < 33 V	Yes, according to EN 60950-1
property of the output short-circuit proof	Yes	Yes	Yes	Yes
design of short-circuit protection	Constant current character-istic	Constant current character-istic	Constant current character-istic	Electronic shutdown, auto-matic restart
response value current limitation	3 ... 3.4 A	6 ... 7.1 A	12 ... 14.6 A	
• typical				21 A
overcurrent overload capability				
• in normal operation	overload capability 150 % Iout rated up to 5 s/min	overload capability 150 % Iout rated up to 5 s/min	overload capability 150 % Iout rated up to 5 s/min	overload capability 150 % Iout rated up to 5 s/min
enduring short circuit current RMS value				
• maximum				7 A
• typical	3.4 A	7.1 A	14.6 A	

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1332-2BA20 SITOP PSU100S 24 V/2.5 A	6EP1333-2BA20 SITOP PSU100S 24 V/5 A	6EP1334-2BA20 SITOP PSU100S 24 V/10 A	6EP1336-2BA10 SITOP PSU100S 24 V/20 A
safety				
galvanic isolation between input and output	Yes	Yes	Yes	Yes
galvanic isolation	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178
operating resource protection class	Class I	Class I	Class I	Class I
leakage current				
• maximum	3.5 mA	3.5 mA	3.5 mA	3.5 mA
• typical	0.4 mA	0.4 mA	0.8 mA	1 mA
protection class IP	IP20	IP20	IP20	IP20
standard				
• for emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
• for mains harmonics limitation	not applicable	EN 61000-3-2	EN 61000-3-2	EN 61000-3-2
• for interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals				
certificate of suitability				
• CE marking	Yes	Yes	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
• EAC approval	Yes	Yes	Yes	Yes
• NEC Class 2	No	No	No	No
type of certification				
• BIS		Yes; R-41188271	Yes; R-41188271	Yes; R-41183539
• CB-certificate	Yes	Yes	Yes	Yes
MTBF at 40 °C	1 804 044 h	1 998 441 h	1 614 510 h	1 778 916 h
standards, specifications, approvals hazardous environments				
certificate of suitability				
• IECEx	No	No	No	No
• ATEX	No	No	No	No
• ULhazloc approval	No	No	No	No
• cCSAus, Class 1, Division 2	No	No	No	No
• FM registration	No	No	No	No
standards, specifications, approvals marine classification				
shipbuilding approval	Yes	Yes	Yes	Yes
Marine classification association				
• American Bureau of Shipping Europe Ltd. (ABS)	No	No	No	No
• French marine classification society (BV)	Yes	Yes	Yes	No
• Det Norske Veritas (DNV)	Yes	Yes	Yes	Yes
• Lloyds Register of Shipping (LRS)	No	No	No	No
standards, specifications, approvals Environmental Product Declaration				
Environmental Product Declaration	Yes	Yes	Yes	Yes
Global Warming Potential [CO2 eq]				

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1332-2BA20 SITOP PSU100S 24 V/2.5 A	6EP1333-2BA20 SITOP PSU100S 24 V/5 A	6EP1334-2BA20 SITOP PSU100S 24 V/10 A	6EP1336-2BA10 SITOP PSU100S 24 V/20 A
• total	321.3 kg	513.7 kg	803.2 kg	1 707.2 kg
• during manufacturing	8.3 kg	12.9 kg	20.7 kg	47.4 kg
• during operation	312.7 kg	500.4 kg	781.8 kg	1 658.2 kg
• after end of life	0.23 kg	0.35 kg	0.57 kg	0.72 kg
ambient conditions				
ambient temperature				
• during operation	-25 ... +70 °C; with natural convection	-25 ... +70 °C; with natural convection	-25 ... +70 °C; with natural convection	0 ... 70 °C; with natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method				
type of electrical connection	screw terminal	screw terminal	screw terminal	screw terminal
• at input	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm² single-core/finely stranded	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm² single-core/finely stranded	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm² single-core/finely stranded	L1, N, PE: 1 screw terminal each for 0.2 ... 4 mm² single-core/finely stranded
• at output	+, -: 2 screw terminals each for 0.5 ... 2.5 mm²	+, -: 2 screw terminals each for 0.5 ... 2.5 mm²	+, -: 2 screw terminals each for 0.5 ... 2.5 mm²	+, -: 2 screw terminals each for 0.2 ... 4 mm²
• for auxiliary contacts	Alarm signals: 2 screw terminals for 0.5 ... 2.5 mm²	Alarm signals: 2 screw terminals for 0.5 ... 2.5 mm²	Alarm signals: 2 screw terminals for 0.5 ... 2.5 mm²	13, 14 (alarm signal): 1 screw terminal each for 0.14 ... 1.5 mm²
• for signaling contact	2 screw terminals for 0.5 ... 2.5 mm²	2 screw terminals for 0.5 ... 2.5 mm²	2 screw terminals for 0.5 ... 2.5 mm²	
mechanical data				
width × height × depth of the enclosure	32.5 mm × 120 mm	50 mm × 120 mm	70 mm × 120 mm	115 mm × 150 mm
installation width × mounting height	32.5 mm	50 mm	70 mm	120 mm
required spacing				
• top	50 mm	50 mm	50 mm	50 mm
• bottom	50 mm	50 mm	50 mm	50 mm
• left	0 mm	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes	Yes	Yes	Yes
• S7 rail mounting	No	No	No	No
• wall mounting	No	No	No	No
housing can be lined up	Yes	Yes	Yes	Yes
net weight	0.32 kg	0.5 kg	0.8 kg	2.4 kg
accessories				
electrical accessories	Buffer module	Buffer module	Buffer module	Buffer module
mechanical accessories	Device identification label 20 mm × 7 mm, pale turquoise 3RT1900-1SB20	Device identification label 20 mm × 7 mm, pale turquoise 3RT1900-1SB20	Device identification label 20 mm × 7 mm, pale turquoise 3RT1900-1SB20	Device identification label 20 mm × 7 mm, pale turquoise 3RT1900-1SB20
further information internet links				
internet link				
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1332-2BA20 SITOP PSU100S 24 V/2.5 A	6EP1333-2BA20 SITOP PSU100S 24 V/5 A	6EP1334-2BA20 SITOP PSU100S 24 V/10 A	6EP1336-2BA10 SITOP PSU100S 24 V/20 A
additional information				
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information				
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. 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To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

More information

Select the appropriate power supply quickly and easily with the TIA Selection Tool:

http://www.siemens.com/tst

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Overview

Stabilized 3-phase, universal and powerful standard power supplies for machine and plant construction with wide-range input for world-wide use.

To further increase the 24 V availability, the SITOP smart power supplies can be combined with **buffer**, **DC UPS**, **redundancy** and **selectivity modules**.

Product highlights

- 3-phase, 24 V DC/5 A, 10 A, 20 A and 40 A
- Wide-range input, input voltage 340 ... 550 V AC
- Permanent overload capability with 1.2 times the rated current up to 45 °C ambient temperature
- Up to 91.5% efficiency
- cULus, cCSAus and DNV GL certifications

Selection and ordering data

SITOP PSU300S 3-phase, 24 V DC/5 A Stabilized power supply Input: 400 ... 500 V 3 AC Output: 24 V DC/5 A	**6EP1433-2BA20**
SITOP PSU300S 3-phase, 24 V DC/10 A Stabilized power supply Input: 400 ... 500 V 3 AC Output: 24 V DC/10 A	**6EP1434-2BA20**
SITOP PSU300S 3-phase, 24 V DC/20 A Stabilized power supply Input: 400 ... 500 V 3 AC Output: 24 V DC/20 A	**6EP1436-2BA10**
SITOP PSU300S 3-phase, 24 V DC/40 A Stabilized power supply Input: 400 ... 500 V 3 AC Output: 24 V DC/40 A	**6EP1437-2BA20**

Accessories

SITOP redundancy modules	For more information, visit: www.siemens.com/sitop-redundancy/mall
SITOP selectivity modules	For more information, visit: www.siemens.com/sitop-selectivity/mall
SITOP buffer modules	For more information, visit: www.siemens.com/sitop-buffering/mall
Device identification label	**3RT2900-1SB20**

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Technical specifications

Article number product brand name type of current supply	6EP1433-2BA20 SITOP PSU300S 24 V/5 A	6EP1434-2BA20 SITOP PSU300S 24 V/10 A	6EP1436-2BA10 SITOP PSU300S 24 V/20 A	6EP1437-2BA20 SITOP PSU300S 24 V/40 A
input				
type of the power supply network	3-phase AC	3-phase AC	3-phase AC	3-phase AC
supply voltage at AC				
• minimum rated value	400 V	400 V	400 V	400 V
• maximum rated value	500 V	500 V	500 V	500 V
• initial value	340 V	340 V	340 V	340 V
• full-scale value	550 V	550 V	550 V	550 V
wide range input	Yes	Yes	Yes	Yes
buffering time for rated value of the output current in the event of power failure minimum	18 ms	7 ms	6 ms	6 ms
operating condition of the mains buffering	at Vin = 400 V	at Vin = 400 V	at Vin = 400 V	at Vin = 400 V
line frequency	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz
line frequency	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz
input current				
• at rated input voltage 400 V	0.45 A	0.7 A	1.2 A	2 A
• at rated input voltage 500 V	0.4 A	0.6 A	1 A	1.7 A
current limitation of inrush current at 25 °C maximum	20 A	20 A	36 A	60 A
I2t value maximum	0.5 $A^2 \cdot s$	0.5 $A^2 \cdot s$	0.9 $A^2 \cdot s$	3.4 $A^2 \cdot s$
fuse protection type	none	none	none	none
fuse protection type in the feeder	Required: 3-pole connected miniature circuit breaker 3 ... 16 A characteristic C or circuit breaker 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10 (UL 489-listed, DIVQ)	Required: 3-pole connected miniature circuit breaker 3 ... 16 A characteristic C or circuit breaker 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10 (UL 489-listed, DIVQ)	Required: 3-pole connected miniature circuit breaker 6 ... 16 A characteristic C or circuit breaker 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10 (UL 489-listed, DIVQ)	Required: 3-pole connected miniature circuit breaker 10 ... 16 A characteristic C or circuit breaker 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10 (UL 489-listed, DIVQ)
output				
voltage curve at output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
output voltage at DC rated value	24 V	24 V	24 V	24 V
output voltage				
• at output 1 at DC rated value	24 V	24 V	24 V	24 V
	24 V	24 V	24 V	24 V
output voltage adjustable	Yes; via potentiometer	Yes; via potentiometer	Yes; via potentiometer	Yes; via potentiometer
adjustable output voltage	24 ... 28 V; max. 120 W	24 ... 28 V; max. 240 W	24 ... 28 V; max. 480 W	24 ... 28 V; max. 960 W
relative control precision of the output voltage				
• on slow fluctuation of input voltage	0.1 %	0.1 %	0.5 %	1 %
• on slow fluctuation of ohm loading	0.1 %	0.15 %	1 %	2 %
residual ripple				
• maximum	200 mV	200 mV	150 mV	150 mV
voltage peak				
• maximum	240 mV	240 mV	240 mV	240 mV
display version for normal operation	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK
type of signal at output	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"
behavior of the output voltage when switching on	Overshoot of Vout < 5 %	Overshoot of Vout < 5 %	No overshoot of Vout (soft start)	No overshoot of Vout (soft start)
response delay maximum	1.5 s	1.5 s	1.5 s	1.5 s
voltage increase time of the output voltage				
• typical	60 ms	50 ms	30 ms	15 ms

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1433-2BA20 SITOP PSU300S 24 V/5 A	6EP1434-2BA20 SITOP PSU300S 24 V/10 A	6EP1436-2BA10 SITOP PSU300S 24 V/20 A	6EP1437-2BA20 SITOP PSU300S 24 V/40 A
• maximum	500 ms	500 ms	500 ms	500 ms
output current				
• rated value	5 A	10 A	20 A	40 A
• rated range	0 ... 5 A; 6 A up to +45°C; +60 ... +70 °C: Derating 5%/K	0 ... 10 A; 12 A up to +45°C; +60 ... +70 °C: Derating 5%/K	0 ... 20 A	0 ... 40 A; 48 A up to +45°C; +60 ... +70 °C: Derating 3%/K
	5 A	10 A	20 A	40 A
supplied active power typical	120 W	240 W	480 W	960 W
short-term overload current				
• on short-circuiting during the start-up typical			35 A	65 A
• at short-circuit during operation typical			35 A	65 A
duration of overloading capability for excess current				
• on short-circuiting during the start-up			100 ms	100 ms
• at short-circuit during operation			100 ms	100 ms
bridging of equipment	Yes	Yes	Yes	Yes
number of parallel-switched equipment resources	2	2	2	2
efficiency				
efficiency in percent	89.5 %	91 %	91 %	91.5 %
power loss [W]				
• at rated output voltage for rated value of the output current typical	14 W	23 W	47 W	89 W
closed-loop control				
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	1 %	1 %	3 %	3 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	1 %	1 %	3 %	1.5 %
setting time				
• load step 50 to 100% typical	3 ms	3 ms	2 ms	1 ms
• load step 100 to 50% typical	3 ms	3 ms	2 ms	1 ms
relative control precision of the output voltage at load step of resistive load 10/90/10 % typical	3 %	3 %	3 %	3 %
setting time				
• load step 10 to 90% typical	4 ms	4 ms	2 ms	1 ms
• load step 90 to 10% typical	4 ms	4 ms	2 ms	1 ms
• maximum	10 ms	10 ms	10 ms	10 ms
protection and monitoring				
design of the overvoltage protection	protection against overvoltage in case of internal fault Vout < 35 V	protection against overvoltage in case of internal fault Vout < 35 V	protection against overvoltage in case of internal fault Vout < 35 V	protection against overvoltage in case of internal fault Vout < 35 V
property of the output short-circuit proof	Yes	Yes	Yes	Yes
design of short-circuit protection	Constant current characteristic	Constant current characteristic	Electronic shutdown, automatic restart	Electronic shutdown, automatic restart
• typical	6.6 A	13 A	25.5 A	50 A
overcurrent overload capability				
• in normal operation	overload capability 150 % Iout rated up to 5 s/min	overload capability 150 % Iout rated up to 5 s/min	overload capability 150 % Iout rated up to 5 s/min	overload capability 150 % Iout rated up to 5 s/min
enduring short circuit current RMS value				
• maximum	8 A	16 A	7 A	14 A

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1433-2BA20 SITOP PSU300S 24 V/5 A	6EP1434-2BA20 SITOP PSU300S 24 V/10 A	6EP1436-2BA10 SITOP PSU300S 24 V/20 A	6EP1437-2BA20 SITOP PSU300S 24 V/40 A
safety				
galvanic isolation between input and output	Yes	Yes	Yes	Yes
galvanic isolation	Safety extra-low output voltage Vout acc. to EN 60950-1 and EN 50178, transformer acc. to EN 61558-2-16	Safety extra-low output voltage Vout acc. to EN 60950-1 and EN 50178, transformer acc. to EN 61558-2-16	Safety extra-low output voltage Vout acc. to EN 60950-1 and EN 50178, transformer acc. to EN 61558-2-16	Safety extra-low output voltage Vout acc. to EN 60950-1 and EN 50178, transformer acc. to EN 61558-2-16
operating resource protection class	Class I	Class I	Class I	Class I
leakage current				
• maximum			3.5 mA	
• typical			1 mA	
protection class IP	IP20	IP20	IP20	IP20
standard				
• for emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
• for mains harmonics limitation	EN 61000-3-2	EN 61000-3-2	EN 61000-3-2	EN 61000-3-2
• for interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals				
certificate of suitability				
• CE marking	Yes	Yes	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
• EAC approval	Yes	Yes	Yes	Yes
• NEC Class 2	No	No	No	No
• SEMI F47			Yes	
type of certification				
• BIS	Yes; R-41183539	Yes; R-41183539	Yes; R-41183539	Yes; R-41183539
• CB-certificate	Yes	Yes	Yes	Yes
MTBF at 40 °C	500 000 h	500 000 h	500 000 h	500 000 h
standards, specifications, approvals hazardous environments				
certificate of suitability				
• IECEx	No	No	No	No
• ATEX	No	No	No	No
• ULhazloc approval	No	No	No	No
• cCSAus, Class 1, Division 2	No	No	No	No
• FM registration	No	No	No	No
standards, specifications, approvals marine classification				
shipbuilding approval	Yes	Yes	Yes	Yes
Marine classification association				
• American Bureau of Shipping Europe Ltd. (ABS)	Yes	Yes	Yes	Yes
• French marine classification society (BV)	No	No	No	No
• Det Norske Veritas (DNV)	Yes	Yes	Yes	Yes
• Lloyds Register of Shipping (LRS)	No	No	No	No

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1433-2BA20 SITOP PSU300S 24 V/5 A	6EP1434-2BA20 SITOP PSU300S 24 V/10 A	6EP1436-2BA10 SITOP PSU300S 24 V/20 A	6EP1437-2BA20 SITOP PSU300S 24 V/40 A
standards, specifications, approvals Environmental Product Declaration				
Environmental Product Declaration	Yes	Yes	Yes	Yes
Global Warming Potential [CO2 eq]				
• total	451.2 kg	738 kg	1 500 kg	2 847 kg
• during manufacturing	12.9 kg	18.1 kg	31.6 kg	61.2 kg
• during operation	437.8 kg	719.3 kg	1 470 kg	2 783.6 kg
• after end of life	0.35 kg	0.49 kg	0.48 kg	0.92 kg
ambient conditions				
ambient temperature				
• during operation	-25 ... +70 °C; with natural convection	-25 ... +70 °C; with natural convection	-25 ... +60 °C; with natural convection	-25 ... +70 °C; with natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method				
type of electrical connection	screw terminal	screw terminal	screw terminal	screw terminal
• at input	L1, L2, L3, PE: 1 screw terminal each for 0.05 ... 2.5 mm² single-core/finely stranded	L1, L2, L3, PE: 1 screw terminal each for 0.05 ... 2.5 mm² single-core/finely stranded	L1, L2, L3, PE: 1 screw terminal each for 0.5 ... 4 mm² single-core/finely stranded	L1, L2, L3, PE: 1 screw terminal each for 0.5 ... 4 mm² single-core/finely stranded
• at output	+, -: 2 screw terminals each for 0.2 ... 2.5 mm²	+, -: 2 screw terminals each for 0.2 ... 2.5 mm²	+, -: 2 screw terminals each for 0.2 ... 4 mm²	+, -: 2 screw terminals each for 0.5 ... 10 mm²
• for auxiliary contacts	13, 14 (alarm signal): 1 screw terminal each for 0.2 ... 2.5 mm²	13, 14 (alarm signal): 1 screw terminal each for 0.2 ... 2.5 mm²	13, 14 (alarm signal): 1 screw terminal each for 0.05 ... 2.5 mm²	13, 14 (alarm signal): 1 screw terminal each for 0.05 ... 2.5 mm²
mechanical data				
width × height × depth of the enclosure	50 mm × 120 mm	70 mm × 120 mm	90 mm × 150 mm	145 mm × 150 mm
installation width × mounting height	50 mm	70 mm	90 mm	145 mm
required spacing				
• top			40 mm	40 mm
• bottom			40 mm	40 mm
• left			0 mm	0 mm
• right			0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x15
• standard rail mounting	Yes	Yes	Yes	Yes
• S7 rail mounting	No	No	No	No
• wall mounting	No	No	No	No
housing can be lined up	Yes	Yes	Yes	Yes
net weight	0.5 kg	0.7 kg	1.6 kg	3.1 kg
accessories				
electrical accessories	Redundancy module, buffer module, selectivity module, DC UPS	Redundancy module, buffer module, selectivity module, DC UPS	Redundancy module, buffer module, selectivity module, DC UPS	Redundancy module, buffer module, selectivity module, DC UPS
mechanical accessories	Device identification label 20 mm × 7 mm, pale turquoise 3RT1900-1SB20	Device identification label 20 mm × 7 mm, pale turquoise 3RT1900-1SB20	Device identification label 20 mm × 7 mm, pale turquoise 3RT1900-1SB20	Device identification label 20 mm × 7 mm, pale turquoise 3RT1900-1SB20
further information internet links				
internet link				
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1433-2BA20 SITOP PSU300S 24 V/5 A	6EP1434-2BA20 SITOP PSU300S 24 V/10 A	6EP1436-2BA10 SITOP PSU300S 24 V/20 A	6EP1437-2BA20 SITOP PSU300S 24 V/40 A
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com
additional information				
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information				
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. 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In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

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More information

Select the appropriate power supply quickly and easily with the TIA Selection Tool:
http://www.siemens.com/tst

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4/2	**Introduction**
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4/3	Introduction
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4/15	Introduction
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4/22	Introduction
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4/33	1-phase, 15 V DC
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Overview

Whether flat power supplies for distribution boards or cost-effective basic power supplies, SITOP caters to all needs, including in the lower performance range.

LOGO!Power thus offers you mini-power supply units in the LOGO!8 module design. And SITOP lite fulfills the main requirements for reliable primary switched-mode regulators at an affordable price. The SITOP PSU4200 product family is designed for basic requirements in industrial environments and offers extensive functions at an attractive price.

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Overview

SITOP PSU4200 family

Fresh power for basic applications

The SITOP PSU4200 product family offers extensive functions at an attractive price and is most suitable for basic requirements in industrial environments.

The compact design, easy installation and high efficiency of the PSU4200 allow cost and energy savings to be made.

To further increase 24 V availability, the PSU4200 can be combined with **selectivity, redundancy and DC UPS** modules.

Product highlights of the product line

- Power monitor for quick and easy status detection
  - Green LED signal -DC ok, yellow LED signal -DC limit operation, no LED -DC not ok
- Compact design for direct side-by-side mounting without lateral clearance
- Push-in connection system
  - Easy, time-saving installation without need for tools
  - Separate ground terminal
- Broad product range
  - 1-phase, 24 V DC/3 A, 5 A, 10 A and 20 A (72-480 W)
  - 3-phase, 24 V DC/10 A and 20 A (240-480 W)
- EMC standards according to the standard for plant engineering
- Active PFC (1-phase, 20 A device)
- Full load current up to 60 °C
  - Wide temperature range -25 °C to 70 °C
- High degree of efficiency of up to 93%
- QR code for quick and easy access to manuals and technical specifications
- DIN rail mounting and wall mounting (1-phase)
- 2G vibration resistance
- Configuration with add-on modules (redundancy, selectivity, DC UPS for maximum reliability)
- Sustainable according to Siemens EcoTech

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Overview

Stabilized 1-phase power supply with wide-range input in four power levels.

Product highlights

- 1-phase, 24 V DC/3 A, 5 A, 10 A and 20 A
- Active PFC (1-phase, 20 A device)
- Power monitor for quick and easy status detection
- Push-in connection system
  - Easy, time-saving installation without need for tools
  - Separate ground terminal
- Enclosure
  - Metal 20 A / plastic <20 A
- Sustainable according to Siemens EcoTech (exception 24 V/20 A 1-phase)
- Can be expanded with SITOP add-on and DC UPS modules

Selection and ordering data

SITOP PSU4200 1-phase, 24 V DC/3 A Stabilized power supply Input: 120/240 V AC Output: 24 V DC/3 A	**6EP3332-3SB00-0AX0**
SITOP PSU4200 1-phase, 24 V DC/5 A Stabilized power supply Input: 120/240 V AC Output: 24 V DC/5 A	**6EP3333-3SB00-0AX0**
SITOP PSU4200 1-phase, 24 V DC/10 A Stabilized power supply Input: 120/240 V AC Output: 24 V DC/10 A	**6EP3334-3SB00-0AX0**
SITOP PSU4200 1-phase, 24 V DC/20 A Stabilized power supply Input: 120/240 V AC Output: 24 V DC/20 A	**6EP3336-3SB00-0AX0**

Accessories

SITOP redundancy modules	For more information, visit: www.siemens.com/sitop-redundancy/mall
SITOP selectivity modules	For more information, visit: www.siemens.com/sitop-selectivity/mall
SITOP BUF1200 buffer module	For more information, visit: www.siemens.com/sitop-buffering/mall
DC UPS modules	
SITOP DC UPS	For more information, visit: www.siemens.com/sitop-ups/mall

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Technical specifications

Article number product brand name type of current supply	6EP3332-3SB00-0AX0 SITOP PSU4200 24 V/3 A	6EP3333-3SB00-0AX0 SITOP PSU4200 24 V/5 A	6EP3334-3SB00-0AX0 SITOP PSU4200 24 V/10 A	6EP3336-3SB00-0AX0 SITOP PSU4200 24 V/20 A
input				
type of the power supply network	1-phase AC	1-phase AC	1-phase AC	1-phase AC
supply voltage at AC				
• minimum rated value				120 V
• maximum rated value				240 V
• initial value				85 V
• full-scale value				264 V
supply voltage at AC	Automatic range selection	Automatic range selection	Automatic range selection	
supply voltage 1 at AC	100 ... 120 V	100 ... 120 V	100 ... 120 V	
supply voltage 2 at AC	200 ... 240 V	200 ... 240 V	200 ... 240 V	
input voltage 1 at AC	85 ... 132 V	85 ... 132 V	85 ... 132 V	
input voltage 2 at AC	187 ... 264 V	187 ... 264 V	187 ... 264 V	
wide range input	No	No	No	Yes
buffering time for rated value of the output current in the event of power failure minimum	15 ms	15 ms	15 ms	15 ms
operating condition of the mains buffering	at Vin = 120/240 V	at Vin = 120/240 V	at Vin = 120/240 V	at Vin = 120/240 V
line frequency	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz
line frequency	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz
input current				
• at rated input voltage 100 V	1.5 A	2.5 A	5 A	5.4 A
• at rated input voltage 120 V	1.3 A	2.1 A	4.3 A	4.5 A
• at rated input voltage 200 V	0.9 A	1.4 A	2.6 A	2.6 A
• at rated input voltage 230 V	0.73 A	1.25 A	2.5 A	2.4 A
• at rated input voltage 240 V	0.7 A	1.2 A	2.4 A	2.3 A
current limitation of inrush current at 25 °C maximum	45 A	45 A	60 A	20 A
duration of inrush current limiting at 25 °C				
• typical	20 ms	20 ms	20 ms	40 ms
I2t value maximum	1.6 $A^2 \cdot s$	1.6 $A^2 \cdot s$	3.2 $A^2 \cdot s$	3 $A^2 \cdot s$
fuse protection type	3.15 A	3.15 A	6.3 A	6.3 A
fuse protection type in the feeder	Recommended miniature circuit breaker: from 6 A characteristic C to from 16 A characteristic C	Recommended miniature circuit breaker: from 6 A characteristic C to from 16 A characteristic C	Recommended miniature circuit breaker: from 6 A characteristic C to from 16 A characteristic C	Recommended miniature circuit breaker: from 10 A characteristic C to from 16 A characteristic C
output				
voltage curve at output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
output voltage at DC rated value	24 V	24 V	24 V	24 V
output voltage				
• at output 1 at DC rated value	24 V	24 V	24 V	24 V
	24 V	24 V	24 V	24 V
output voltage adjustable	Yes; via potentiometer	Yes; via potentiometer	Yes; via potentiometer	Yes; via potentiometer
adjustable output voltage	24 ... 28 V	24 ... 28 V	24 ... 28 V	24 ... 28 V
relative control precision of the output voltage				
• on slow fluctuation of input voltage	0.2 %	0.2 %	0.2 %	0.1 %
• on slow fluctuation of ohm loading	0.3 %	0.3 %	0.3 %	1 %
residual ripple				
• maximum	150 mV	150 mV	150 mV	150 mV
• typical	40 mV	35 mV	25 mV	35 mV
voltage peak				

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3332-3SB00-0AX0 SITOP PSU4200 24 V/3 A	6EP3333-3SB00-0AX0 SITOP PSU4200 24 V/5 A	6EP3334-3SB00-0AX0 SITOP PSU4200 24 V/10 A	6EP3336-3SB00-0AX0 SITOP PSU4200 24 V/20 A
• maximum	240 mV	240 mV	240 mV	240 mV
• typical	40 mV	30 mV	20 mV	67 mV
display version for normal operation	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK
type of signal at output		Signal contact (signal load capacity: 5 mA) for DC OK	Signal contact (signal load capacity: 5 mA) for DC OK	Signal contact (signal load capacity: 10 mA) for DC OK
behavior of the output voltage when switching on	No overshoot of Vout (soft start)	No overshoot of Vout (soft start)	No overshoot of Vout (soft start)	No overshoot of Vout (soft start)
response delay maximum	1.5 s	1.5 s	1.5 s	1.5 s
voltage increase time of the output voltage				
• typical	190 ms	210 ms	130 ms	33 ms
• maximum	500 ms	500 ms	500 ms	500 ms
output current				
• rated value	3 A	5 A	10 A	20 A
• rated range	0 ... 3 A; +60 to +70 °C: without derating	0 ... 5 A; +60 ... +70 °C: Derating 4%/K	0 ... 10 A; +60 ... +70 °C: Derating 4%/K	0 ... 20 A; +60 ... +70 °C: Derating 3%/K
	2.6 ... 4.9 A	5 A	10 A	20 A
supplied active power typical	72 W	120 W	240 W	480 W
bridging of equipment	Yes	Yes	Yes	Yes
number of parallel-switched equipment resources	2	2	2	2
efficiency				
efficiency in percent	85 %	87 %	90 %	93 %
power loss [W]				
• at rated output voltage for rated value of the output current typical	13 W	18 W	27 W	37 W
• during no-load operation maximum	2.2 W	2.2 W	3 W	3 W
closed-loop control				
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	0.2 %	0.2 %	0.2 %	0.2 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	2 %	1 %	2 %	2 %
relative control precision of the output voltage at load step of resistive load 10/90/10 % typical	2.5 %	1 %	3 %	3 %
setting time				
• load step 10 to 90% typical	1 ms	1 ms	1 ms	1 ms
• load step 90 to 10% typical	1 ms	1 ms	1 ms	1 ms
protection and monitoring				
design of the overvoltage protection	< 32 V	< 32 V	< 32 V	< 32 V
property of the output short-circuit proof	Yes	Yes	Yes	Yes
design of short-circuit protection	Constant current characteristic	Constant current characteristic	Constant current characteristic	Shutdown and periodic restart attempts
• typical	3.6 A	6 A	12.5 A	23.1 A
enduring short circuit current RMS value				
• typical	3.5 A	6 A	12.5 A	6 A
safety				
galvanic isolation between input and output	Yes	Yes	Yes	Yes
galvanic isolation	ES1 output voltage Vout according to EN 62368-1 (Safety extra low output voltage Vout according to EN 60950-1)	ES1 output voltage Vout according to EN 62368-1 (Safety extra low output voltage Vout according to EN 60950-1)	ES1 output voltage Vout according to EN 62368-1 (Safety extra low output voltage Vout according to EN 60950-1)	ES1 output voltage Vout according to EN 62368-1 (Safety extra low output voltage Vout according to EN 60950-1)

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3332-3SB00-0AX0 SITOP PSU4200 24 V/3 A	6EP3333-3SB00-0AX0 SITOP PSU4200 24 V/5 A	6EP3334-3SB00-0AX0 SITOP PSU4200 24 V/10 A	6EP3336-3SB00-0AX0 SITOP PSU4200 24 V/20 A
operating resource protection class	Class I	Class I	Class I	Class I
leakage current				
• maximum	1.4 mA	1.4 mA	1.3 mA	0.7 mA
• typical	0.7 mA	0.7 mA	0.7 mA	0.5 mA
protection class IP	IP20	IP20	IP20	IP20
standard				
• for emitted interference	EN 55032 Class A	EN 55032 Class A	EN 55032 Class A	EN 55032 Class A
• for mains harmonics limitation	EN 61000-3-2	EN 61000-3-2	EN 61000-3-2	EN 61000-3-2
• for interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals				
certificate of suitability				
• CE marking	Yes	Yes	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (UL 62368-1, CSA C22.2 No. 62368-1-19)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (UL 62368-1, CSA C22.2 No. 62368-1-19)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (UL 62368-1, CSA C22.2 No. 62368-1-19)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (UL 62368-1, CSA C22.2 No. 62368-1-19)
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (UL 62368-1, CSA C22.2 No. 62368-1-19)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (UL 62368-1, CSA C22.2 No. 62368-1-19)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (UL 62368-1, CSA C22.2 No. 62368-1-19)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (UL 62368-1, CSA C22.2 No. 62368-1-19)
• UKCA marking	Yes	Yes	Yes	Yes
• EAC approval	Yes	Yes	Yes	Yes
• Regulatory Compliance Mark (RCM)	Yes	Yes	Yes	Yes
• NEC Class 2	No	No	No	No
type of certification				
• BIS	Yes; R-41183539	Yes; R-41183539	No	No
• CB-certificate	Yes	Yes	Yes	Yes
MTBF at 40 °C	1 700 000 h	1 580 000 h	1 220 000 h	1 065 000 h
standards, specifications, approvals hazardous environments				
certificate of suitability				
• IECEx	No	No	No	No
• ATEX	No	No	No	No
• ULhazloc approval	No	No	No	No
• cCSAus, Class 1, Division 2	No	No	No	No
• FM registration	No	No	No	No
standards, specifications, approvals marine classification				
shipbuilding approval	No	No	No	No
Marine classification association				
• American Bureau of Shipping Europe Ltd. (ABS)	No	No	No	No
• French marine classification society (BV)	No	No	No	No
• Det Norske Veritas (DNV)	No	No	No	No
• Lloyds Register of Shipping (LRS)	No	No	No	No
standards, specifications, approvals Environmental Product Declaration				
Environmental Product Declaration	Yes	Yes	Yes	Yes
Global Warming Potential [CO2 eq]				
• total	330.1 kg	476.1 kg	785 kg	1 078.9 kg
• during manufacturing	13.1 kg	14 kg	20.7 kg	47.4 kg
• during operation	316.6 kg	461.6 kg	763 kg	1 029.9 kg

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3332-3SB00-0AX0 SITOP PSU4200 24 V/3 A	6EP3333-3SB00-0AX0 SITOP PSU4200 24 V/5 A	6EP3334-3SB00-0AX0 SITOP PSU4200 24 V/10 A	6EP3336-3SB00-0AX0 SITOP PSU4200 24 V/20 A
• after end of life	0.36 kg	0.38 kg	0.57 kg	0.72 kg
Siemens Eco Profile (SEP)	Siemens EcoTech	Siemens EcoTech	Siemens EcoTech	
ambient conditions				
ambient temperature				
• during operation	-25 ... +70 °C; with natural convection	-25 ... +70 °C; with natural convection	-25 ... +70 °C; with natural convection	-25 ... +70 °C; with natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method				
type of electrical connection	push-in terminals	push-in terminals	push-in terminals	push-in terminals
• at input	L, N, PE: push-in for 0.5 ... 4 mm²	L, N, PE: push-in for 0.5 ... 4 mm²	L, N, PE: push-in for 0.5 ... 4 mm²	L, N, PE: push-in for 0.5 ... 4 mm²
• at output	+, -: push-in for 0.5 ... 2.5 mm²	+, -: push-in for 0.5 ... 2.5 mm²	+, -: push-in for 0.5 ... 2.5 mm²	+, -: push-in for 0.5 ... 6 mm²
• for signaling contact		13, 14: push-in for 0.2 ... 1.5 mm²	13, 14: push-in for 0.2 ... 1.5 mm²	13, 14: push-in for 0.2 ... 1.5 mm²
mechanical data				
width × height × depth of the enclosure	50 mm × 125 mm	50 mm × 125 mm	70 mm × 125 mm	70 mm × 125 mm
installation width × mounting height	50 mm	50 mm	70 mm	70 mm
required spacing				
• top	45 mm	45 mm	45 mm	45 mm
• bottom	45 mm	45 mm	45 mm	45 mm
• left	0 mm	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes	Yes	Yes	Yes
• S7 rail mounting	No	No	No	No
• wall mounting	Yes	Yes	Yes	No
housing can be lined up	Yes	Yes	Yes	Yes
net weight	0.44 kg	0.44 kg	0.65 kg	0.93 kg
further information internet links				
internet link				
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com
additional information				
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3332-3SB00-0AX0 SITOP PSU4200 24 V/3 A	6EP3333-3SB00-0AX0 SITOP PSU4200 24 V/5 A	6EP3334-3SB00-0AX0 SITOP PSU4200 24 V/10 A	6EP3336-3SB00-0AX0 SITOP PSU4200 24 V/20 A
security information				
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. 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Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

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Overview

Stabilized 3-phase power supplies with 400 to 500 V AC input in two power levels.

Product highlights

- 3-phase, 24 V DC/10 A and 20 A
- Power monitor for quick and easy status detection
- Push-in connection system
  - Easy, time-saving installation without need for tools
  - Separate ground terminal
- Enclosure - metal 20 A / plastic <20 A
- Sustainable according to Siemens EcoTech
- Can be expanded with SITOP add-on and DC UPS modules

Selection and ordering data

SITOP PSU4200 3-phase, 24 V DC/10 A Stabilized power supply Input: 400/500 V AC Output: 24 V DC/10 A	**6EP3434-3SB00-0AX0**
SITOP PSU 4200 3-phase, 24 V DC/20 A Stabilized power supply Input: 400/500 V AC Output: 24 V DC/20 A	**6EP3436-3SB00-0AX0**

Accessories

SITOP redundancy modules	For more information, visit: www.siemens.com/sitop-redundancy/mall
SITOP selectivity modules	For more information, visit: www.siemens.com/sitop-selectivity/mall
SITOP BUF1200 buffer module	For more information, visit: www.siemens.com/sitop-buffering/mall
DC UPS modules	
SITOP DC UPS	For more information, visit: www.siemens.com/sitop-ups/mall

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Technical specifications

Article number product brand name type of current supply	6EP3434-3SB00-0AX0 SITOP PSU4200 24 V/10 A	6EP3436-3SB00-0AX0 SITOP PSU4200 24 V/20 A
input		
type of the power supply network	3-phase AC	3-phase AC
supply voltage at AC		
• minimum rated value	400 V	400 V
• maximum rated value	500 V	500 V
• initial value	320 V	320 V
• full-scale value	550 V	550 V
wide range input	Yes	Yes
buffering time for rated value of the output current in the event of power failure minimum	5 ms	5 ms
operating condition of the mains buffering	at Vin = 400/500 V	at Vin = 400/500 V
line frequency	50 Hz/60 Hz	50 Hz/60 Hz
line frequency	47 ... 63 Hz	47 ... 63 Hz
input current		
• at rated input voltage 400 V	0.7 A	1.4 A
• at rated input voltage 500 V	0.6 A	1.2 A
current limitation of inrush current at 25 °C maximum	50 A	36 A
duration of inrush current limiting at 25 °C		
• typical	20 ms	20 ms
I2t value maximum	0.9 $A^2 \cdot s$	0.9 $A^2 \cdot s$
fuse protection type in the feeder	three-poled coupled circuit breaker from 3 A characteristic C to 16 A characteristic C or circuit breaker 3RV2011-1EA10 (setting 3 A) or 3RV2711-1ED10 (UL 489)	three-poled coupled circuit breaker from 6 A characteristic C to 16 A characteristic C or circuit breaker 3RV2011-1GA10 (setting 6 A) or 3RV2711-1GD10 (UL 489)
output		
voltage curve at output	Controlled, isolated DC voltage	Controlled, isolated DC voltage
output voltage at DC rated value	24 V	24 V
output voltage		
• at output 1 at DC rated value	24 V	24 V
	24 V	24 V
output voltage adjustable	Yes; via potentiometer	Yes; via potentiometer
adjustable output voltage	24 ... 28 V	24 ... 28 V
relative control precision of the output voltage		
• on slow fluctuation of input voltage	0.2 %	0.2 %
• on slow fluctuation of ohm loading	0.3 %	0.3 %
residual ripple		
• maximum	150 mV	150 mV
• typical	48 mV	25 mV
voltage peak		
• maximum	240 mV	240 mV
• typical	30 mV	10 mV
display version for normal operation	Green LED for 24 V OK	Green LED for 24 V OK
type of signal at output	Signal contact (signal load capacity: 5 mA) for DC OK	Signal contact (signal load capacity: 5 mA) for DC OK
behavior of the output voltage when switching on	No overshoot of Vout (soft start)	Overshoot of Vout approx. 1 %
response delay maximum	1.5 s	1.5 s
voltage increase time of the output voltage		
• typical	210 ms	230 ms
• maximum	500 ms	500 ms
output current		
• rated value	10 A	20 A
• rated range	0 ... 10 A; +60 ... +70 °C: Derating 3%/K	0 ... 20 A; +55 ... +70 °C: Derating 2%/K

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3434-3SB00-0AX0 SITOP PSU4200 24 V/10 A	6EP3436-3SB00-0AX0 SITOP PSU4200 24 V/20 A
	10 A	20 A
supplied active power typical	240 W	480 W
bridging of equipment	Yes	Yes
number of parallel-switched equipment resources	2	2
efficiency		
efficiency in percent	90 %	91 %
power loss [W]		
• at rated output voltage for rated value of the output current typical	27 W	48 W
• during no-load operation maximum	3 W	3.5 W
closed-loop control		
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	0.2 %	0.2 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	0.5 %	0.5 %
relative control precision of the output voltage at load step of resistive load 10/90/10 % typical	1.5 %	1 %
setting time		
• load step 10 to 90% typical	1 ms	1 ms
• load step 90 to 10% typical	1 ms	1 ms
protection and monitoring		
design of the overvoltage protection	< 32 V	< 32 V
property of the output short-circuit proof	Yes	Yes
design of short-circuit protection	Constant current characteristic	Constant current characteristic
• typical	12.2 A	23.4 A
enduring short circuit current RMS value		
• typical	12.5 A	23.5 A
safety		
galvanic isolation between input and output	Yes	Yes
galvanic isolation	ES1 output voltage Vout according to EN 62368-1 (Safety extra low output voltage Vout according to EN 60950-1)	ES1 output voltage Vout according to EN 62368-1 (Safety extra low output voltage Vout according to EN 60950-1)
operating resource protection class	Class I	Class I
leakage current		
• maximum	0.8 mA	0.8 mA
• typical	0.4 mA	0.4 mA
protection class IP	IP20	IP20
standard		
• for emitted interference	EN 55032 Class A	EN 55032 Class A
• for mains harmonics limitation	EN 61000-3-2	EN 61000-3-2
• for interference immunity	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals		
certificate of suitability		
• CE marking	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (UL 62368-1, CSA C22.2 No. 62368-1-19)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (UL 62368-1, CSA C22.2 No. 62368-1-19)
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (UL 62368-1, CSA C22.2 No. 62368-1-19)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (UL 62368-1, CSA C22.2 No. 62368-1-19)
• UKCA marking	Yes	Yes
• EAC approval	Yes	Yes
• Regulatory Compliance Mark (RCM)	Yes	Yes
• NEC Class 2	No	No

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3434-3SB00-0AX0 SITOP PSU4200 24 V/10 A	6EP3436-3SB00-0AX0 SITOP PSU4200 24 V/20 A
type of certification		
• BIS	Yes; R-41183539	No
• CB-certificate	Yes	Yes
MTBF at 40 °C	1 330 000 h	815 000 h
standards, specifications, approvals hazardous environments		
certificate of suitability		
• IECEx	No	No
• ATEX	No	No
• ULhazloc approval	No	No
• cCSAus, Class 1, Division 2	No	No
• FM registration	No	No
standards, specifications, approvals marine classification		
shipbuilding approval	No	No
Marine classification association		
• American Bureau of Shipping Europe Ltd. (ABS)	No	No
• French marine classification society (BV)	No	No
• Det Norske Veritas (DNV)	No	No
• Lloyds Register of Shipping (LRS)	No	No
standards, specifications, approvals Environmental Product Declaration		
Environmental Product Declaration	Yes	Yes
Global Warming Potential [CO2 eq]		
• total	702 kg	1 054.8 kg
• during manufacturing	20.7 kg	32.8 kg
• during operation	680.6 kg	1 020.9 kg
• after end of life	0.57 kg	0.5 kg
Siemens Eco Profile (SEP)	Siemens EcoTech	Siemens EcoTech
ambient conditions		
ambient temperature		
• during operation	-25 ... +70 °C; with natural convection	-25 ... +70 °C; with natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method		
type of electrical connection	push-in terminals	push-in terminals
• at input	L1, L2, L3, PE: push-in for 0.5 ... 4 mm²	L1, L2, L3, PE: push-in for 0.5 ... 4 mm²
• at output	+, -: push-in for 0.5 ... 2.5 mm²	+, -: push-in for 0.5 ... 6 mm²
• for signaling contact	13, 14: push-in for 0.2 ... 1.5 mm²	13, 14: push-in for 0.2 ... 1.5 mm²
mechanical data		
width × height × depth of the enclosure	70 mm × 125 mm	95 mm × 150 mm
installation width × mounting height	70 mm	95 mm
required spacing		
• top	45 mm	45 mm
• bottom	45 mm	45 mm
• left	0 mm	0 mm
• right	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes	Yes
• S7 rail mounting	No	No
• wall mounting	Yes	No

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3434-3SB00-0AX0 SITOP PSU4200 24 V/10 A	6EP3436-3SB00-0AX0 SITOP PSU4200 24 V/20 A
housing can be lined up	Yes	Yes
net weight	0.64 kg	1.66 kg
further information internet links		
internet link		
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com
additional information		
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information		
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

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Overview

The low-cost basic power supply

The 1-phase SITOP lite (SITOP PSU100L) power supplies are designed for basic requirements in industrial environments and offer all the key functions at an attractive price. Thanks to the slim design, the power supply units require little space on the top hat DIN rail, and their excellent efficiency ensures low thermal losses in the control cabinet.

To further increase 24 V availability, the SITOP lite power supply units can be combined with the **BUF1200 buffer module, DC UPS**, **redundancy** and **selectivity modules**.

Product highlights of the product line

- Slim design - no lateral installation clearances required
- Green LED for "24 V OK"
- Adjustable output voltage for compensating voltage drops
- Parallel connection possible
- Ambient temperature range of from 0 °C to 60 °C (from 45 °C with derating)
- Short-circuit and overload protection

More information

Select the appropriate power supply quickly and easily with the TIA Selection Tool:
http://www.siemens.com/tst

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Overview

1-phase power supplies for basic requirements in industrial environments.

To further increase 24 V availability, the SITOP lite power supply units can be combined with the **BUF1200 buffer module, DC UPS**, **redundancy** and **selectivity modules**.

Product highlights

- 1-phase, 24 V DC/ 2.5 A, 5 A, 10 A and 20 A
- Wide-range input (20 A) or with manual switchover
- Up to 92% efficiency
- CE, cULus and CB certifications

Selection and ordering data

SITOP PSU100L 1-phase, 24 V DC/2.5 A Stabilized power supply Input: 120/230 V AC Output: 24 V DC/2.5 A	**6EP1332-1LB00**
SITOP PSU100L 1-phase, 24 V DC/5 A Stabilized power supply Input: 120/230 V AC Output: 24 V DC/5 A	**6EP1333-1LB00**
SITOP PSU100L 1-phase, 24 V DC/10 A Stabilized power supply Input: 120/230 V AC Output: 24 V DC/10 A	**6EP1334-1LB00**
SITOP PSU100L 1-phase, 24 V DC/20 A Stabilized power supply Input: 100 ... 240 V AC Output: 24 V DC/20 A	**6EP1336-1LB00**

Accessories

SITOP redundancy modules	For more information, visit: www.siemens.com/sitop-redundancy/mall
SITOP selectivity modules	For more information, visit: www.siemens.com/sitop-selectivity/mall
SITOP BUF1200 buffer module	For more information, visit: www.siemens.com/sitop-buffering/mall
SITOP DC UPS	For more information, visit: www.siemens.com/sitop-ups/mall

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Technical specifications

Article number product brand name type of current supply	6EP1332-1LB00 SITOP PSU100L 24 V/2.5 A	6EP1333-1LB00 SITOP PSU100L 24 V/5 A	6EP1334-1LB00 SITOP PSU100L 24 V/10 A	6EP1336-1LB00 SITOP PSU100L 24 V/20 A
input				
type of the power supply network	1-phase AC	1-phase AC	1-phase AC	1-phase AC or DC
supply voltage at AC				
• minimum rated value				100 V
• maximum rated value				240 V
• initial value				85 V
• full-scale value				264 V
supply voltage at AC	Set by means of selector switch on the device	Set by means of selector switch on the device	Set by means of selector switch on the device	
supply voltage	120 V/230 V	120 V/230 V	120 V/230 V	
input voltage 1 at AC	93 ... 132 V	93 ... 132 V	93 ... 132 V	
input voltage 2 at AC	187 ... 264 V	187 ... 264 V	187 ... 264 V	
supply voltage at DC				100 ... 240 V
input voltage at DC				88 ... 370 V
wide range input	No	No	No	Yes
overvoltage overload capability	2.3 × Vin rated, 1.3 ms	2.3 × Vin rated, 1.3 ms	2.3 × Vin rated, 1.3 ms	
buffering time for rated value of the output current in the event of power failure minimum	20 ms	20 ms	20 ms	20 ms
operating condition of the mains buffering	at Vin = 93/187 V	at Vin = 93/187 V	at Vin = 93/187 V	at Vin = 93/187 V
line frequency	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz
line frequency	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz
input current				
• at rated input voltage 120 V	1.1 A	2.1 A	4.1 A	5.55 A
• at rated input voltage 230 V	0.65 A	1.15 A	2 A	2.35 A
current limitation of inrush current at 25 °C maximum	27 A	32 A	65 A	45 A
duration of inrush current limiting at 25 °C				
• typical	3 ms	3 ms	3 ms	15 ms
I2t value maximum	0.3 $A^2 \cdot s$	0.8 $A^2 \cdot s$	3.3 $A^2 \cdot s$	3.3 $A^2 \cdot s$
fuse protection type	T 2 A/250 V (not accessible)	T 3,15 A/250 V (not accessible)	T 6.3 A/250 V (not accessible)	T 10 A/250 V (not accessible)
fuse protection type in the feeder	Recommended miniature circuit breaker: from 3 A characteristic C	Recommended miniature circuit breaker: from 6 A characteristic C	Recommended miniature circuit breaker: from 10 A characteristic C	Recommended miniature circuit breaker: from 10 A characteristic C
output				
voltage curve at output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
output voltage at DC rated value	24 V	24 V	24 V	24 V
output voltage				
• at output 1 at DC rated value	24 V	24 V	24 V	24 V
	24 V	24 V	24 V	24 V
output voltage adjustable	Yes; via potentiometer	Yes; via potentiometer	Yes; via potentiometer	Yes; via potentiometer
adjustable output voltage	22.8 ... 26.4 V	22.8 ... 26.4 V	22.8 ... 26.4 V	22.8 ... 26.4 V
relative control precision of the output voltage				
• on slow fluctuation of input voltage	0.1 %	0.1 %	0.1 %	0.1 %
• on slow fluctuation of ohm loading	0.5 %	0.5 %	0.5 %	1 %
residual ripple				
• maximum	150 mV	150 mV	150 mV	150 mV
• typical	10 mV	50 mV	50 mV	50 mV
voltage peak				

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1332-1LB00 SITOP PSU100L 24 V/2.5 A	6EP1333-1LB00 SITOP PSU100L 24 V/5 A	6EP1334-1LB00 SITOP PSU100L 24 V/10 A	6EP1336-1LB00 SITOP PSU100L 24 V/20 A
• maximum	240 mV	240 mV	240 mV	240 mV
• typical	50 mV	150 mV	150 mV	100 mV
display version for normal operation	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK
behavior of the output voltage when switching on	Overshoot of Vout approx. 4 %	Overshoot of Vout approx. 4 %	Overshoot of Vout approx. 4 %	No overshoot of Vout (soft start)
response delay maximum	1.5 s	1.5 s	1.5 s	1.5 s
voltage increase time of the output voltage				
• typical	150 ms	130 ms	170 ms	20 ms
output current				
• rated value	2.5 A	5 A	10 A	20 A
• rated range	0 ... 2.5 A; +45 ... +60 °C: Derating 2%/K	0 ... 5 A; +45 ... +60 °C: Derating 2%/K	0 ... 10 A; +45 ... +60 °C: Derating 2%/K	0 ... 20 A; +45 ... +70 °C: Derating 2.5%/K
	2.5 A	5 A	10 A	20 A
supplied active power typical	60 W	120 W	240 W	480 W
bridging of equipment	Yes	Yes	Yes	Yes
number of parallel-switched equipment resources	2	2	2	2
efficiency				
efficiency in percent	85 %	86 %	89 %	92 %
power loss [W]				
• at rated output voltage for rated value of the output current typical	9 W	17 W	34 W	45 W
closed-loop control				
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	0.3 %	0.3 %	0.3 %	0.5 %
relative control precision of the output voltage at load step of resistive load 10/90/10 % typical	2 %	2 %	2 %	3 %
setting time				
• load step 10 to 90% typical	0.5 ms	0.4 ms	0.5 ms	0.7 ms
• load step 90 to 10% typical	0.7 ms	0.4 ms	0.7 ms	6 ms
protection and monitoring				
design of the overvoltage protection	< 33 V	< 33 V	< 33 V	< 33 V
property of the output short-circuit proof	Yes	Yes	Yes	Yes
design of short-circuit protection	Constant current characteristic	Constant current characteristic	Constant current characteristic	Constant current characteristic
• typical	2.6 A	5.25 A	16 A	24 A
enduring short circuit current RMS value				
• typical	4 A	8 A	12.6 A	24 A
safety				
galvanic isolation between input and output	Yes	Yes	Yes	Yes
galvanic isolation	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178
operating resource protection class	Class I	Class I	Class I	Class I
leakage current				
• maximum	3.5 mA	3.5 mA	3.5 mA	3.5 mA
• typical	0.4 mA	0.4 mA	0.8 mA	0.8 mA
protection class IP	IP20	IP20	IP20	IP20
standard				
• for emitted interference	EN 55022 Class A	EN 55022 Class A	EN 55022 Class A	EN 55022 Class B
• for mains harmonics limitation	not applicable	-	-	EN 61000-3-2
• for interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1332-1LB00 SITOP PSU100L 24 V/2.5 A	6EP1333-1LB00 SITOP PSU100L 24 V/5 A	6EP1334-1LB00 SITOP PSU100L 24 V/10 A	6EP1336-1LB00 SITOP PSU100L 24 V/20 A
standards, specifications, approvals				
certificate of suitability				
• CE marking	Yes	Yes	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• EAC approval	Yes	Yes	Yes	Yes
• NEC Class 2	No	No	No	No
type of certification				
• BIS		Yes; R-41183539	Yes; R-41183539	Yes; R-41184349
• CB-certificate	Yes	Yes	Yes	Yes
MTBF at 40 °C	3 153 082 h	3 076 166 h	2 333 396 h	
standards, specifications, approvals hazardous environments				
certificate of suitability				
• IECEx	No	No	No	No
• ATEX	No	No	No	No
• ULhazloc approval	No	No	No	No
• cCSAus, Class 1, Division 2	No	No	No	No
• FM registration	No	No	No	No
standards, specifications, approvals marine classification				
shipbuilding approval	No	No	No	No
Marine classification association				
• American Bureau of Shipping Europe Ltd. (ABS)	No	No	No	No
• French marine classification society (BV)	No	No	No	No
• Det Norske Veritas (DNV)	No	No	No	No
• Lloyds Register of Shipping (LRS)	No	No	No	No
standards, specifications, approvals Environmental Product Declaration				
Environmental Product Declaration	Yes	Yes	Yes	
Global Warming Potential [CO2 eq]				
• total	289.5 kg	545 kg	1 083.3 kg	
• during manufacturing	7.8 kg	12.9 kg	19.4 kg	
• during operation	281.5 kg	531.6 kg	1 063.3 kg	
• after end of life	0.21 kg	0.35 kg	0.53 kg	
ambient conditions				
ambient temperature				
• during operation	0 ... 60 °C; with natural convection	0 ... 60 °C; with natural convection	0 ... 60 °C; with natural convection	-25 ... +70 °C; with natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method				
type of electrical connection	screw terminal	screw terminal	screw terminal	screw terminal
• at input	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm² single-core/finely stranded	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm² single-core/finely stranded	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm² single-core/finely stranded	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm² single-core/finely stranded

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1332-1LB00 SITOP PSU100L 24 V/2.5 A	6EP1333-1LB00 SITOP PSU100L 24 V/5 A	6EP1334-1LB00 SITOP PSU100L 24 V/10 A	6EP1336-1LB00 SITOP PSU100L 24 V/20 A
• at output	+, -: 2 screw terminals each for 0.5 ... 2.5 mm²	+, -: 2 screw terminals each for 0.5 ... 2.5 mm²	+, -: 2 screw terminals each for 0.5 ... 2.5 mm²	+, -: 2 screw terminals each for 0.5 ... 2.5 mm²
• for auxiliary contacts	-	-	-	-
mechanical data				
width × height × depth of the enclosure	32.5 mm × 120 mm	50 mm × 120 mm	70 mm × 120 mm	110 mm × 125 mm
installation width × mounting height	32.5 mm	50 mm	70 mm	110 mm
required spacing				
• top	50 mm	50 mm	50 mm	50 mm
• bottom	50 mm	50 mm	50 mm	50 mm
• left	0 mm	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes	Yes	Yes	Yes
• S7 rail mounting	No	No	No	No
• wall mounting	No	No	No	No
housing can be lined up	Yes	Yes	Yes	Yes
net weight	0.3 kg	0.5 kg	0.75 kg	1.8 kg
further information internet links				
internet link				
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com
additional information				
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information				
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appro-	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appro-	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appro-	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appro-

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1332-1LB00 SITOP PSU100L 24 V/2.5 A	6EP1333-1LB00 SITOP PSU100L 24 V/5 A	6EP1334-1LB00 SITOP PSU100L 24 V/10 A	6EP1336-1LB00 SITOP PSU100L 24 V/20 A
	priate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	priate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	priate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	priate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

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Overview

The flat power supply unit for distribution boards

Small. Clever. LOGO!Power: Thanks to its stepped profile design, the LOGO! 8 product line is ideally suited for installation in small distribution boards. The 12 V and 24 V versions are ideal for supplying LOGO! controllers with the corresponding voltage input. The high level of efficiency across the entire load range as well as the low no-load losses result in lower overall energy consumption. Greater convenience when commissioning and servicing thanks to the integrated current monitor. The extended ambient temperature range from -25 °C to +70 °C enables a host of additional applications.

To further increase 24 V availability, the 24 V LOGO!Power power supply units can be combined with the **BUF1200 buffer module, DC UPS**, **redundancy** and **selectivity modules**.

This powerhouse can be used in any industry: e.g. in building technology applications for light and heating controllers or for access control systems. LOGO!Power is also well-suited for use in industrial automation, such as in packaging machine, machine tool, conveyor belt or sorting system applications.

Product highlights of the product line

- Low width
  with minimum of 18 mm to maximum of 72 mm, thus requiring very little space in the control cabinet or distribution board
- High energy efficiency
  with efficiency levels of up to 90% over the entire performance range and ERP-compliant no-load losses of < 0.3 W
- Global use
  due to operating temperature range from -25 °C to +70 °C and international certificates
- Supply
  of NEC Class 2 electric circuits with limited output current (100 VA)

Overview (continued)

- Load monitoring via current monitor
  using real-time measurement of the output current without disconnecting the cable, i.e. without interrupting the DC supply
- Flexible mounting
  with top hat DIN rail or wall mounting in different installation positions
- Flexible operation
  in all standard 1-phase supply networks thanks to wide-range input of 100 ... 240 V AC without switchover and operation on DC networks with 110 ... 300 V DC
- Reliability
  due to problem-free connection of loads with high inrush currents thanks to power reserve during startup as well as constant current in the event of overload

More information

Select the appropriate power supply quickly and easily with the TIA Selection Tool:

http://www.siemens.com/tst

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Overview

Thanks to its stepped profile design, the LOGO!Power product line is ideally suited for installation in small distribution boards. The stabilized power supplies with wide-range input are available with an output voltage of 5 V in two performance classes.

Product highlights

- 1-phase, 5 V DC/ 3 A and 6.3 A
- Wide-range input, input voltage 100 ... 240 V AC (85 ... 264 V), 110 ... 300 V DC
- Narrow unit with 36 mm or 54 mm width and overall depth of 53 mm in LOGO! design
- Up to 80% efficiency
- Integrated current monitor: Actual output current measurement directly at the power supply unit
- cULus, cURus, NEC class 2, ABS, DNV GL certifications

Selection and ordering data

LOGO!Power 1-phase, 5 V DC/3 A Stabilized power supply Input: 100 ... 240 V AC (110 ... 300 V AC) Output: 5 V DC/3 A	**6EP3310-6SB00-0AY0**
LOGO!Power 1-phase, 5 V DC/6.3 A Stabilized power supply Input: 100 ... 240 V AC (110 ... 300 V AC) Output: 5 V DC/6.3 A	**6EP3311-6SB00-0AY0**

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Technical specifications

Article number product brand name type of current supply	6EP3310-6SB00-0AY0 LOGO!Power 5 V/3 A	6EP3311-6SB00-0AY0 LOGO!Power 5 V/6.3 A
input		
type of the power supply network	1-phase AC or DC	1-phase AC or DC
supply voltage at AC		
• minimum rated value	100 V	100 V
• maximum rated value	240 V	240 V
• initial value	85 V	85 V
• full-scale value	264 V	264 V
input voltage at DC	110 ... 300 V	110 ... 300 V
wide range input	Yes	Yes
overvoltage overload capability	300 V AC for 1 s	300 V AC for 1 s
buffering time for rated value of the output current in the event of power failure minimum	40 ms	40 ms
operating condition of the mains buffering	at Vin = 187 V	at Vin = 187 V
line frequency	50 Hz/60 Hz	50 Hz/60 Hz
line frequency	47 ... 63 Hz	47 ... 63 Hz
input current		
• at rated input voltage 120 V	0.36 A	0.71 A
• at rated input voltage 230 V	0.22 A	0.37 A
current limitation of inrush current at 25 °C maximum	26 A	50 A
I2t value maximum	0.8 $A^2 \cdot s$	3 $A^2 \cdot s$
fuse protection type	internal	internal
fuse protection type in the feeder	Recommended miniature circuit breaker: from 6 A characteristic B or from 2 A characteristic C	Recommended miniature circuit breaker: from 10 A characteristic B or from 6 A characteristic C
output		
voltage curve at output	Controlled, isolated DC voltage	Controlled, isolated DC voltage
output voltage at DC rated value	5 V	5 V
output voltage		
• at output 1 at DC rated value	5 V	5 V
	5 V	5 V
output voltage adjustable	Yes; via potentiometer	Yes; via potentiometer
adjustable output voltage	4.6 ... 5.4 V	4.6 ... 5.4 V
relative control precision of the output voltage		
• on slow fluctuation of input voltage	0.1 %	0.1 %
• on slow fluctuation of ohm loading	0.1 %	0.1 %
residual ripple		
• maximum	100 mV	100 mV
• typical	30 mV	30 mV
voltage peak		
• maximum	100 mV	100 mV
• typical	50 mV	50 mV
display version for normal operation	Green LED for output voltage OK	Green LED for output voltage OK
behavior of the output voltage when switching on	No overshoot of Vout (soft start)	No overshoot of Vout (soft start)
response delay maximum	0.5 s	0.5 s
voltage increase time of the output voltage		
• typical	100 ms	100 ms
output current		
• rated value	3 A	6.3 A
• rated range	0 ... 3 A; +55 ... +70 °C: Derating 2%/K	0 ... 6.3 A; +55 ... +70 °C: Derating 2%/K
	2.6 ... 4.9 A	5.1 ... 9.9 A
supplied active power typical	15 W	31.5 W

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3310-6SB00-0AY0 LOGO!Power 5 V/3 A	6EP3311-6SB00-0AY0 LOGO!Power 5 V/6.3 A
bridging of equipment	Yes	Yes
number of parallel-switched equipment resources	2	2
efficiency		
efficiency in percent	76 %	79.8 %
power loss [W]		
• at rated output voltage for rated value of the output current typical	4.7 W	8 W
• during no-load operation maximum	0.3 W	0.3 W
closed-loop control		
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	0.2 %	0.2 %
relative control precision of the output voltage at load step of resistive load 10/90/10 % typical	5 %	7 %
setting time		
• load step 10 to 90% typical	1 ms	1 ms
• load step 90 to 10% typical	1 ms	1 ms
protection and monitoring		
design of the overvoltage protection	Yes, according to EN 60950-1	Yes, according to EN 60950-1
property of the output short-circuit proof	Yes	Yes
design of short-circuit protection	Constant current characteristic	Constant current characteristic
• typical	3.8 A	8.2 A
overcurrent overload capability		
• when switching on	150% Iout rated typ. 200 ms	150% Iout rated typ. 200 ms
• in normal operation	overload capability 150% Iout rated typ. 200 ms	overload capability 150% Iout rated typ. 200 ms
enduring short circuit current RMS value		
• maximum	3.8 A	8.2 A
measuring point for output current	Yes; 50 mV =^ 3 A	Yes; 50 mV =^ 6.3 A
safety		
galvanic isolation between input and output	Yes	Yes
galvanic isolation	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178
operating resource protection class	Class II (without protective conductor)	Class II (without protective conductor)
protection class IP	IP20	IP20
standard		
• for emitted interference	EN 55022 Class B	EN 55022 Class B
• for mains harmonics limitation	not applicable	not applicable
• for interference immunity	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals		
certificate of suitability		
• CE marking	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus-Recognized (UL 60950, CSA C22.2 No. 60950), File E151273, NEC class 2 (acc. to UL 1310)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus-Recognized (UL 60950, CSA C22.2 No. 60950), File E151273
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus-Recognized (UL 60950, CSA C22.2 No. 60950), File E151273, NEC class 2 (acc. to UL 1310)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus-Recognized (UL 60950, CSA C22.2 No. 60950), File E151273
• EAC approval	Yes	Yes
• NEC Class 2	Yes; according to UL1310, File E151273	No
• SEMI F47	Yes	Yes
type of certification		
• CB-certificate	Yes	Yes
MTBF at 40 °C	2 931 709 h	2 654 280 h

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3310-6SB00-0AY0 LOGO!Power 5 V/3 A	6EP3311-6SB00-0AY0 LOGO!Power 5 V/6.3 A
standards, specifications, approvals hazardous environments		
certificate of suitability		
• IECEx	No	No
• ATEX	No	No
• ULhazloc approval	No	No
• cCSAus, Class 1, Division 2	No	No
• FM registration	No	No
standards, specifications, approvals marine classification		
shipbuilding approval	Yes	Yes
Marine classification association		
• American Bureau of Shipping Europe Ltd. (ABS)	Yes	Yes
• French marine classification society (BV)	Yes	Yes
• Det Norske Veritas (DNV)	Yes	Yes
• Lloyds Register of Shipping (LRS)	Yes	Yes
standards, specifications, approvals Environmental Product Declaration		
Environmental Product Declaration	Yes	Yes
Global Warming Potential [CO2 eq]		
• total	149.6 kg	254.5 kg
• during manufacturing	2.4 kg	3.9 kg
• during operation	147.1 kg	250.3 kg
• after end of life	0.08 kg	0.13 kg
ambient conditions		
ambient temperature		
• during operation	-25 ... +70 °C; with natural convection	-25 ... +70 °C; with natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method		
type of electrical connection	screw terminal	screw terminal
• at input	L, N: 1 screw terminal each for 0.5 ... 2.5 mm2 single-core/finely stranded	L, N: 1 screw terminal each for 0.5 ... 2.5 mm2 single-core/finely stranded
• at output	+, -: 1 screw terminal each for 0.5 ... 2.5 mm²	+, -: 1 screw terminal each for 0.5 ... 2.5 mm²
• for auxiliary contacts	-	-
mechanical data		
width × height × depth of the enclosure	36 mm × 53 mm	54 mm × 53 mm
installation width × mounting height	36 mm	54 mm
required spacing		
• top	20 mm	20 mm
• bottom	20 mm	20 mm
• left	0 mm	0 mm
• right	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15, direct mounting in different mounting positions	Snaps onto DIN rail EN 60715 35x7.5/15, direct mounting in different mounting positions
• standard rail mounting	Yes	Yes
• S7 rail mounting	No	No
• wall mounting	Yes	Yes
housing can be lined up	Yes	Yes
net weight	0.12 kg	0.2 kg

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3310-6SB00-0AY0 LOGO!Power 5 V/3 A	6EP3311-6SB00-0AY0 LOGO!Power 5 V/6.3 A
further information internet links		
internet link		
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com
additional information		
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information		
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

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Overview

Thanks to its stepped profile design, the LOGO!Power product line is ideally suited for installation in small distribution boards. The stabilized power supplies with wide-range input are available with an output voltage of 12 V in three performance classes. The 12 V versions are ideal for supplying LOGO! PLCs with the corresponding voltage input.

Product highlights

- 1-phase, 12 V DC/ 0.9 A, 1.9 A and 4.5 A
- Wide-range input, input voltage 100 ... 240 V AC (85 ... 264 V), 110 ... 300 V DC
- Narrow unit with width of 18 mm, 36 mm or 54 mm and overall depth of 53 mm in LOGO! design
- Up to 87.1% efficiency
- Integrated current monitor: actual output current measurement directly at the power supply unit (for devices at least 36 mm wide)
- cULus, cURus, NEC class 2, ABS, DNV GL certifications

Selection and ordering data

LOGO!Power 1-phase, 12 V DC/0.9 A Stabilized power supply Input: 100 ... 240 V AC (110 ... 300 V DC) Output: 12 V DC/0.9 A	**6EP3320-6SB00-0AY0**
LOGO!Power 1-phase, 12 V DC/1.9 A Stabilized power supply Input: 100 ... 240 V AC (110 ... 300 V DC) Output: 12 V DC/1.9 A	**6EP3321-6SB00-0AY0**
LOGO!Power 1-phase, 12 V DC/4.5 A Stabilized power supply Input: 100 ... 240 V AC (110 ... 300 V DC) Output: 12 V DC/4.5 A	**6EP3322-6SB00-0AY0**

Accessories

SITOP RED1200 redundancy modules	For more information, visit: www.siemens.com/sitop-redundancy/mall

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Technical specifications

Article number product brand name type of current supply	6EP3320-6SB00-0AY0 LOGO!Power 12 V/0.9 A	6EP3321-6SB00-0AY0 LOGO!Power 12 V/1.9 A	6EP3322-6SB00-0AY0 LOGO!Power 12 V/4.5 A
input			
type of the power supply network	1-phase AC or DC	1-phase AC or DC	1-phase AC or DC
supply voltage at AC			
• minimum rated value	100 V	100 V	100 V
• maximum rated value	240 V	240 V	240 V
• initial value	85 V	85 V	85 V
• full-scale value	264 V	264 V	264 V
input voltage at DC	110 ... 300 V	110 ... 300 V	110 ... 300 V
wide range input	Yes	Yes	Yes
overvoltage overload capability	300 V AC for 1 s	300 V AC for 1 s	300 V AC for 1 s
buffering time for rated value of the output current in the event of power failure minimum	40 ms	40 ms	40 ms
operating condition of the mains buffering	at Vin = 187 V	at Vin = 187 V	at Vin = 187 V
line frequency	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz
line frequency	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz
input current			
• at rated input voltage 120 V	0.3 A	0.53 A	1.13 A
• at rated input voltage 230 V	0.2 A	0.3 A	0.61 A
current limitation of inrush current at 25 °C maximum	20 A	25 A	50 A
I2t value maximum	0.8 $A^2 \cdot s$	0.8 $A^2 \cdot s$	3 $A^2 \cdot s$
fuse protection type	internal	internal	internal
fuse protection type in the feeder	Recommended miniature circuit breaker: from 6 A characteristic B or from 2 A characteristic C	Recommended miniature circuit breaker: from 6 A characteristic B or from 2 A characteristic C	Recommended miniature circuit breaker: from 10 A characteristic B or from 6 A characteristic C
output			
voltage curve at output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
output voltage at DC rated value	12 V	12 V	12 V
output voltage			
• at output 1 at DC rated value	12 V	12 V	12 V
	12 V	12 V	12 V
output voltage adjustable	No	Yes; via potentiometer	Yes; via potentiometer
adjustable output voltage		10.5 ... 16.1 V	10.5 ... 16.1 V
relative control precision of the output voltage			
• on slow fluctuation of input voltage	0.1 %	0.1 %	0.1 %
• on slow fluctuation of ohm loading	0.1 %	0.1 %	0.1 %
residual ripple			
• maximum	200 mV	200 mV	200 mV
• typical	30 mV	30 mV	30 mV
voltage peak			
• maximum	300 mV	300 mV	300 mV
• typical	50 mV	50 mV	50 mV
display version for normal operation	Green LED for output voltage OK	Green LED for output voltage OK	Green LED for output voltage OK
behavior of the output voltage when switching on	No overshoot of Vout (soft start)	No overshoot of Vout (soft start)	No overshoot of Vout (soft start)
response delay maximum	0.5 s	0.5 s	0.5 s
voltage increase time of the output voltage			
• typical	100 ms	100 ms	100 ms
output current			
• rated value	0.9 A	1.9 A	4.5 A
• rated range	0 ... 0.9 A; +55 ... +70 °C: Derating 2%/K	0 ... 1.9 A; +55 ... +70 °C: Derating 2%/K	0 ... 4.5 A; +55 ... +70 °C: Derating 2%/K
	0.0 ... 2.4 A	0.0 ... 2.4 A	2.6 ... 4.9 A
supplied active power typical	10.8 W	22.8 W	54 W

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3320-6SB00-0AY0 LOGO!Power 12 V/0.9 A	6EP3321-6SB00-0AY0 LOGO!Power 12 V/1.9 A	6EP3322-6SB00-0AY0 LOGO!Power 12 V/4.5 A
bridging of equipment	No	Yes	Yes
number of parallel-switched equipment resources		2	2
efficiency			
efficiency in percent	78 %	81 %	87.1 %
power loss [W]			
• at rated output voltage for rated value of the output current typical	3 W	5.3 W	8 W
• during no-load operation maximum	0.3 W	0.3 W	0.3 W
closed-loop control			
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	0.2 %	0.2 %	0.2 %
relative control precision of the output voltage at load step of resistive load 10/90/10 % typical	3 %	2 %	4 %
setting time			
• load step 10 to 90% typical	1 ms	1 ms	1 ms
• load step 90 to 10% typical	1 ms	1 ms	1 ms
protection and monitoring			
design of the overvoltage protection	Yes, according to EN 60950-1	Yes, according to EN 60950-1	Yes, according to EN 60950-1
property of the output short-circuit proof	Yes	Yes	Yes
design of short-circuit protection	Constant current characteristic	Constant current characteristic	Constant current characteristic
• typical	1.3 A	2.5 A	5 A
overcurrent overload capability			
• when switching on	150% Iout rated typ. 200 ms	150% Iout rated typ. 200 ms	150% Iout rated typ. 200 ms
• in normal operation	overload capability 150% Iout rated typ. 200 ms	overload capability 150% Iout rated typ. 200 ms	overload capability 150% Iout rated typ. 200 ms
enduring short circuit current RMS value			
• maximum	1.3 A	2.5 A	5 A
measuring point for output current	No	Yes; 50 mV =^ 1.9 A	Yes; 50 mV =^ 4.5 A
safety			
galvanic isolation between input and output	Yes	Yes	Yes
galvanic isolation	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178
operating resource protection class	Class II (without protective conductor)	Class II (without protective conductor)	Class II (without protective conductor)
protection class IP	IP20	IP20	IP20
standard			
• for emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
• for mains harmonics limitation	not applicable	not applicable	not applicable
• for interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals			
certificate of suitability			
• CE marking	Yes	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus-Recognized (UL 60950, CSA C22.2 No. 60950), File E151273, NEC class 2 (acc. to UL 1310)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus-Recognized (UL 60950, CSA C22.2 No. 60950), File E151273, NEC class 2 (acc. to UL 1310)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus-Recognized (UL 60950, CSA C22.2 No. 60950), File E151273, NEC class 2 (acc. to UL 1310)
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus-Recognized (UL 60950, CSA C22.2 No. 60950), File E151273, NEC class 2 (acc. to UL 1310)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus-Recognized (UL 60950, CSA C22.2 No. 60950), File E151273, NEC class 2 (acc. to UL 1310)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus-Recognized (UL 60950, CSA C22.2 No. 60950), File E151273, NEC class 2 (acc. to UL 1310)
• EAC approval	Yes	Yes	Yes

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3320-6SB00-0AY0 LOGO!Power 12 V/0.9 A	6EP3321-6SB00-0AY0 LOGO!Power 12 V/1.9 A	6EP3322-6SB00-0AY0 LOGO!Power 12 V/4.5 A
• NEC Class 2	Yes; according to UL1310, File E151273	Yes; according to UL1310, File E151273	Yes; according to UL1310, File E151273
• SEMI F47	Yes	Yes	Yes
type of certification			
• CB-certificate	Yes	Yes	Yes
MTBF at 40 °C	3 793 080 h	2 938 542 h	2 566 680 h
standards, specifications, approvals hazardous environments			
certificate of suitability			
• IECEx	No	No	No
• ATEX	No	No	No
• ULhazloc approval	No	No	No
• cCSAus, Class 1, Division 2	No	No	No
• FM registration	No	No	No
standards, specifications, approvals marine classification			
shipbuilding approval	Yes	Yes	Yes
Marine classification association			
• American Bureau of Shipping Europe Ltd. (ABS)	Yes	Yes	Yes
• French marine classification society (BV)	Yes	Yes	Yes
• Det Norske Veritas (DNV)	Yes	Yes	Yes
• Lloyds Register of Shipping (LRS)	Yes	Yes	Yes
standards, specifications, approvals Environmental Product Declaration			
Environmental Product Declaration	Yes	Yes	Yes
Global Warming Potential [CO2 eq]			
• total	95.1 kg	168.3 kg	254.5 kg
• during manufacturing	1.4 kg	2.4 kg	3.9 kg
• during operation	93.7 kg	165.8 kg	250.3 kg
• after end of life	0.04 kg	0.08 kg	0.13 kg
ambient conditions			
ambient temperature			
• during operation	-25 ... +70 °C; with natural convection	-25 ... +70 °C; with natural convection	-25 ... +70 °C; with natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method			
type of electrical connection	screw terminal	screw terminal	screw terminal
• at input	L, N: 1 screw terminal each for 0.5 ... 2.5 mm2 single-core/finely stranded	L, N: 1 screw terminal each for 0.5 ... 2.5 mm2 single-core/finely stranded	L, N: 1 screw terminal each for 0.5 ... 2.5 mm2 single-core/finely stranded
• at output	+, -: 1 screw terminal each for 0.5 ... 2.5 mm²	+, -: 1 screw terminal each for 0.5 ... 2.5 mm²	+, -: 1 screw terminal each for 0.5 ... 2.5 mm²
• for auxiliary contacts	-	-	-
mechanical data			
width × height × depth of the enclosure	18 mm × 53 mm	36 mm × 53 mm	54 mm × 53 mm
installation width × mounting height	18 mm	36 mm	54 mm
required spacing			
• top	20 mm	20 mm	20 mm
• bottom	20 mm	20 mm	20 mm

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3320-6SB00-0AY0 LOGO!Power 12 V/0.9 A	6EP3321-6SB00-0AY0 LOGO!Power 12 V/1.9 A	6EP3322-6SB00-0AY0 LOGO!Power 12 V/4.5 A
• left	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15, direct mounting in different mounting positions	Snaps onto DIN rail EN 60715 35x7.5/15, direct mounting in different mounting positions	Snaps onto DIN rail EN 60715 35x7.5/15, direct mounting in different mounting positions
• standard rail mounting	Yes	Yes	Yes
• S7 rail mounting	No	No	No
• wall mounting	Yes	Yes	Yes
housing can be lined up	Yes	Yes	Yes
net weight	0.07 kg	0.12 kg	0.2 kg
further information internet links			
internet link			
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com
additional information			
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information			
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

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Overview

Thanks to its stepped profile design, the LOGO!Power product line is ideally suited for installation in small distribution boards. The stabilized power supplies with a wide-range input are available with an output voltage of 15 V in two performance classes.

Product highlights

- 1-phase, 15 V DC/ 1.9 A and 4.0 A
- Wide-range input, input voltage 100 ... 240 V AC (85 ... 264 V), 110 ... 300 V DC
- Narrow unit with 36 mm or 54 mm width and overall depth of 53 mm in LOGO! design
- Up to 88.4% efficiency
- Integrated current monitor: actual output current measurement directly at the power supply unit
- cULus, cURus, NEC class 2, ABS, BV, DNV GL, LRS certifications

Selection and ordering data

LOGO!Power 1-phase, 15 V DC/1.9 A	
Stabilized power supply Input: 100 ... 240 V AC (110 ... 300 V DC) Output: 15 V DC/1.9 A	**6EP3321-6SB10-0AY0**
LOGO!Power 1-phase, 15 V DC/4 A	
Stabilized power supply Input: 100 ... 240 V AC (110 ... 300 V DC) Output: 15 V DC/4 A	**6EP3322-6SB10-0AY0**

Accessories

SITOP RED1200 redundancy modules	For more information, visit: www.siemens.com/sitop-redundancy/mall

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Technical specifications

Article number product brand name type of current supply	6EP3321-6SB10-0AY0 LOGO!Power 15 V/1.9 A	6EP3322-6SB10-0AY0 LOGO!Power 15 V/4 A
input		
type of the power supply network	1-phase AC or DC	1-phase AC or DC
supply voltage at AC		
• minimum rated value	100 V	100 V
• maximum rated value	240 V	240 V
• initial value	85 V	85 V
• full-scale value	264 V	264 V
input voltage at DC	110 ... 300 V	110 ... 300 V
wide range input	Yes	Yes
overvoltage overload capability	300 V AC for 1 s	300 V AC for 1 s
buffering time for rated value of the output current in the event of power failure minimum	40 ms	40 ms
operating condition of the mains buffering	at Vin = 187 V	at Vin = 187 V
line frequency	50 Hz/60 Hz	50 Hz/60 Hz
line frequency	47 ... 63 Hz	47 ... 63 Hz
input current		
• at rated input voltage 120 V	0.63 A	1.24 A
• at rated input voltage 230 V	0.33 A	0.68 A
current limitation of inrush current at 25 °C maximum	25 A	55 A
I2t value maximum	0.8 $A^2 \cdot s$	3 $A^2 \cdot s$
fuse protection type	internal	internal
fuse protection type in the feeder	Recommended miniature circuit breaker: from 6 A characteristic B or from 2 A characteristic C	Recommended miniature circuit breaker: from 10 A characteristic B or from 6 A characteristic C
output		
voltage curve at output	Controlled, isolated DC voltage	Controlled, isolated DC voltage
output voltage at DC rated value	15 V	15 V
output voltage		
• at output 1 at DC rated value	15 V	15 V
	15 V	15 V
output voltage adjustable	Yes; via potentiometer	Yes; via potentiometer
adjustable output voltage	10.5 ... 16.1 V	10.5 ... 16.1 V
relative control precision of the output voltage		
• on slow fluctuation of input voltage	0.1 %	0.1 %
• on slow fluctuation of ohm loading	0.1 %	0.1 %
residual ripple		
• maximum	200 mV	200 mV
• typical	30 mV	30 mV
voltage peak		
• maximum	300 mV	300 mV
• typical	50 mV	50 mV
display version for normal operation	Green LED for output voltage OK	Green LED for output voltage OK
behavior of the output voltage when switching on	No overshoot of Vout (soft start)	No overshoot of Vout (soft start)
response delay maximum	0.5 s	0.5 s
voltage increase time of the output voltage		
• typical	100 ms	100 ms
output current		
• rated value	1.9 A	4 A
• rated range	0 ... 1.9 A; +55 ... +70 °C: Derating 2%/K	0 ... 4 A; +55 ... +70 °C: Derating 2%/K
	0.0 ... 2.4 A	2.6 ... 4.9 A
supplied active power typical	28.5 W	60 W

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3321-6SB10-0AY0 LOGO!Power 15 V/1.9 A	6EP3322-6SB10-0AY0 LOGO!Power 15 V/4 A
bridging of equipment	Yes	Yes
number of parallel-switched equipment resources	2	2
efficiency		
efficiency in percent	83.4 %	88.4 %
power loss [W]		
• at rated output voltage for rated value of the output current typical	5.7 W	7.9 W
• during no-load operation maximum	0.3 W	0.3 W
closed-loop control		
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	0.2 %	0.2 %
relative control precision of the output voltage at load step of resistive load 10/90/10 % typical	2 %	3 %
setting time		
• load step 10 to 90% typical	1 ms	1 ms
• load step 90 to 10% typical	1 ms	1 ms
protection and monitoring		
design of the overvoltage protection	Yes, according to EN 60950-1	Yes, according to EN 60950-1
property of the output short-circuit proof	Yes	Yes
design of short-circuit protection	Constant current characteristic	Constant current characteristic
• typical	2.5 A	5 A
overcurrent overload capability		
• when switching on	150% Iout rated typ. 200 ms	150% Iout rated typ. 200 ms
• in normal operation	overload capability 150% Iout rated typ. 200 ms	overload capability 150% Iout rated typ. 200 ms
enduring short circuit current RMS value		
• maximum	2.5 A	5 A
measuring point for output current	Yes; 50 mV =^ 1.9 A	Yes; 45 mV =^ 4 A
safety		
galvanic isolation between input and output	Yes	Yes
galvanic isolation	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178
operating resource protection class	Class II (without protective conductor)	Class II (without protective conductor)
protection class IP	IP20	IP20
standard		
• for emitted interference	EN 55022 Class B	EN 55022 Class B
• for mains harmonics limitation	not applicable	not applicable
• for interference immunity	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals		
certificate of suitability		
• CE marking	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus-Recognized (UL 60950, CSA C22.2 No. 60950), File E151273, NEC class 2 (acc. to UL 1310)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus-Recognized (UL 60950, CSA C22.2 No. 60950), File E151273, NEC class 2 (acc. to UL 1310)
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus-Recognized (UL 60950, CSA C22.2 No. 60950), File E151273, NEC class 2 (acc. to UL 1310)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus-Recognized (UL 60950, CSA C22.2 No. 60950), File E151273, NEC class 2 (acc. to UL 1310)
• EAC approval	Yes	Yes
• NEC Class 2	Yes; according to UL1310, File E151273	Yes; according to UL1310, File E151273
• SEMI F47	Yes	Yes
type of certification		
• CB-certificate	Yes	Yes
MTBF at 40 °C	2 938 542 h	2 566 680 h

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3321-6SB10-0AY0 LOGO!Power 15 V/1.9 A	6EP3322-6SB10-0AY0 LOGO!Power 15 V/4 A
standards, specifications, approvals hazardous environments		
certificate of suitability		
• IECEx	No	No
• ATEX	No	No
• ULhazloc approval	No	No
• cCSAus, Class 1, Division 2	No	No
• FM registration	No	No
standards, specifications, approvals marine classification		
shipbuilding approval	Yes	Yes
Marine classification association		
• American Bureau of Shipping Europe Ltd. (ABS)	Yes	Yes
• French marine classification society (BV)	Yes	Yes
• Det Norske Veritas (DNV)	Yes	Yes
• Lloyds Register of Shipping (LRS)	Yes	Yes
standards, specifications, approvals Environmental Product Declaration		
Environmental Product Declaration	Yes	Yes
Global Warming Potential [CO2 eq]		
• total	180.7 kg	251.2 kg
• during manufacturing	2.4 kg	3.9 kg
• during operation	178.2 kg	247.1 kg
• after end of life	0.08 kg	0.13 kg
ambient conditions		
ambient temperature		
• during operation	-25 ... +70 °C; with natural convection	-25 ... +70 °C; with natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method		
type of electrical connection	screw terminal	screw terminal
• at input	L, N: 1 screw terminal each for 0.5 ... 2.5 mm2 single-core/finely stranded	L, N: 1 screw terminal each for 0.5 ... 2.5 mm2 single-core/finely stranded
• at output	+, -: 1 screw terminal each for 0.5 ... 2.5 mm²	+, -: 1 screw terminal each for 0.5 ... 2.5 mm²
• for auxiliary contacts	-	-
mechanical data		
width × height × depth of the enclosure	36 mm × 53 mm	54 mm × 53 mm
installation width × mounting height	36 mm	54 mm
required spacing		
• top	20 mm	20 mm
• bottom	20 mm	20 mm
• left	0 mm	0 mm
• right	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15, direct mounting in different mounting positions	Snaps onto DIN rail EN 60715 35x7.5/15, direct mounting in different mounting positions
• standard rail mounting	Yes	Yes
• S7 rail mounting	No	No
• wall mounting	Yes	Yes
housing can be lined up	Yes	Yes
net weight	0.12 kg	0.2 kg

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3321-6SB10-0AY0 LOGO!Power 15 V/1.9 A	6EP3322-6SB10-0AY0 LOGO!Power 15 V/4 A
further information internet links		
internet link		
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com
additional information		
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information		
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

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Overview

Thanks to its stepped profile design, the LOGO!Power product line is ideally suited for installation in small distribution boards. The stabilized power supplies with wide-range input are available with an output voltage of 24 V in four performance classes. The 24 V variants are ideal for supplying LOGO! PLCs with the corresponding voltage input.

To further increase the 24 V availability, the LOGO!Power power supply units can be combined with **DC UPS**, **redundancy** and **selectivity modules**.

Product highlights

- 1-phase, 24 V DC/ 0.6 A, 1.3 A, 2.5 A and 4.0 A
- Input voltage 100 ... 240 V AC (85 ... 264 V), 110 ... 300 V DC
- Narrow unit with width of 18 mm, 36 mm, 54 mm or 72 mm and overall depth of 53 mm in LOGO! design
- Up to 90% efficiency
- Integrated current monitor: Actual output current measurement directly at the power supply unit (for devices at least 36 mm wide)
- cULus, cURus, NEC class 2, ABS, BV, DNV GL, LRS certifications
- LOGO!Power Ex 24 V/4.0 A, for use in Zone 2 hazardous environments (gases, vapors or mists)

Selection and ordering data

LOGO!Power 1-phase, 24 V DC/0.6 A Stabilized power supply Input: 100 ... 240 V AC (110 ... 300 V DC) Output: 24 V DC/0.6 A	**6EP3330-6SB00-0AY0**
LOGO!Power 1-phase, 24 V DC/1.3 A Stabilized power supply Input: 100 ... 240 V AC (110 ... 300 V DC) Output: 24 V DC/1.3 A	**6EP3331-6SB00-0AY0**
LOGO!Power 1-phase, 24 V DC/2.5 A Stabilized power supply Input: 100 ... 240 V AC (110 ... 300 V DC) Output: 24 V DC/2.5 A	**6EP3332-6SB00-0AY0**
LOGO!Power 1-phase, 24 V DC/4 A Stabilized power supply Input: 100 ... 240 V AC (110 ... 300 V DC) Output: 24 V DC/4 A	**6EP3333-6SB00-0AY0**
LOGO!Power Ex 1-phase, 24 V DC/4 A Stabilized power supply Input: 100 ... 240 V AC (110 ... 300 V DC) Output: 24 V DC/4 A	**6EP3333-6SC00-0AY0**

Accessories

SITOP redundancy modules	For more information, visit: www.siemens.com/sitop-redundancy/mall
SITOP selectivity modules	For more information, visit: www.siemens.com/sitop-selectivity/mall
SITOP BUF1200 buffer module	For more information, visit: www.siemens.com/sitop-buffering/mall
SITOP DC UPS	For more information, visit: www.siemens.com/sitop-ups/mall

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Technical specifications

Article number	6EP3330-6SB00-0AY0	6EP3331-6SB00-0AY0	6EP3332-6SB00-0AY0	6EP3333-6SB00-0AY0	6EP3333-6SC00-0AY0
product brand name	LOGO!Power	LOGO!Power	LOGO!Power	LOGO!Power	LOGO!Power EX
type of current supply	24 V/0.6 A	24 V/1.3 A	24 V/2.5 A	24 V/4 A	24 V/4 A
input					
type of the power supply network	1-phase AC or DC	1-phase AC or DC	1-phase AC or DC	1-phase AC or DC	1-phase AC or DC
supply voltage at AC					
• minimum rated value	100 V	100 V	100 V	100 V	100 V
• maximum rated value	240 V	240 V	240 V	240 V	240 V
• initial value	85 V	85 V	85 V	85 V	85 V
• full-scale value	264 V	264 V	264 V	264 V	264 V
input voltage at DC	110 ... 300 V	110 ... 300 V	110 ... 300 V	110 ... 300 V	110 ... 300 V
wide range input	Yes	Yes	Yes	Yes	Yes
overvoltage overload capability	300 V AC for 1 s	300 V AC for 1 s	300 V AC for 1 s	300 V AC for 1 s	300 V AC for 1 s
buffering time for rated value of the output current in the event of power failure minimum	40 ms	40 ms	40 ms	40 ms	40 ms
operating condition of the mains buffering	at Vin = 187 V	at Vin = 187 V	at Vin = 187 V	at Vin = 187 V	at Vin = 187 V
line frequency	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz
line frequency	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz
input current					
• at rated input voltage 120 V	0.3 A	0.7 A	1.22 A	1.95 A	1.95 A
• at rated input voltage 230 V	0.2 A	0.35 A	0.66 A	0.97 A	0.97 A
current limitation of inrush current at 25 °C maximum	20 A	25 A	52 A	31 A	31 A
I2t value maximum	0.8 $A^2 \cdot s$	0.8 $A^2 \cdot s$	3 $A^2 \cdot s$	2.5 $A^2 \cdot s$	2.5 $A^2 \cdot s$
fuse protection type	internal	internal	internal	internal	internal
fuse protection type in the feeder	Recommended miniature circuit breaker: from 6 A characteristic B or from 2 A characteristic C	Recommended miniature circuit breaker: from 6 A characteristic B or from 2 A characteristic C	Recommended miniature circuit breaker: from 10 A characteristic B or from 6 A characteristic C	Recommended miniature circuit breaker: from 10 A characteristic B or from 6 A characteristic C	Recommended miniature circuit breaker: from 10 A characteristic B or from 6 A characteristic C
output					
voltage curve at output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
output voltage at DC rated value	24 V	24 V	24 V	24 V	24 V
output voltage					
• at output 1 at DC rated value	24 V	24 V	24 V	24 V	24 V
	24 V	24 V	24 V	24 V	24 V
output voltage adjustable	No	Yes; via potentiometer	Yes; via potentiometer	Yes; via potentiometer	Yes; via potentiometer
adjustable output voltage		22.2 ... 26.4 V	22.2 ... 26.4 V	22.2 ... 26.4 V	22.2 ... 26.4 V
relative control precision of the output voltage					
• on slow fluctuation of input voltage	0.1 %	0.1 %	0.1 %	0.1 %	0.1 %
• on slow fluctuation of ohm loading	0.1 %	0.1 %	0.1 %	0.1 %	0.1 %
residual ripple					
• maximum	200 mV	200 mV	200 mV	200 mV	200 mV
• typical	30 mV	30 mV	30 mV	30 mV	30 mV
voltage peak					
• maximum	300 mV	300 mV	300 mV	300 mV	300 mV
• typical	50 mV	50 mV	50 mV	50 mV	50 mV
display version for normal operation	Green LED for output voltage OK	Green LED for output voltage OK	Green LED for output voltage OK	Green LED for output voltage OK	Green LED for output voltage OK

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Technical specifications (continued)

Article number	6EP3330-6SB00-0A-Y0	6EP3331-6SB00-0A-Y0	6EP3332-6SB00-0A-Y0	6EP3333-6SB00-0A-Y0	6EP3333-6SC00-0A-Y0
product brand name	LOGO!Power	LOGO!Power	LOGO!Power	LOGO!Power	LOGO!Power EX
type of current supply	24 V/0.6 A	24 V/1.3 A	24 V/2.5 A	24 V/4 A	24 V/4 A
behavior of the output voltage when switching on	No overshoot of Vout (soft start)	No overshoot of Vout (soft start)	No overshoot of Vout (soft start)	No overshoot of Vout (soft start)	No overshoot of Vout (soft start)
response delay maximum	0.5 s	0.5 s	0.5 s	0.5 s	0.5 s
voltage increase time of the output voltage					
• typical	100 ms	100 ms	100 ms	100 ms	100 ms
output current					
• rated value	0.6 A	1.3 A	2.5 A	4 A	4 A
• rated range	0 ... 0.6 A; +55 ... +70 °C: Derating 2%/K	0 ... 1.3 A; +55 ... +70 °C: Derating 2%/K	0 ... 2.5 A; +55 ... +70 °C: Derating 2%/K	0 ... 4 A; +55 ... +70 °C: Derating 2%/K	0 ... 4 A; +55 ... +70 °C: Derating 2%/K
	0.0 ... 2.4 A	0.0 ... 2.4 A	2.5 A	2.6 ... 4.9 A	2.6 ... 4.9 A
supplied active power typical	14.4 W	31.2 W	60 W	96 W	96 W
bridging of equipment	No	Yes	Yes	Yes	
number of parallel-switched equipment resources		2	2	2	
efficiency					
efficiency in percent	81 %	86 %	89.6 %	89.1 %	89.1 %
power loss [W]					
• at rated output voltage for rated value of the output current typical	3.4 W	5.1 W	7 W	11.7 W	11.7 W
• during no-load operation maximum	0.3 W	0.3 W	0.3 W	0.3 W	0.3 W
closed-loop control					
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	0.2 %	0.2 %	0.2 %	0.2 %	0.2 %
relative control precision of the output voltage at load step of resistive load 10/90/10 % typical	2 %	1 %	2 %	2 %	2 %
setting time					
• load step 10 to 90% typical	1 ms	1 ms	1 ms	1 ms	1 ms
• load step 90 to 10% typical	1 ms	1 ms	1 ms	1 ms	1 ms
protection and monitoring					
design of the overvoltage protection	Yes, according to EN 60950-1	Yes, according to EN 60950-1	Yes, according to EN 60950-1	Yes, according to EN 60950-1	Yes, according to EN 60950-1
property of the output short-circuit proof	Yes	Yes	Yes	Yes	Yes
design of short-circuit protection	Constant current characteristic	Constant current characteristic	Constant current characteristic	Constant current characteristic	Constant current characteristic
• typical	0.8 A	1.7 A	3.2 A	5 A	5 A
overcurrent overload capability					
• when switching on	150% Iout rated typ. 200 ms	150% Iout rated typ. 200 ms	150% Iout rated typ. 200 ms	150% Iout rated typ. 200 ms	150% Iout rated typ. 200 ms
• in normal operation	overload capability 150% Iout rated typ. 200 ms	overload capability 150% Iout rated typ. 200 ms	overload capability 150% Iout rated typ. 200 ms	overload capability 150% Iout rated typ. 200 ms	overload capability 150% Iout rated typ. 200 ms
enduring short circuit current RMS value					
• maximum	0.8 A	1.7 A	3.2 A	5 A	5 A
measuring point for output current	No	Yes; 50 mV =^ 1.3 A	Yes; 50 mV =^ 2.5 A	Yes; 50 mV =^ 4 A	Yes; 50 mV =^ 4 A
safety					
galvanic isolation between input and output	Yes	Yes	Yes	Yes	Yes
galvanic isolation	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178

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Technical specifications (continued)

Article number	6EP3330-6SB00-0A-Y0	6EP3331-6SB00-0A-Y0	6EP3332-6SB00-0A-Y0	6EP3333-6SB00-0A-Y0	6EP3333-6SC00-0A-Y0
product brand name	LOGO!Power	LOGO!Power	LOGO!Power	LOGO!Power	LOGO!Power EX
type of current supply	24 V/0.6 A	24 V/1.3 A	24 V/2.5 A	24 V/4 A	24 V/4 A
operating resource protection class	Class II (without protective conductor)	Class II (without protective conductor)	Class II (without protective conductor)	Class II (without protective conductor)	Class II (without protective conductor)
protection class IP	IP20	IP20	IP20	IP20	IP20
standard					
• for emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
• for mains harmonics limitation	not applicable	not applicable	not applicable	EN 61000-3-2	EN 61000-3-2
• for interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals					
certificate of suitability					
• CE marking	Yes	Yes	Yes	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus-Recognized (UL 60950, CSA C22.2 No. 60950), File E151273, NEC class 2 (acc. to UL 1310)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus-Recognized (UL 60950, CSA C22.2 No. 60950), File E151273, NEC class 2 (acc. to UL 1310)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus-Recognized (UL 60950, CSA C22.2 No. 60950), File E151273, NEC class 2 (acc. to UL 1310)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus-Recognized (UL 60950, CSA C22.2 No. 60950), File E151273	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus-Recognized (UL 60950, CSA C22.2 No. 60950), File E151273
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus-Recognized (UL 60950, CSA C22.2 No. 60950), File E151273, NEC class 2 (acc. to UL 1310)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus-Recognized (UL 60950, CSA C22.2 No. 60950), File E151273, NEC class 2 (acc. to UL 1310)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus-Recognized (UL 60950, CSA C22.2 No. 60950), File E151273, NEC class 2 (acc. to UL 1310)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus-Recognized (UL 60950, CSA C22.2 No. 60950), File E151273	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus-Recognized (UL 60950, CSA C22.2 No. 60950), File E151273
• UKCA marking					Yes
• EAC approval	Yes	Yes	Yes	Yes	
• NEC Class 2	Yes; according to UL1310, File E151273	Yes; according to UL1310, File E151273	Yes; according to UL1310, File E151273	No	No
• SEMI F47	Yes	Yes	Yes	Yes	
type of certification					
• BIS		Yes; R-41188271	Yes; R-41188271	Yes; R-41188271	
• CB-certificate	Yes	Yes	Yes	Yes	Yes
MTBF at 40 °C	4 415 040 h	3 094 996 h	2 864 520 h	2 391 480 h	2 391 480 h
standards, specifications, approvals hazardous environments					
certificate of suitability					
• IECEx	No	No	No	No	Yes; IECEx Ex ec IIC T3 Gc
• ATEX	No	No	No	No	Yes; ATEX (EX) II 3G Ex ec IIC T3 Gc
• ULhazloc approval	No	No	No	No	Yes
• cCSAus, Class 1, Division 2	No	No	No	No	Yes
• FM registration	No	No	No	No	Yes; Class I, Div. 2, Group ABCD, T4
standards, specifications, approvals marine classification					
shipbuilding approval	Yes	Yes	Yes	Yes	No
Marine classification association					
• American Bureau of Shipping Europe Ltd. (ABS)	Yes	Yes	Yes	Yes	No
• French marine classification society (BV)	Yes	Yes	Yes	Yes	No
• Det Norske Veritas (DNV)	Yes	Yes	Yes	Yes	No; in preparation
• Lloyds Register of Shipping (LRS)	Yes	Yes	Yes	Yes	No

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Technical specifications (continued)

Article number	6EP3330-6SB00-0A-Y0	6EP3331-6SB00-0A-Y0	6EP3332-6SB00-0A-Y0	6EP3333-6SB00-0A-Y0	6EP3333-6SC00-0A-Y0
product brand name	LOGO!Power	LOGO!Power	LOGO!Power	LOGO!Power	LOGO!Power EX
type of current supply	24 V/0.6 A	24 V/1.3 A	24 V/2.5 A	24 V/4 A	24 V/4 A
standards, specifications, approvals Environmental Product Declaration					
Environmental Product Declaration	Yes	Yes	Yes	Yes	Yes
Global Warming Potential [CO2 eq]					
• total	107.9 kg	162 kg	223 kg	372 kg	372 kg
• during manufacturing	1.4 kg	2.4 kg	3.9 kg	5.7 kg	5.7 kg
• during operation	106.5 kg	159.6 kg	218.9 kg	366 kg	366 kg
• after end of life	0.04 kg	0.08 kg	0.13 kg	0.18 kg	0.18 kg
ambient conditions					
ambient temperature					
• during operation	-25 ... +70 °C; with natural convection	-25 ... +70 °C; with natural convection	-25 ... +70 °C; with natural convection	-25 ... +70 °C; with natural convection	-25 ... +70 °C; with natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method					
type of electrical connection	screw terminal	screw terminal	screw terminal	screw terminal	screw terminal
• at input	L, N: 1 screw terminal each for 0.5 ... 2.5 mm2 single-core/finely stranded	L, N: 1 screw terminal each for 0.5 ... 2.5 mm2 single-core/finely stranded	L, N: 1 screw terminal each for 0.5 ... 2.5 mm2 single-core/finely stranded	L, N: 1 screw terminal each for 0.5 ... 2.5 mm2 single-core/finely stranded	L, N: 1 screw terminal each for 0.5 ... 2.5 mm2 single-core/finely stranded
• at output	+, -: 1 screw terminal each for 0.5 ... 2.5 mm²	+, -: 1 screw terminal each for 0.5 ... 2.5 mm²	+, -: 1 screw terminal each for 0.5 ... 2.5 mm²	+, -: 1 screw terminal each for 0.5 ... 2.5 mm²	+, -: 1 screw terminal each for 0.5 ... 2.5 mm²
• for auxiliary contacts	-	-	-	-	-
mechanical data					
width × height × depth of the enclosure	18 mm × 53 mm	36 mm × 53 mm	54 mm × 53 mm	72 mm × 53 mm	72 mm × 53 mm
installation width × mounting height	18 mm	36 mm	54 mm	72 mm	72 mm
required spacing					
• top	20 mm	20 mm	20 mm	20 mm	20 mm
• bottom	20 mm	20 mm	20 mm	20 mm	20 mm
• left	0 mm	0 mm	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15, direct mounting in different mounting positions	Snaps onto DIN rail EN 60715 35x7.5/15, direct mounting in different mounting positions	Snaps onto DIN rail EN 60715 35x7.5/15, direct mounting in different mounting positions	Snaps onto DIN rail EN 60715 35x7.5/15, direct mounting in different mounting positions	Snaps onto DIN rail EN 60715 35x7.5/15, direct mounting in different mounting positions
• standard rail mounting	Yes	Yes	Yes	Yes	Yes
• S7 rail mounting	No	No	No	No	No
• wall mounting	Yes	Yes	Yes	Yes	Yes
housing can be lined up	Yes	Yes	Yes	Yes	Yes
net weight	0.07 kg	0.12 kg	0.2 kg	0.29 kg	0.29 kg
further information internet links					
internet link					
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com
additional information					
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)

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Technical specifications (continued)

Article number	6EP3330-6SB00-0A-Y0	6EP3331-6SB00-0A-Y0	6EP3332-6SB00-0A-Y0	6EP3333-6SB00-0A-Y0	6EP3333-6SC00-0A-Y0
product brand name	LOGO!Power	LOGO!Power	LOGO!Power	LOGO!Power	LOGO!Power EX
type of current supply	24 V/0.6 A	24 V/1.3 A	24 V/2.5 A	24 V/4 A	24 V/4 A
security information					
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. 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5/2	Introduction
5/3	1-phase, 24 V DC (for S7-300 and ET 200M)
5/10	1-phase, 24 V DC (for S7-1200)
5/13	1-phase, 24 V DC (for S7-1500 and ET 200MP)
5/18	1-phase, 24 V DC (for SIMATIC ET 200SP)
5/23	3-phase, 24 V DC (ET200pro PS, IP67)

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Overview

The optimum supply for SIMATIC S7 and more

The original SIMATIC power supplies harmonize perfectly with the PLC network in terms of their design and functionality. This ensures that controller and power supply are perfectly matched. In addition, the startup and power reserves of the power supply units meet the requirements of the respective controllers. The mounting options of both components are the same. The issued certifications and the permitted temperature range allow the components to be used together in almost all areas. The system test that was performed for each of the SITOP power supply units in SIMATIC design together with the respective SIMATIC controller is particularly noteworthy.

In addition to the following SIMATIC systems, the SITOP power supply units in SIMATIC design also supply further consumers reliably with 24 V.

- SIMATIC S7-1200
- SIMATIC S7-1500
- SIMATIC ET 200MP
- SIMATIC ET 200pro
- SIMATIC ET 200SP

More information

Select the appropriate power supply quickly and easily with the TIA Selection Tool:

http://www.siemens.com/tst

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Overview

The design and functionality of the SIMATIC PS307 single-phase load power supply (system and load current supply) with automatic range switching of the input voltage are an optimal match to the SIMATIC S7-300 PLC. The supply to the CPU is quickly established by means of the connecting comb that is supplied with the system and load current supply. It is also possible to provide a 24 V supply to other S7-300 system components, input/output circuits of the input/output modules and, if necessary, the sensors and actuators. Comprehensive certifications such as UL and GL enable universal use (does not apply to outdoor use).

Design

- The system and load current supplies are screwed directly onto the S7-300 DIN rail and can be mounted directly to the left of the CPU (no installation clearance required)
- Diagnostics LED for indicating "Output voltage 24 V DC OK"
- ON/OFF switches (operation/stand-by) for possible swapping of modules
- Strain-relief assembly for input voltage connection cable

Function

- Connection to all 1-phase 50/60 Hz networks (120 / 230 V AC) through automatic range switching (PS307) or manual switching (PS307, outdoor)
- Short-term mains buffering
- Output voltage 24 V DC, stabilized, short-circuit-proof, open-circuit-proof
- Parallel connection of two power supplies for enhanced performance
- Ex approval for use in Zone 2 hazardous environments (gases, vapors or mists)

Selection and ordering data

PS307 load current supply, 2 A incl. connecting comb Input: 120/230 V AC Output: 24 V DC/2 A	**6ES7307-1BA01-0AA0**
SIMATIC S7-300 Outdoor, 2 A Stabilized power supply PS305 Input: 24 ... 110 V DC Output: 24 V DC/2 A	**6ES7305-1BA80-0AA0**
PS307 load current supply, 5 A incl. connecting comb Input: 120/230 V AC Output: 24 V DC/5 A	**6ES7307-1EA01-0AA0**
SIMATIC S7-300 Outdoor, 5 A Stabilized power supply PS307 Input: 120/230 V AC Output: 24 V DC/5 A	**6ES7307-1EA80-0AA0**
PS307 load current supply, 10 A Input: 120/230 V AC Output: 24 V DC/10 A	**6ES7307-1KA02-0AA0**

Accessories

SIMATIC S7-300 mounting adapter For snapping the new PS 307 onto a 35 mm DIN rail (EN 60715) Spare part	**6EP1971-1BA00**
SIMATIC S7-300 mounting adapter For snapping the PS307 onto 35 mm DIN rails	**6ES7390-6BA00-0AA0**

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Technical specifications

Article number	6ES7307-1BA01-0AA0	6ES7305-1BA80-0AA0	6ES7307-1EA01-0AA0	6ES7307-1EA80-0AA0	6ES7307-1KA02-0AA0
product brand name	PS 307	PS 305 Outdoor	PS 307	PS 307 Outdoor	PS 307
type of current supply	24 V/2 A	24 V/2 A	24 V/5 A	24 V/5 A	24 V/10 A
input					
type of the power supply network	1-phase AC	DC voltage	1-phase AC	1-phase AC	1-phase AC
supply voltage at AC	Automatic range selection		Automatic range selection	Set by means of selector switch on the device	Automatic range selection
supply voltage	120 V/230 V		120 V/230 V	120 V/230 V	120 V/230 V
input voltage 1 at AC	85 ... 132 V		85 ... 132 V	93 ... 132 V	85 ... 132 V
input voltage 2 at AC	170 ... 264 V		170 ... 264 V	187 ... 264 V	170 ... 264 V
supply voltage at DC		24 ... 110 V			
input voltage at DC		16.8 ... 138 V			
wide range input	No	Yes	No	No	No
overvoltage overload capability	2.3 × Vin rated, 1.3 ms	154 V; 0.1 s	2.3 × Vin rated, 1.3 ms	2.3 × Vin rated, 1.3 ms	2.3 × Vin rated, 1.3 ms
buffering time for rated value of the output current in the event of power failure minimum	20 ms	10 ms	20 ms	20 ms	20 ms
operating condition of the mains buffering	at Vin = 93/187 V	at Vin rated	at Vin = 93/187 V	at Vin = 93/187 V	at Vin = 93/187 V
line frequency	50 Hz/60 Hz		50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz
line frequency	47 ... 63 Hz		47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz
input current					
• at rated input voltage 24 V		2.4 A			
• at rated input voltage 110 V		0.6 A			
• at rated input voltage 120 V	0.9 A		2.3 A	2.1 A	4.2 A
• at rated input voltage 230 V	0.5 A		1.2 A	1.2 A	1.9 A
current limitation of inrush current at 25 °C maximum	22 A	20 A	20 A	45 A	55 A
duration of inrush current limiting at 25 °C					
• maximum	3 ms	10 ms	3 ms	3 ms	3 ms
I2t value maximum	1 $A^2 \cdot s$	5 $A^2 \cdot s$	1.2 $A^2 \cdot s$	1.8 $A^2 \cdot s$	3.3 $A^2 \cdot s$
fuse protection type	T 1.6 A/250 V (not accessible)	T 6.3 A/250 V (not accessible)	T 3,15 A/250 V (not accessible)	T 3,15 A/250 V (not accessible)	T 6.3 A/250 V (not accessible)
fuse protection type in the feeder	Recommended miniature circuit breaker: 3 A characteristic C	Recommended miniature circuit breaker: from 10 A characteristic C, suitable for DC	Recommended miniature circuit breaker: from 6 A characteristic C	Recommended miniature circuit breaker: from 10 A characteristic C or from 6 A characteristic D	Recommended miniature circuit breaker: from 10 A characteristic C
output					
voltage curve at output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
output voltage at DC rated value	24 V	24 V	24 V	24 V	24 V
output voltage					
• at output 1 at DC rated value	24 V	24 V	24 V	24 V	24 V
	24 V	24 V	24 V	24 V	24 V
output voltage adjustable	No; -	No; -	No; -	No; -	No; -
relative control precision of the output voltage					
• on slow fluctuation of input voltage	0.1 %	0.2 %	0.1 %	0.2 %	0.1 %
• on slow fluctuation of ohm loading	0.2 %	0.4 %	0.5 %	0.4 %	0.5 %
residual ripple					
• maximum	50 mV	150 mV	50 mV	150 mV	50 mV
• typical	5 mV	30 mV	10 mV	40 mV	15 mV
voltage peak					
• maximum	150 mV	240 mV	150 mV	240 mV	150 mV

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Technical specifications (continued)

Article number	6ES7307-1BA01-0AA0	6ES7305-1BA80-0AA0	6ES7307-1EA01-0AA0	6ES7307-1EA80-0AA0	6ES7307-1KA02-0AA0
product brand name	PS 307	PS 305 Outdoor	PS 307	PS 307 Outdoor	PS 307
type of current supply	24 V/2 A	24 V/2 A	24 V/5 A	24 V/5 A	24 V/10 A
• typical	20 mV	150 mV	20 mV	90 mV	60 mV
display version for normal operation	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK
behavior of the output voltage when switching on	No overshoot of Vout (soft start)	No overshoot of Vout (soft start)	No overshoot of Vout (soft start)	No overshoot of Vout (soft start)	No overshoot of Vout (soft start)
response delay maximum	2 s	3 s	2 s	3 s	2 s
voltage increase time of the output voltage					
• typical	10 ms	5 ms	10 ms	100 ms	10 ms
output current					
• rated value	2 A	2 A	5 A	5 A	10 A
• rated range	0 ... 2 A	0 ... 3 A; 3 A up to +60°C at Vin > 24 V	0 ... 5 A	0 ... 5 A	0 ... 10 A
	0.0 ... 2.4 A	0.0 ... 2.4 A	5 A	5 A	10 A
supplied active power typical	48 W	48 W	120 W	120 W	240 W
short-term overload current					
• on short-circuiting during the start-up typical	9 A	9 A	20 A	20 A	38 A
• at short-circuit during operation typical	9 A	9 A	20 A	20 A	38 A
duration of overloading capability for excess current					
• on short-circuiting during the start-up	90 ms	270 ms	100 ms	180 ms	80 ms
• at short-circuit during operation	90 ms	270 ms	100 ms	80 ms	80 ms
bridging of equipment	Yes	Yes	Yes	No	Yes
number of parallel-switched equipment resources	2	2			
efficiency					
efficiency in percent	84 %	75 %	87 %	84 %	90 %
power loss [W]					
• at rated output voltage for rated value of the output current typical	9 W	16 W	18 W	23 W	27 W
closed-loop control					
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	0.1 %	0.3 %	0.1 %	0.3 %	0.1 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	0.8 %	2.5 %	1 %	3 %	2 %
setting time					
• load step 50 to 100% typical	0.5 ms	2.5 ms	0.3 ms	0.2 ms	
• load step 100 to 50% typical	0.5 ms	2.5 ms	0.3 ms	0.2 ms	
setting time					
• maximum	1 ms	5 ms		5 ms	0.1 ms
protection and monitoring					
design of the overvoltage protection	Additional control loop, shutdown at < 28.8 V, automatic restart	Additional control loop, shutdown at approx. 30 V, automatic restart	Additional control loop, shutdown at < 28.8 V, automatic restart	Additional control loop, shutdown at approx. 30 V, automatic restart	Additional control loop, shutdown at < 28.8 V, automatic restart
property of the output short-circuit proof	Yes	Yes	Yes	Yes	Yes
design of short-circuit protection	Electronic shutdown, automatic restart	Electronic shutdown, automatic restart	Electronic shutdown, automatic restart	Electronic shutdown, automatic restart	Electronic shutdown, automatic restart
response value current limitation	2.2 ... 2.6 A	3.3 ... 3.9 A	5.5 ... 6.5 A	5.5 ... 6.5 A	11 ... 12 A
enduring short circuit current RMS value					
• maximum	2 A	2 A	7 A	5 A	12 A

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Technical specifications (continued)

Article number	6ES7307-1BA01-0AA0	6ES7305-1BA80-0AA0	6ES7307-1EA01-0AA0	6ES7307-1EA80-0AA0	6ES7307-1KA02-0AA0
product brand name	PS 307	PS 305 Outdoor	PS 307	PS 307 Outdoor	PS 307
type of current supply	24 V/2 A	24 V/2 A	24 V/5 A	24 V/5 A	24 V/10 A
safety					
galvanic isolation between input and output	Yes	Yes	Yes	Yes	Yes
galvanic isolation	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178	Safety extra low output voltage Vout according to EN 60950-1 and EN 50178, creepage distances and clearances > 5 mm	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178	Safety extra low output voltage Vout according to EN 60950-1 and EN 50178, creepage distances and clearances > 5 mm	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178
operating resource protection class	Class I	Class I	Class I	Class I	Class I
leakage current					
• maximum	3.5 mA		3.5 mA	3.5 mA	3.5 mA
• typical	0.5 mA		0.5 mA	0.3 mA	0.6 mA
protection class IP	IP20	IP20	IP20	IP20	IP20
standard					
• for emitted interference	EN 55022 Class B	EN 55011 Class A	EN 55022 Class B	EN 55011 Class A	EN 55022 Class B
• for mains harmonics limitation	not applicable	not applicable	EN 61000-3-2	-	EN 61000-3-2
• for interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals					
certificate of suitability					
• CE marking	Yes	Yes	Yes	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 142), File E143289	Yes; UL-Listed (UL 508), File E143289; CSA (CSA C22.2 No. 142)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 142), File E143289	Yes; UL-Listed (UL 508), File E143289; CSA (CSA C22.2 No. 142)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 142), File E143289
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 142), File E143289	Yes; UL-Listed (UL 508), File E143289, CSA (CSA C22.2 No. 142)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 142), File E143289	Yes; UL-Listed (UL 508), File E143289, CSA (CSA C22.2 No. 142)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 142), File E143289
• EAC approval	Yes	Yes	Yes	Yes	Yes
• NEC Class 2	No	No	No	No	No
type of certification					
• BIS			Yes; R-41183539		Yes; R-41183539
• CB-certificate	Yes	No	Yes	No	Yes
MTBF at 40 °C	2 320 078 h	964 506 h	2 480 589 h	2 231 610 h	1 504 280 h
standards, specifications, approvals hazardous environments					
certificate of suitability					
• IECEx	Yes; IECEx Ex nA nC IIC T4 Gc	No	Yes; IECEx Ex nA nC IIC T3 Gc	No	Yes; IECEx Ex nA nC IIC T3 Gc
• ATEX	Yes; ATEX (EX) II 3G Ex nA nC IIC T4 Gc	No	Yes; ATEX (EX) II 3G Ex nA nC IIC T3 Gc	No	Yes; ATEX (EX) II 3G Ex nA nC IIC T3 Gc
• ULhazloc approval	Yes	No	Yes	No	Yes
• cCSAus, Class 1, Division 2	No	No	No	No	No
• FM registration	Yes; Class I, Div. 2, Group ABCD, T4	No	Yes; Class I, Div. 2, Group ABCD, T4	No	Yes; Class I, Div. 2, Group ABCD, T4
standards, specifications, approvals marine classification					
shipbuilding approval	Yes	No	Yes	No	Yes
Marine classification association					
• American Bureau of Shipping Europe Ltd. (ABS)	No	No	No	No	No
• French marine classification society (BV)	No	No	No	No	No
• Det Norske Veritas (DNV)	No	No	No	No	No
• Lloyds Register of Shipping (LRS)	Yes	No	Yes	No	Yes

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Technical specifications (continued)

Article number	6ES7307-1BA01-0AA0	6ES7305-1BA80-0AA0	6ES7307-1EA01-0AA0	6ES7307-1EA80-0AA0	6ES7307-1KA02-0AA0
product brand name	PS 307	PS 305 Outdoor	PS 307	PS 307 Outdoor	PS 307
type of current supply	24 V/2 A	24 V/2 A	24 V/5 A	24 V/5 A	24 V/10 A
standards, specifications, approvals Environmental Product Declaration					
Environmental Product Declaration	Yes	Yes	Yes	Yes	Yes
Global Warming Potential [CO2 eq]					
• total	289.8 kg	512.2 kg	575.4 kg	731.2 kg	861.1 kg
• during manufacturing	7.9 kg	11.2 kg	11.8 kg	11.2 kg	15.8 kg
• during operation	281.5 kg	500.5 kg	563.1 kg	719.5 kg	844.6 kg
• after end of life	0.25 kg	0.36 kg	0.38 kg	0.36 kg	0.5 kg
ambient conditions					
ambient temperature					
• during operation	0 ... 60 °C; with natural convection	-25 ... +70 °C; with natural convection	0 ... 60 °C; with natural convection	-25 ... +70 °C; with natural convection	0 ... 60 °C; with natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K5, transient condensation permitted	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K5, transient condensation permitted	Climate class 3K3, 5 ... 95% no condensation
connection method					
type of electrical connection	screw terminal	screw terminal	screw terminal	screw terminal	screw terminal
• at input	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm² single-core/finely stranded	L+1, M1, PE: 1 screw terminal each for 0.5 ... 2.5 mm² single-core/finely stranded	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm² single-core/finely stranded	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm² single-core/finely stranded	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm² single-core/finely stranded
• at output	L+, M: 2 screw terminals each for 0.5 ... 2.5 mm²	L+, M: 3 screw terminals each for 0.5 ... 2.5 mm²	L+, M: 3 screw terminals each for 0.5 ... 2.5 mm²	L+, M: 3 screw terminals each for 0.5 ... 2.5 mm²	L+, M: 4 screw terminals each for 0.5 ... 2.5 mm²
• for auxiliary contacts	-	-	-	-	-
mechanical data					
width × height × depth of the enclosure	40 mm × 120 mm	80 mm × 120 mm	60 mm × 120 mm	80 mm × 120 mm	80 mm × 120 mm
installation width × mounting height	40 mm	80 mm	60 mm	80 mm	80 mm
required spacing					
• top	40 mm	50 mm	40 mm	50 mm	40 mm
• bottom	40 mm	50 mm	40 mm	50 mm	40 mm
• left	0 mm	0 mm	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm	0 mm	0 mm
fastening method	Can be mounted onto S7 rail	Can be mounted onto S7 rail	Can be mounted onto S7 rail	Can be mounted onto S7 rail	Can be mounted onto S7 rail
• standard rail mounting	No	No	No	No	No
• S7 rail mounting	Yes	Yes	Yes	Yes	Yes
• wall mounting	No	No	No	No	No
housing can be lined up	Yes	Yes	Yes	Yes	Yes
net weight	0.4 kg	0.57 kg	0.6 kg	0.57 kg	0.8 kg
accessories					
mechanical accessories	Mounting adapter for standard mounting rail (6EP1971-1BA00)	Mounting adapter for standard mounting rail (6ES7390-6BA00-0AA0)	Mounting adapter for standard mounting rail (6EP1971-1BA00)	Mounting adapter for standard mounting rail (6ES7390-6BA00-0AA0)	Mounting adapter for standard mounting rail (6EP1971-1BA00)
further information internet links					
internet link					
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com

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Technical specifications (continued)

Article number	6ES7307-1BA01-0AA0	6ES7305-1BA80-0AA0	6ES7307-1EA01-0AA0	6ES7307-1EA80-0AA0	6ES7307-1KA02-0AA0
product brand name	PS 307	PS 305 Outdoor	PS 307	PS 307 Outdoor	PS 307
type of current supply	24 V/2 A	24 V/2 A	24 V/5 A	24 V/5 A	24 V/10 A
additional information					
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information					
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. 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Technical specifications (continued)

Article number	6ES7307-1BA01-0AA0	6ES7305-1BA80-0AA0	6ES7307-1EA01-0AA0	6ES7307-1EA80-0AA0	6ES7307-1KA02-0AA0
product brand name	PS 307	PS 305 Outdoor	PS 307	PS 307 Outdoor	PS 307
type of current supply	24 V/2 A	24 V/2 A	24 V/5 A	24 V/5 A	24 V/10 A
	under https://www.siemens.com/cert. (V4.7)	Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	under https://www.siemens.com/cert. (V4.7)	Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	under https://www.siemens.com/cert. (V4.7)

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Overview

In terms of design and functionality, the SIMATIC PM 1207 single-phase load power supply (PM = power module) with automatic range selection of the input voltage is an optimal match to the SIMATIC S7-1200 PLC. It provides the supply to CPUs with 24 V input as well as to signal modules, and to 24 V loads connected to the modules. Comprehensive certifications such as UL and DNV GL enable universal use.

Design

- The load current supplies are directly fastened to the S7-1200 mounting rail (without connection to the backplane bus) and can be mounted directly to the left of the CPU (no installation clearance required)
- LED for status indicator "24 V OK"
- Two 24 V DC output terminals for connection of 24 V consumers

Function

- Connection to all 1-phase networks (120 V AC/230 V AC) through automatic range switching
- Short-term mains buffering
- Parallel connection of two load current supplies for enhanced performance
- For use in Zone 2 hazardous environments (gases, vapors or mists)

Selection and ordering data

SIMATIC S7-1200 PM 1207 Input: 120/230 V AC Output: 24 V DC/2.5 A	**6EP1332-1SH71**

Technical specifications

Article number **product brand name** **type of current supply**	**6EP1332-1SH71** **S7-1200 PM1207** **24 V/2.5 A**
input	
type of the power supply network	1-phase AC
supply voltage at AC	Automatic range selection
supply voltage	120 V/230 V
input voltage 1 at AC	85 ... 132 V
input voltage 2 at AC	176 ... 264 V
wide range input	No
overvoltage overload capability	2.3 × Vin rated, 1.3 ms
buffering time for rated value of the output current in the event of power failure minimum	20 ms
operating condition of the mains buffering	at Vin = 93/187 V
line frequency	50 Hz/60 Hz
line frequency	47 ... 63 Hz
input current	
• at rated input voltage 120 V	1.2 A
• at rated input voltage 230 V	0.67 A
current limitation of inrush current at 25 °C maximum	13 A
duration of inrush current limiting at 25 °C	
• maximum	3 ms
I2t value maximum	0.5 A^2·s
fuse protection type	T 3,15 A/250 V (not accessible)
fuse protection type in the feeder	Recommended miniature circuit breaker: 16 A characteristic B or 10 A characteristic C
output	
voltage curve at output	Controlled, isolated DC voltage
output voltage at DC rated value	24 V
output voltage	
• at output 1 at DC rated value	24 V
	24 V
output voltage adjustable	No; -
relative control precision of the output voltage	
• on slow fluctuation of input voltage	0.1 %
• on slow fluctuation of ohm loading	0.2 %
residual ripple	
• maximum	150 mV
voltage peak	
• maximum	240 mV
display version for normal operation	Green LED for 24 V OK
behavior of the output voltage when switching on	No overshoot of Vout (soft start)
response delay maximum	6 s; 2 s at 230 V, 6 s at 120 V
voltage increase time of the output voltage	
• typical	10 ms
output current	
• rated value	2.5 A

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1332-1SH71 S7-1200 PM1207 24 V/2.5 A
• rated range	0 ... 2.5 A
	2.5 A
supplied active power typical	60 W
short-term overload current	
• on short-circuiting during the start-up typical	6 A
• at short-circuit during operation typical	6 A
duration of overloading capability for excess current	
• on short-circuiting during the start-up	100 ms
• at short-circuit during operation	100 ms
bridging of equipment	Yes
number of parallel-switched equipment resources	2
efficiency	
efficiency in percent	83 %
power loss [W]	
• at rated output voltage for rated value of the output current typical	12 W
closed-loop control	
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	0.3 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	3 %
setting time	
• load step 50 to 100% typical	5 ms
• load step 100 to 50% typical	5 ms
setting time	
• maximum	5 ms
protection and monitoring	
design of the overvoltage protection	< 33 V
property of the output short-circuit proof	Yes
design of short-circuit protection	Constant current characteristic
• typical	2.65 A
enduring short circuit current RMS value	
• typical	2.7 A
safety	
galvanic isolation between input and output	Yes
galvanic isolation	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178
operating resource protection class	Class I
leakage current	
• maximum	3.5 mA
protection class IP	IP20
standard	
• for emitted interference	EN 55022 Class B
• for mains harmonics limitation	not applicable
• for interference immunity	EN 61000-6-2

Technical specifications (continued)

Article number product brand name type of current supply	6EP1332-1SH71 S7-1200 PM1207 24 V/2.5 A
standards, specifications, approvals	
certificate of suitability	
• CE marking	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus-Recognized (UL 60950-1, CSA C22.2 No. 60950-1) File E151273
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus-Recognized (UL 60950-1, CSA C22.2 No. 60950-1) File E151273
• EAC approval	Yes
• NEC Class 2	Yes; according to UL1310, File E151273
type of certification	
• CB-certificate	Yes
MTBF at 40 °C	1 492 537 h
standards, specifications, approvals hazardous environments	
certificate of suitability	
• IECEx	Yes; IECEx Ex nA nC IIC T4 Gc
• ATEX	Yes; ATEX (EX) II 3G Ex nA nC IIC T4 Gc
• ULhazloc approval	Yes
• cCSAus, Class 1, Division 2	No
• FM registration	Yes; Class I, Div. 2, Group ABCD, T4
standards, specifications, approvals marine classification	
shipbuilding approval	Yes
Marine classification association	
• American Bureau of Shipping Europe Ltd. (ABS)	Yes
• French marine classification society (BV)	Yes
• Det Norske Veritas (DNV)	Yes
• Lloyds Register of Shipping (LRS)	Yes
• Nippon Kaiji Kyokai (NK)	Yes
ambient conditions	
ambient temperature	
• during operation	0 ... 60 °C; with natural convection
• during transport	-40 ... +85 °C
• during storage	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation
connection method	
type of electrical connection	screw terminal
• at input	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm²
• at output	L+, M: 2 screw terminals each for 0.5 ... 2.5 mm²
• for auxiliary contacts	-
mechanical data	
width × height × depth of the enclosure	70 mm × 75 mm
installation width × mounting height	70 mm

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1332-1SH71 S7-1200 PM1207 24 V/2.5 A
required spacing	
• top	20 mm
• bottom	20 mm
• left	0 mm
• right	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15, wall mounting
• standard rail mounting	Yes
• S7 rail mounting	No
• wall mounting	Yes
housing can be lined up	Yes
net weight	0.3 kg
further information internet links	
internet link	
• to website: Industry Mall	https://mall.industry.siemens.com
additional information	
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information	
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

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Overview

The design and functionality of the SIMATIC PM 1507 single-phase load power supply (PM = power module) with automatic range selection of the input voltage makes it an optimal match to the SIMATIC S7-1500 PLC. It supplies the S7-1500 system components such as CPU, system power supply (PS), I/O circuits of the input and output modules and, if necessary, the sensors and actuators with 24 V DC.

Design

- The load current supplies are directly fastened to the S7-1500 mounting rail (without connection to the backplane bus) and can be mounted directly to the left of the CPU (no installation clearance required)
- Diagnostics LEDs to indicate status and faults: Operation, Fault, Stand-by
- ON/OFF switches (operation/stand-by) in case of swapping modules
- Mains connection plug with touch protection and strain relief for connection of input voltage (enables permanent wiring)
- Plug-in 24 V DC output terminal with reverse polarity protection for connection of 24 V loads (enables permanent wiring)

Function

- Connection to all 1-phase 50/60 Hz networks (120 / 230 V AC) through automatic range switching
- Short-term mains buffering
- Output voltage of 24 V DC that is limited to maximum 28 V DC (prevents any damages in 24 V loads if input voltage is too high)
- 50% "Extra Power" for 5 seconds per minute for short-term overloads, for example, when switching on 24 V consumers
- For use in Zone 2 hazardous environments (gases, vapors or mists)

Selection and ordering data

	Article No.
SIMATIC PM 1507 Stabilized power supply for SIMATIC S7-1500 Input: 120/230 V AC Output: 24 V DC/3 A	**6EP1332-4BA00**
SIMATIC PM 1507 Stabilized power supply for SIMATIC S7-1500 Input: 120/230 V AC Output: 24 V DC/8 A	**6EP1333-4BA00**

Accessories

	Article No.
Power plug With coding element for power supply module; spare part, 10 units per packing unit	**6ES7590-8AA00-0AA0**
DIN rail adapter For adapting S7-1500 mounting rails on low or flat DIN rails, as pre-assembled in control cabinets and terminal boxes, for example. An adapter must be placed every 25 cm. Including mounting hardware. 10 units per packing unit	**6ES7590-6AA00-0AA0**

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Technical specifications

Article number product brand name type of current supply	6EP1332-4BA00 S7-1500 PM1507 24 V/3 A	6EP1333-4BA00 S7-1500 PM1507 24 V/8 A
input		
type of the power supply network	1-phase AC	1-phase AC
supply voltage at AC	Automatic range selection	Automatic range selection
supply voltage	120 V/230 V	120 V/230 V
input voltage 1 at AC	85 ... 132 V	85 ... 132 V
input voltage 2 at AC	170 ... 264 V	170 ... 264 V
wide range input	No	No
overvoltage overload capability	2.3 × Vin rated, 1.3 ms	2.3 × Vin rated, 1.3 ms
buffering time for rated value of the output current in the event of power failure minimum	20 ms	20 ms
operating condition of the mains buffering	at Vin = 93/187 V	at Vin = 93/187 V
line frequency	50 Hz/60 Hz	50 Hz/60 Hz
line frequency	45 ... 65 Hz	45 ... 65 Hz
input current		
• at rated input voltage 120 V	1.4 A	3.7 A
• at rated input voltage 230 V	0.8 A	1.7 A
current limitation of inrush current at 25 °C maximum	23 A	62 A
duration of inrush current limiting at 25 °C		
• maximum	3 ms	3 ms
I2t value maximum	1.3 A^2·s	12 A^2·s
fuse protection type	T 3,15 A/250 V (not accessible)	T 6.3 A/250 V (not accessible)
fuse protection type in the feeder	Recommended miniature circuit breaker: 10 A characteristic B or 6 A characteristic C	Recommended miniature circuit breaker: 16 A characteristic B or 10 A characteristic C
output		
voltage curve at output	Controlled, isolated DC voltage	Controlled, isolated DC voltage
output voltage at DC rated value	24 V	24 V
output voltage		
• at output 1 at DC rated value	24 V	24 V
		24 V
output voltage adjustable	No	No
relative overall tolerance of the voltage	1 %	
relative control precision of the output voltage		
• on slow fluctuation of input voltage	0.1 %	0.1 %
• on slow fluctuation of ohm loading	0.1 %	0.1 %
residual ripple		
• maximum	50 mV	50 mV
voltage peak		
• maximum	150 mV	150 mV
display version for normal operation	LED green for 24 V OK; LED red for error; LED yellow for stand-by	LED green for 24 V OK; LED red for error; LED yellow for stand-by
behavior of the output voltage when switching on	No overshoot of Vout (soft start)	No overshoot of Vout (soft start)
response delay maximum	1.5 s	1.5 s
voltage increase time of the output voltage		
• typical	10 ms	10 ms
output current		
• rated value	3 A	8 A
• rated range	0 ... 3 A	0 ... 8 A
		5.1 ... 9.9 A
supplied active power typical	72 W	192 W
short-term overload current		
• on short-circuiting during the start-up typical	12 A	35 A

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1332-4BA00 S7-1500 PM1507 24 V/3 A	6EP1333-4BA00 S7-1500 PM1507 24 V/8 A
• at short-circuit during operation typical	12 A	35 A
duration of overloading capability for excess current		
• on short-circuiting during the start-up	70 ms	70 ms
• at short-circuit during operation	70 ms	70 ms
bridging of equipment	Yes	Yes
number of parallel-switched equipment resources	2	2
efficiency		
efficiency in percent	87 %	90 %
power loss [W]		
• at rated output voltage for rated value of the output current typical	11 W	21 W
closed-loop control		
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	0.1 %	0.1 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	1 %	2 %
relative control precision of the output voltage at load step of resistive load 10/90/10 % typical	3 %	3 %
setting time		
• load step 10 to 90% typical	5 ms	5 ms
• load step 90 to 10% typical	5 ms	5 ms
• maximum	5 ms	5 ms
protection and monitoring		
design of the overvoltage protection	Additional control loop, limitation (closed loop control) at < 28.8 V	Additional control loop, limitation (closed loop control) at < 28.8 V
property of the output short-circuit proof	Yes	Yes
design of short-circuit protection	Electronic shutdown, automatic restart	Electronic shutdown, automatic restart
response value current limitation	3.15 ... 3.6 A	8.4 ... 9.6 A
• typical	3.4 A	9 A
display version for overload and short circuit	-	
safety		
galvanic isolation between input and output	Yes	Yes
galvanic isolation	Safety extra-low output voltage Vout acc. to EN 60950-1 and EN 50178 and EN 61131-2	Safety extra-low output voltage Vout acc. to EN 60950-1 and EN 50178 and EN 61131-2
operating resource protection class	Class I	Class I
leakage current		
• maximum	3.5 mA	3.5 mA
• typical	0.4 mA	1.3 mA
protection class IP	IP20	IP20
standard		
• for emitted interference	EN 55022 Class B	EN 55022 Class B
• for mains harmonics limitation	EN 61000-3-2	EN 61000-3-2
• for interference immunity	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals		
certificate of suitability		
• CE marking	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 142), File E143289	Yes; cULus-Listed (UL 508, CSA C22.2 No. 142), File E143289
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 142), File E143289	Yes; cULus-Listed (UL 508, CSA C22.2 No. 142), File E143289
• EAC approval	Yes	Yes
• NEC Class 2	No	No
type of certification		
• BIS	Yes; R-41183539	Yes; R-41183539

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1332-4BA00 S7-1500 PM1507 24 V/3 A	6EP1333-4BA00 S7-1500 PM1507 24 V/8 A
• CB-certificate	Yes	Yes
MTBF at 40 °C	1 611 993 h	1 362 918 h
standards, specifications, approvals hazardous environments		
certificate of suitability		
• IECEx	Yes; IECEx Ex nA nC IIC T4 Gc	Yes; IECEx Ex nA nC IIC T3 Gc
• ATEX	Yes; ATEX (EX) II 3G Ex nA nC IIC T4 Gc	Yes; ATEX (EX) II 3G Ex nA nC IIC T3 Gc
• ULhazloc approval	Yes	Yes
• cCSAus, Class 1, Division 2	No	No
• FM registration	Yes; Class I, Div. 2, Group ABCD, T4	Yes; Class I, Div. 2, Group ABCD, T4
standards, specifications, approvals marine classification		
shipbuilding approval	Yes	Yes
Marine classification association		
• American Bureau of Shipping Europe Ltd. (ABS)	Yes	Yes
• French marine classification society (BV)	Yes	Yes
• Det Norske Veritas (DNV)	Yes	Yes
• Lloyds Register of Shipping (LRS)	No	No
ambient conditions		
ambient temperature		
• during operation	0 ... 60 °C; with natural convection	0 ... 60 °C; with natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method		
type of electrical connection	Screw-/spring clamp connection	Screw-/spring clamp connection
• at input	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm²	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm²
• at output	L+, M: 2 spring-loaded terminals each for 0.5 to 2.5 mm²	L+, M: 2 spring-loaded terminals each for 0.5 to 2.5 mm²
removable terminal at input	Yes	Yes
removable terminal at output	Yes	Yes
mechanical data		
width × height × depth of the enclosure	50 mm × 147 mm × 129 mm	75 mm × 129 mm
installation width × mounting height	50 mm × 205 mm	75 mm
required spacing		
• top	40 mm	40 mm
• bottom	40 mm	40 mm
• left	0 mm	0 mm
• right	0 mm	0 mm
fastening method	Can be mounted onto S7-1500 rail	Can be mounted onto S7-1500 rail
• standard rail mounting	No	No
• S7 rail mounting	Yes	Yes
• wall mounting	No	No
housing can be lined up	Yes	Yes
net weight	0.45 kg	0.74 kg
further information internet links		
internet link		
• to website: Industry Mall		https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool		https://siemens.com/tst
• to website: Industrial communication		http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager		http://www.siemens.com/cax

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1332-4BA00 S7-1500 PM1507 24 V/3 A	6EP1333-4BA00 S7-1500 PM1507 24 V/8 A
• to website: Industry Online Support		https://support.industry.siemens.com
additional information		
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information		
security information		Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

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Overview

In terms of design and functionality, the SIMATIC ET 200SP PS single-phase load power supply with automatic range switching of the input voltage is perfectly matched to the SIMATIC ET 200SP. The SIMATIC component and the power supply are wired by means of uniform push-in terminal technology. The 24 V supply provides power to the ET 200SP system components such as the interface module, technology module and communication module, as well as the digital or analog inputs/outputs. Comprehensive certifications, such as UL or GL, facilitate universal use. Its extremely flat design also makes this power supply ideally suited for installation in compact on-site control boxes.

Design

- Mounting of the ET 200SP power supply on DIN rail to the left of the SIMATIC ET 200SP component
- Direct mounting side-by-side is possible for the modules;
  Exception: SIMATIC ET 200SP component has PROFINET connector mounted on the left → 5 mm spacer required
- Three separate load circuit connectors for easy commissioning and maintenance
- Diagnostic LED for indicating "Output voltage 24 V DC O.K."
- On/off switch for isolated replacement of SIMATIC ET 200SP modules

Function

- Connection to all 1-phase 50/60 Hz networks (85 ... 132 V AC / 170 ... 264 V AC) through automatic range switching
- Adjustable output voltage for compensating voltage drops
- Short-term mains buffering
- Signal contact for further processing of "Output voltage 24 V DC O.K." in the controller
- Current monitor for further processing of the present power consumption in the controller
- Rated output voltage 24 V DC, stabilized, short-circuit-proof, open-circuit-proof
- Parallel connection of two power supplies for enhanced performance
- High degree of efficiency up to 90%
- Temperature range -30 °C...+60 °C/70 °C with derating
- Easy connection of loads with high power requirements through excellent overload behavior
- For use in Zone 2 hazardous environments (gases, vapors or mists)

Selection and ordering data

SIMATIC ET 200SP PS Stabilized power supply for SIMATIC ET 200SP Input: 120/230 V AC Output: 24 V DC/5 A	**6EP7133-6AB00-0BN0**
SIMATIC ET 200SP PS Stabilized power supply for SIMATIC ET 200SP Input: 120/230 V AC Output: 24 V DC/10 A	**6EP7133-6AE00-0BN0**

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Technical specifications

Article number product brand name type of current supply	6EP7133-6AB00-0BN0 SIMATIC ET 200SP PS 24 V/5 A	6EP7133-6AE00-0BN0 SIMATIC ET 200SP PS 24 V/10 A
input		
type of the power supply network	1-phase AC	1-phase AC
supply voltage at AC	Automatic range selection	Automatic range selection
supply voltage	120 V/230 V	120 V/230 V
input voltage 1 at AC	85 ... 132 V	85 ... 132 V
input voltage 2 at AC	170 ... 264 V	170 ... 264 V
wide range input	No	No
overvoltage overload capability	2.3 × Vin rated, 1.3 ms	2.3 × Vin rated, 1.3 ms
buffering time for rated value of the output current in the event of power failure minimum	20 ms	20 ms
operating condition of the mains buffering	at Vin = 93/187 V	at Vin = 93/187 V
line frequency	50 Hz/60 Hz	50 Hz/60 Hz
line frequency	47 ... 63 Hz	47 ... 63 Hz
input current		
• at rated input voltage 120 V	2.16 A	4.34 A
• at rated input voltage 230 V	1.22 A	1.92 A
current limitation of inrush current at 25 °C maximum	45 A	60 A
I2t value maximum	3.15 A^2·s	6.3 A^2·s
fuse protection type	T 3,15 A/250 V (not accessible)	T 6.3 A/250 V (not accessible)
fuse protection type in the feeder	recommended LS switch: B/C 6 A/3 A	recommended LS switch: B/C 10 A/6 A
output		
voltage curve at output	Controlled, isolated DC voltage	Controlled, isolated DC voltage
output voltage at DC rated value	24 V	24 V
output voltage		
• at output 1 at DC rated value	24 V	24 V
	24 V	24 V
output voltage adjustable	Yes; via potentiometer	Yes; via potentiometer
adjustable output voltage	22.8 ... 28 V	22.8 ... 28 V
relative control precision of the output voltage		
• on slow fluctuation of input voltage	0.1 %	0.1 %
• on slow fluctuation of ohm loading	1 %	1 %
residual ripple		
• maximum	150 mV	150 mV
• typical	50 mV	50 mV
voltage peak		
• maximum	240 mV	240 mV
• typical	150 mV	150 mV
display version for normal operation	Green LED for 24 V OK	Green LED for 24 V OK
type of signal at output	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"
behavior of the output voltage when switching on	Overshoot of Vout < 3 %	Overshoot of Vout < 3 %
response delay maximum	0.3 s	0.3 s
voltage increase time of the output voltage		
• typical	30 ms	30 ms
output current		
• rated value	5 A	10 A
• rated range	0 ... 6 A; 5 A up to +60°C; +60 ... +70 °C: Derating 3%/K	0 ... 12 A; 10 A up to +60°C; +60 ... +70 °C: Derating 3%/K
	5 A	10 A
supplied active power typical	120 W	240 W
short-term overload current		
• on short-circuiting during the start-up typical	15 A	30 A

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Technical specifications (continued)

Article number product brand name type of current supply	6EP7133-6AB00-0BN0 SIMATIC ET 200SP PS 24 V/5 A	6EP7133-6AE00-0BN0 SIMATIC ET 200SP PS 24 V/10 A
• at short-circuit during operation typical	15 A	30 A
duration of overloading capability for excess current		
• on short-circuiting during the start-up	800 ms	750 ms
• at short-circuit during operation	800 ms	800 ms
bridging of equipment	Yes	Yes
number of parallel-switched equipment resources	2	2
efficiency		
efficiency in percent	88 %	90 %
power loss [W]		
• at rated output voltage for rated value of the output current typical	17 W	26 W
• during no-load operation maximum	2.7 W	2.8 W
closed-loop control		
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	0.3 %	0.3 %
relative control precision of the output voltage at load step of resistive load 10/90/10 % typical	3 %	3 %
setting time		
• load step 10 to 90% typical	1 ms	1 ms
• load step 90 to 10% typical	1 ms	1 ms
protection and monitoring		
design of the overvoltage protection	protection against overvoltage in case of internal fault Vout < 31.8 V	protection against overvoltage in case of internal fault Vout < 31.8 V
property of the output short-circuit proof	Yes	Yes
design of short-circuit protection	Constant current characteristic	Constant current characteristic
response value current limitation	7 ... 7.5 A	14 ... 15 A
overcurrent overload capability		
• in normal operation	overload capability 150 % Iout rated up to 5 s/min	overload capability 150 % Iout rated up to 5 s/min
enduring short circuit current RMS value		
• typical	7 A	14.1 A
safety		
galvanic isolation between input and output	Yes	Yes
galvanic isolation	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178
operating resource protection class	Class I	Class I
leakage current		
• maximum	3.5 mA	3.5 mA
• typical	1 mA	1 mA
protection class IP	IP20	IP20
standard		
• for emitted interference	EN 61000-6-3 Class B	EN 61000-6-3 Class B
• for mains harmonics limitation	EN 61000-3-2	EN 61000-3-2
• for interference immunity	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals		
certificate of suitability		
• CE marking	Yes	Yes
• UL approval	Yes; cULus-Listed (UL61010-2-201, CSA C22.2 No.142); cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL61010-2-201, CSA C22.2 No.142); cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
• CSA approval	Yes; cULus-Listed (UL61010-2-201, CSA C22.2 No.142), cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL61010-2-201, CSA C22.2 No.142), cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
• EAC approval	Yes	Yes

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Technical specifications (continued)

Article number product brand name type of current supply	6EP7133-6AB00-0BN0 SIMATIC ET 200SP PS 24 V/5 A	6EP7133-6AE00-0BN0 SIMATIC ET 200SP PS 24 V/10 A
• NEC Class 2	No	No
type of certification		
• CB-certificate	Yes	Yes
MTBF at 40 °C	1 598 441 h	1 114 510 h
standards, specifications, approvals hazardous environments		
certificate of suitability		
• IECEx	Yes; IECEx Ex ec nC IIC T3 Gc	Yes; IECEx Ex ec nC IIC T3 Gc
• ATEX	Yes; ATEX (EX) II 3G Ex ec nC IIC T3 Gc	Yes; ATEX (EX) II 3G Ex ec nC IIC T3 Gc
• ULhazloc approval	No	No
• cCSAus, Class 1, Division 2	No	No
standards, specifications, approvals marine classification		
shipbuilding approval	Yes	Yes
Marine classification association		
• American Bureau of Shipping Europe Ltd. (ABS)	No	No
• French marine classification society (BV)	Yes	Yes
• Det Norske Veritas (DNV)	Yes	Yes
• Lloyds Register of Shipping (LRS)	No	No
standards, specifications, approvals Environmental Product Declaration		
Environmental Product Declaration	Yes	Yes
Global Warming Potential [CO2 eq]		
• total	542.1 kg	827.7 kg
• during manufacturing	9.9 kg	13.8 kg
• during operation	531.8 kg	813.3 kg
• after end of life	0.31 kg	0.44 kg
ambient conditions		
ambient temperature		
• during operation	-30 ... +70 °C; with natural convection	-30 ... +70 °C; with natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method		
type of electrical connection	push-in terminals	push-in terminals
• at input	L, N, PE: 1 push-in terminal each for 0.2 ... 2.5 mm² single-core/finely stranded	L, N, PE: 1 push-in terminal each for 0.2 ... 2.5 mm² single-core/finely stranded
• at output	+, -: 2 push-in terminals each for 0.2 ... 2.5 mm²	+, -: 2 push-in terminals each for 0.2 ... 2.5 mm²
• for auxiliary contacts	Signaling contact: 2 push-in terminals for 0.2 ... 2.5 mm²	Signaling contact: 2 push-in terminals for 0.2 ... 2.5 mm²
• for signaling contact	2 push-in terminals for 0.2 ... 2.5 mm²	2 push-in terminals for 0.2 ... 2.5 mm²
removable terminal at input	Yes	Yes
removable terminal at output	Yes	Yes
mechanical data		
width × height × depth of the enclosure	160 mm × 74 mm	160 mm × 74 mm
installation width × mounting height	160 mm	160 mm
required spacing		
• top	50 mm	50 mm
• bottom	50 mm	50 mm
• left	0 mm	0 mm
• right	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15

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Technical specifications (continued)

Article number product brand name type of current supply	6EP7133-6AB00-0BN0 SIMATIC ET 200SP PS 24 V/5 A	6EP7133-6AE00-0BN0 SIMATIC ET 200SP PS 24 V/10 A
• standard rail mounting	Yes	Yes
• S7 rail mounting	No	No
• wall mounting	No	No
housing can be lined up	Yes	Yes
net weight	0.5 kg	0.7 kg
accessories		
electrical accessories	Redundancy module, buffer module, selectivity module, DC UPS	Redundancy module, buffer module, selectivity module, DC UPS
further information internet links		
internet link		
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com
additional information		
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information		
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

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Overview

Power supply for ET200pro:

- 3-phase, 24 V DC/8 A

The SIMATIC ET200pro PS power supply unit with IP67 degree of protection is used as the electronics/encoder supply and load voltage supply of the new SIMATIC ET 200pro distributed I/O system for use close to the machine without a cabinet. With a second connector for looping the input voltage.

Product highlights

- 3-phase, 24 V DC/8 A
- Wide-range input, input voltage 340 ... 550 V
- Up to 88% efficiency
- With signaling contact for "24 V OK" and "Overtemperature"
- Status indicator on the device by means of LED (green = "24 V OK")
- Temperature range from -25 °C to +55 °C

Selection and ordering data

SIMATIC ET 200pro PS Stabilized power supply in distributed I/O system design, permitting the loop-through of energy to further modules; with degree of protection IP67; Input: 400–480 V 3 AC Output: 24 V DC/8 A	**6ES7148-4PC00-0HA0**
Accessories	
Power connector For connecting to the distributed I/O system	
• For X1 (6 mm²)	**3RK1911-2BE30**
• For X2 (4 mm²)	**3RK1911-2BF10**
National Fire Protection Association compatible These devices are only approved for installation in industrial machinery according to the NFPA79 Electrical Standard for Industrial Machinery.	
• For X1 SIMATIC ET 200pro PS 61 88 201 1003.xx (AWG10)*	* https://www.harting.com/US/en
• For X1 SITOP PSU300P 61 88 201 1000.xx / 61 88 201 1002.xx (AWG14)*	
• For X2 SIMATIC ET 200pro PS 61 88 202 1010.xx (AWG10)*	
supplied blanking cap for X2	**3RK1902-0CK00**
• For X3 Phoenix-Contact SAC-5P-M12-M12FS	
supplied blanking cap for X3	
Sealing cap For 9-pin power sockets	
• X2 (1 unit)	**3RK1902-0CK00**
• X2 (10 units)	**3RK1902-0CJ00**

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Technical specifications

Article number product brand name type of current supply	6ES7148-4PC00-0HA0 SIMATIC ET200pro PS 24 V/8 A
input	
type of the power supply network	3-phase AC
supply voltage at AC	
• minimum rated value	400 V
• maximum rated value	480 V
• initial value	340 V
• full-scale value	550 V
supply voltage at AC	320 ... 340 V for max. 1 min
wide range input	Yes
overvoltage overload capability	Implemented internally with varistors
buffering time for rated value of the output current in the event of power failure minimum	15 ms
operating condition of the mains buffering	at Vin = 400 V
line frequency	50 Hz/60 Hz
line frequency	45 ... 66 Hz
input current	
• at rated input voltage 400 V	0.5 A
current limitation of inrush current at 25 °C maximum	40 A
I2t value maximum	3.5 A^2·s
fuse protection type	T 4 A
fuse protection type in the feeder	Required: Circuit breaker 3RV2011-1DA10 or 3RV2711-1DD10 (UL 489)
output	
voltage curve at output	Controlled, isolated DC voltage
output voltage at DC rated value	24 V
output voltage	
• at output 1 at DC rated value	24 V
	24 V
output voltage adjustable	No; -
relative control precision of the output voltage	
• on slow fluctuation of input voltage	0.5 %
• on slow fluctuation of ohm loading	0.5 %
residual ripple	
• maximum	200 mV
voltage peak	
• maximum	250 mV
display version for normal operation	Green LED for 24 V OK
type of signal at output	max. 30 V, 10 mA; Power-Good (High-Pegel 1L+ for Vout in range 21.3 ... 29 V); Overtemperature warning at least 30 s before switch-off (high level 1L+ when the max. internal temperature is exceeded)
behavior of the output voltage when switching on	Overshoot of Vout < 2 %
response delay maximum	1.5 s
voltage increase time of the output voltage	
• typical	40 ms
output current	

Technical specifications (continued)

Article number product brand name type of current supply	6ES7148-4PC00-0HA0 SIMATIC ET200pro PS 24 V/8 A
• rated value	8 A
• rated range	0 ... 8 A
	5.1 ... 9.9 A
supplied active power typical	192 W
short-term overload current	
• on short-circuiting during the start-up typical	50 A
• at short-circuit during operation typical	50 A
duration of overloading capability for excess current	
• on short-circuiting during the start-up	100 ms
• at short-circuit during operation	100 ms
bridging of equipment	No
efficiency	
efficiency in percent	88 %
power loss [W]	
• at rated output voltage for rated value of the output current typical	25 W
closed-loop control	
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	0.5 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	1 %
setting time	
• maximum	2 ms
protection and monitoring	
design of the overvoltage protection	< 33 V
property of the output short-circuit proof	Yes
design of short-circuit protection	Electronic shutdown, automatic restart
• typical	9.4 A
enduring short circuit current RMS value	
• maximum	10 A
safety	
galvanic isolation between input and output	Yes
galvanic isolation	Protective extra low output voltage Vout according to EN 60950-1 and EN 50178
operating resource protection class	Class I
leakage current	
• maximum	3.5 mA
• typical	0.4 mA
protection class IP	IP67
standard	
• for emitted interference	EN 55022 Class A
• for mains harmonics limitation	-
• for interference immunity	EN 61000-6-2

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Technical specifications (continued)

Article number product brand name type of current supply	6ES7148-4PC00-0HA0 SIMATIC ET200pro PS 24 V/8 A
standards, specifications, approvals	
certificate of suitability	
• CE marking	Yes
• UL approval	Yes; UL-Listed (UL 508) according to NFPA compatibility (National Fire Protection Association), see operating instructions
• CSA approval	No; -
• EAC approval	Yes
• NEC Class 2	No
type of certification	
• CB-certificate	Yes
MTBF at 40 °C	196 354 h
standards, specifications, approvals hazardous environments	
certificate of suitability	
• IECEx	No
• ATEX	No
• ULhazloc approval	No
• cCSAus, Class 1, Division 2	No
• FM registration	No
standards, specifications, approvals marine classification	
shipbuilding approval	No
Marine classification association	
• American Bureau of Shipping Europe Ltd. (ABS)	No
• French marine classification society (BV)	No
• Det Norske Veritas (DNV)	No
• Lloyds Register of Shipping (LRS)	No
ambient conditions	
ambient temperature	
• during operation	-25 ... +55 °C; with natural convection
• during transport	-40 ... +70 °C
• during storage	-40 ... +70 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation
connection method	
type of electrical connection	screw terminal
• at input	L1, L2, L3, PE: Plug connector HAN Q4/2 (counterpart see "Electrical accessories")
• at output	L+, M: 2 x 1.5 mm² each (4-pole cable for +/- with open, labeled ends, 4 x 1.5 mm²)
• for auxiliary contacts	Alarm signals: M12 plug-in connector 5-pin
mechanical data	
width × height × depth of the enclosure	310 mm × 90 mm
fastening method	Can be mounted onto ET200pro mounting rail

Technical specifications (continued)

Article number product brand name type of current supply	6ES7148-4PC00-0HA0 SIMATIC ET200pro PS 24 V/8 A
• standard rail mounting	No
• S7 rail mounting	No
• wall mounting	Yes
housing can be lined up	No
net weight	2.8 kg
accessories	
electrical accessories	Power connector (Input: 3RK1911-2BE30 (6 mm²)) (Output: 3RK1911-2BF10 (4 mm²))
further information internet links	
internet link	
• to website: Industry Mall	https://mall.industry.siemens.com
additional information	
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information	
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

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6/2	Introduction
6/3	SITOP PSU3400
6/16	SITOP PSU400M

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Overview

SITOP DC/DC family

SITOP DC-DC converters – for a stable power supply, even with input voltage fluctuations

A DC/DC converter converts a DC voltage supplied at the input into a DC voltage with a higher, equal or lower voltage level.

A DC/DC converter can be used as a "refresher". This means when long distances are being bridged, this module ensures reliable power supply to the remote load.

In addition, it serves as a stabilizer, i.e. this module serves to stabilize the power supply in the downstream feeder in the event of an unstable infeed.

DC/DC converters are particularly suitable for use in battery-powered applications. The output voltage of the battery varies, depending on the state of charge. A DC/DC converter ensures a stable 12 V DC or 24 V DC supply of connected loads, such as control units (CPUs). Additional applications are adaptations to other voltage levels or galvanic isolation.

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Overview

SITOP PSU3400 DC/DC converter – for a stable 12 V or 24 V supply, even with input voltage fluctuations

Thanks to its wide input voltage range, the SITOP PSU3400 DC/DC converter is optimal for operation on all common batteries.

The advantages at a glance:

- For battery voltages between 9 and 264 V
- PSU3400 uni with universal input for DC and AC voltage
- Reverse polarity protection at the input
- Stabilized DC output voltage for reliable supply of connected loads
- Adjustable output voltage for compensation of voltage drops
- Slim design: 32 or 42 mm width
- Permanent overload capability with 1.2 times the rated current up to 40 °C ambient temperature
- High degree of efficiency up to 93.5%
- Minimal no-load losses of max. 1.5 W
- Ambient temperature range from -25 to +70 °C (derating > 60 °C)
- LED display for easy recognition of operating state
- Overvoltage protection on input side through insulation voltage input/output 1.5 kV DC
- Parallel switching for increased power
- CE marking and cULus approval
- Approvals for DNV GL, ABS (some available soon)

Selection and ordering data

SITOP PSU3400 DC/DC stabilized power supply Input: 24 V DC (18 ... 32 V) Output: 24 V DC/10 A	**6EP3134-0TA00-0AY0**
SITOP PSU3400 DC/DC stabilized power supply Input: 24 V DC (18 ... 32 V) Output: 12 V DC/15 A	**6EP3124-0TA00-0AY0**
SITOP PSU3400 DC/DC stabilized power supply Input: 48 V DC (32 ... 54 V) Output: 24 V DC/10 A	**6EP3234-0TA00-0AY0**
SITOP PSU3400 DC/DC stabilized power supply Input: 24 V DC (18 ... 32 V) Output: 24 V DC/5 A	**6EP3133-0TA00-0AY0**
SITOP PSU3400 DC/DC stabilized power supply Input: 48 V DC (36 ... 60 V) Output: 24 V DC/5 A	**6EP3233-0TA00-0AY0**
SITOP PSU3400 DC/DC stabilized power supply Input: 24 V DC (18 ... 32 V) Output: 12 V DC/8 A	**6EP3123-0TA00-0AY0**
SITOP PSU3400 DC/DC stabilized power supply Input: 48 V DC (36 ... 60 V) Output: 24 V DC/3.5 A NEC Class 2	**6EP3233-0TA10-0AY0**
SITOP PSU3400 DC/DC stabilized power supply Input: 12 V (9 ... 18 V) Output: 24 V DC/4 A	**6EP3133-0TA10-0AY0**
SITOP PSU3400 uni DC/DC stabilized power supply Input: 230 V AC (88 ... 264 V) Input: 24 V DC (18 ... 264 V) Output: 24 V DC/2.5 A	**6EP3332-0TA00-0AY0**

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Technical specifications

Article number product brand name type of current supply	6EP3233-0TA10-0AY0 SITOP PSU3400 24 V/3.5 A	6EP3133-0TA10-0AY0 SITOP PSU3400 24 V/4 A	6EP3332-0TA00-0AY0 SITOP PSU3400 24 V/2.5 A
input			
type of the power supply network	DC voltage	DC voltage	1-phase AC or DC
supply voltage at AC			
• minimum rated value			120 V
• maximum rated value			240 V
• initial value			88 V
• full-scale value			264 V
supply voltage at AC	Startup as of 36 V, derating necessary for 28 ... 36 V DC		Startup as of 18 V
supply voltage at DC	48 ... 48 V	12 ... 12 V	24 ... 24 V
input voltage at DC	28 ... 60 V	9 ... 18 V	18 ... 264 V
wide range input	No	No	Yes
overvoltage overload capability	-	-	-
buffering time for rated value of the output current in the event of power failure minimum	5 ms	2 ms	5 ms
operating condition of the mains buffering	at Vin = 48 V	at Vin = 12 V	at Vin rated
line frequency			50 Hz/60 Hz
line frequency			47 ... 63 Hz
input current			
• at rated input voltage 24 V		9 A	1.9 A
• at rated input voltage 48 V	1.9 A		
current limitation of inrush current at 25 °C maximum	15 A	15 A	15 A
I2t value maximum	0.09 $A^2 \cdot s$	0.08 $A^2 \cdot s$	0.09 $A^2 \cdot s$
fuse protection type	15 A (not accessible), breaking capacity 100 A	25 A (not accessible), breaking capacity 300 A	15 A (not accessible), breaking capacity 100 A
fuse protection type in the feeder	Recommended miniature circuit breaker: 16 A characteristic B or C	Recommended miniature circuit breaker: 16 A characteristic B or C	Recommended miniature circuit breaker: 16 A characteristic B or C
output			
voltage curve at output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
output voltage at DC rated value	24 V	24 V	24 V
output voltage			
• at output 1 at DC rated value	24 V	24 V	24 V
	24 V	24 V	24 V
output voltage adjustable	Yes; via potentiometer	Yes; via potentiometer	Yes; via potentiometer
adjustable output voltage	24 ... 28 V	24 ... 28 V	24 ... 28 V
relative control precision of the output voltage			
• on slow fluctuation of input voltage	0.1 %	0.1 %	0.1 %
• on slow fluctuation of ohm loading	0.2 %	0.6 %	0.2 %
residual ripple			
• maximum	150 mV	150 mV	150 mV
• typical	30 mV	20 mV	30 mV
voltage peak			
• maximum	250 mV	250 mV	250 mV
• typical	70 mV	40 mV	70 mV
display version for normal operation	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK
behavior of the output voltage when switching on	No overshoot of Vout (soft start)	No overshoot of Vout (soft start)	No overshoot of Vout (soft start)
response delay maximum	0.5 s	0.5 s	0.5 s
voltage increase time of the output voltage			
• typical	10 ms	10 ms	10 ms
• maximum	20 ms	20 ms	20 ms
output current			

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3233-0TA10-0AY0 SITOP PSU3400 24 V/3.5 A	6EP3133-0TA10-0AY0 SITOP PSU3400 24 V/4 A	6EP3332-0TA00-0AY0 SITOP PSU3400 24 V/2.5 A
• rated value	3.5 A	4 A	2.5 A
• rated range	0 ... 3.5 A; +60 to +70 °C: without derating	0 ... 4 A; +60 ... +70 °C: Derating 2%/K	0 ... 3.5 A; +60 to +70 °C: without derating
	2.6 ... 4.9 A	2.6 ... 4.9 A	2.5 A
supplied active power typical	91 W	108 W	85 W
bridging of equipment	Yes	Yes	Yes
number of parallel-switched equipment resources	2	2	2
efficiency			
efficiency in percent	90 %	89 %	85 %
power loss [W]			
• at rated output voltage for rated value of the output current typical	7 W	12 W	7 W
• during no-load operation maximum	1.5 W	1.5 W	1.5 W
closed-loop control			
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	0.3 %	0.3 %	0.3 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	2 %	2 %	2 %
setting time			
• load step 50 to 100% typical	1 ms	1 ms	1 ms
• load step 100 to 50% typical	1 ms	1 ms	1 ms
protection and monitoring			
design of the overvoltage protection	Ua < 35 V	Ua < 35 V	Ua < 35 V
property of the output short-circuit proof	Yes	Yes	Yes
design of short-circuit protection	Electronic shutdown, automatic restart	Electronic shutdown, automatic restart	Electronic shutdown, automatic restart
• typical	3.8 A	4.5 A	3.8 A
display version for overload and short circuit	LED yellow for "overload"	LED yellow for "overload"	LED yellow for "overload"
safety			
galvanic isolation between input and output	Yes	Yes	Yes
galvanic isolation	Safety extra low output voltage Vout according to EN 60950-1	Safety extra low output voltage Vout according to EN 60950-1	Safety extra low output voltage Vout according to EN 60950-1
operating resource protection class	Class III	Class III	Class III
protection class IP	IP20	IP20	IP20
standard			
• for emitted interference	EN 61000-6-3	EN 61000-6-3	EN 61000-6-3
• for mains harmonics limitation	not applicable	not applicable	not applicable
• for interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals			
certificate of suitability			
• CE marking	Yes	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• EAC approval	Yes	Yes	No
• Regulatory Compliance Mark (RCM)	Yes	Yes	Yes
• NEC Class 2	Yes; according to UL1310	No	No
type of certification			
• CB-certificate	Yes	Yes	Yes
MTBF at 40 °C	1 934 648 h	1 868 914 h	1 934 648 h

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3233-0TA10-0AY0 SITOP PSU3400 24 V/3.5 A	6EP3133-0TA10-0AY0 SITOP PSU3400 24 V/4 A	6EP3332-0TA00-0AY0 SITOP PSU3400 24 V/2.5 A
standards, specifications, approvals hazardous environments			
certificate of suitability			
• IECEx	No	No	No
• ATEX	No	No	No
• ULhazloc approval	No	No	No
• cCSAus, Class 1, Division 2	No	No	No
• FM registration	No	No	No
standards, specifications, approvals marine classification			
shipbuilding approval	Yes	Yes	No
Marine classification association			
• American Bureau of Shipping Europe Ltd. (ABS)	Yes	Yes	No
• French marine classification society (BV)	No	No	No
• Det Norske Veritas (DNV)	Yes	Yes	No
• Lloyds Register of Shipping (LRS)	No	No	No
ambient conditions			
ambient temperature			
• during operation	-25 ... +70 °C; with natural convection	-25 ... +70 °C; with natural convection	-25 ... +70 °C; with natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method			
type of electrical connection	screw terminal	screw terminal	screw terminal
• at input	L, N, FE: 1 screw terminal each for 0.5 ... 2.5 mm² single-core/finely stranded	L, N, FE: 1 screw terminal each for 0.5 ... 2.5 mm² single-core/finely stranded	L, N, FE: 1 screw terminal each for 0.5 ... 2.5 mm² single-core/finely stranded
• at output	+, -: 2 screw terminals each for 0.5 ... 2.5 mm²	+, -: 2 screw terminals each for 0.5 ... 2.5 mm²	+, -: 2 screw terminals each for 0.5 ... 2.5 mm²
mechanical data			
width × height × depth of the enclosure	32 mm × 100 mm	32 mm × 100 mm	32 mm × 100 mm
installation width × mounting height	32 mm	32 mm	32 mm
required spacing			
• top	50 mm	50 mm	50 mm
• bottom	50 mm	50 mm	50 mm
• left	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes	Yes	Yes
• S7 rail mounting	No	No	No
• wall mounting	No	No	No
housing can be lined up	Yes	Yes	Yes
net weight	0.32 kg	0.32 kg	0.32 kg
accessories			
electrical accessories	Buffer module	Buffer module	Buffer module
further information internet links			
internet link			
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3233-0TA10-0AY0 SITOP PSU3400 24 V/3.5 A	6EP3133-0TA10-0AY0 SITOP PSU3400 24 V/4 A	6EP3332-0TA00-0AY0 SITOP PSU3400 24 V/2.5 A
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com
additional information			
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information			
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

Article number product brand name type of current supply	6EP3134-0TA00-0AY0 SITOP PSU3400 24 V/10 A	6EP3124-0TA00-0AY0 SITOP PSU3400 12 V/15 A	6EP3234-0TA00-0AY0 SITOP PSU3400 24 V/10 A
input			
type of the power supply network	DC voltage	DC voltage	DC voltage
supply voltage at AC	Startup as of 18 V, derating necessary for 14 ... 18 V DC	Startup as of 18 V, derating necessary for 14 ... 18 V DC	Startup as of 36 V, derating necessary for 28 ... 36 V DC
supply voltage at DC	24 ... 24 V	24 ... 24 V	48 ... 48 V
input voltage at DC	14 ... 32 V	14 ... 32 V	28 ... 60 V
wide range input	No	No	No

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3134-0TA00-0AY0 SITOP PSU3400 24 V/10 A	6EP3124-0TA00-0AY0 SITOP PSU3400 12 V/15 A	6EP3234-0TA00-0AY0 SITOP PSU3400 24 V/10 A
overvoltage overload capability	-	-	-
buffering time for rated value of the output current in the event of power failure minimum	5 ms	5 ms	5 ms
operating condition of the mains buffering	at Vin = 24 V	at Vin = 24 V	at Vin = 48 V
input current			
• at rated input voltage 24 V	10.8 A	8.4 A	
• at rated input voltage 48 V			5.4 A
current limitation of inrush current at 25 °C maximum	15 A	15 A	15 A
I2t value maximum	0.6 $A^2 \cdot s$	0.6 $A^2 \cdot s$	0.5 $A^2 \cdot s$
fuse protection type	25 A (not accessible), breaking capacity 300 A	25 A (not accessible), breaking capacity 300 A	15 A (not accessible), breaking capacity 100 A
fuse protection type in the feeder	Recommended miniature circuit breaker: 16 A characteristic B or C	Recommended miniature circuit breaker: 16 A characteristic B or C	Recommended miniature circuit breaker: 16 A characteristic B or C
output			
voltage curve at output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
output voltage at DC rated value	24 V	12 V	24 V
output voltage			
• at output 1 at DC rated value	24 V	12 V	24 V
	24 V	12 V	24 V
output voltage adjustable	Yes; via potentiometer	Yes; via potentiometer	Yes; via potentiometer
adjustable output voltage	24 ... 28 V	12 ... 15.5 V	24 ... 28 V
relative control precision of the output voltage			
• on slow fluctuation of input voltage	0.1 %	0.2 %	0.1 %
• on slow fluctuation of ohm loading	0.3 %	1 %	0.3 %
residual ripple			
• maximum	150 mV	150 mV	150 mV
• typical	30 mV	30 mV	50 mV
voltage peak			
• maximum	250 mV	250 mV	250 mV
• typical	50 mV	50 mV	70 mV
display version for normal operation	Green LED for 24 V OK	Green LED for 12 V OK	Green LED for 24 V OK
type of signal at output	Relay contact (NO contact, contact rating 30 V AC/0.5 A; 60 V DC/0.3 A; 30 V DC/1 A) for 24 V O.K.	Relay contact (NO contact, contact rating 30 V AC/0.5 A; 60 V DC/0.3 A; 30 V DC/1 A) for 12 V O.K.	Relay contact (NO contact, contact rating 30 V AC/0.5 A; 60 V DC/0.3 A; 30 V DC/1 A) for 24 V O.K.
behavior of the output voltage when switching on	No overshoot of Vout (soft start)	No overshoot of Vout (soft start)	No overshoot of Vout (soft start)
response delay maximum	0.5 s	0.5 s	0.5 s
voltage increase time of the output voltage			
• typical	10 ms	5 ms	10 ms
• maximum	20 ms	10 ms	20 ms
output current			
• rated value	10 A	15 A	10 A
• rated range	0 ... 12.5 A; 12 A up to +40°C; +60 ... +70 °C: Derating 2%/K	0 ... 15 A; +60 ... +70 °C: Derating 2%/K	0 ... 12.5 A; 12 A up to +40°C; +60 ... +70 °C: Derating 2%/K
	10 A	10.1 ... 19.9 A	10 A
supplied active power typical	260 W	200 W	256 W
bridging of equipment	Yes	Yes	Yes
number of parallel-switched equipment resources	2	2	2
efficiency			
efficiency in percent	93 %	91 %	93.5 %
power loss [W]			

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3134-0TA00-0AY0 SITOP PSU3400 24 V/10 A	6EP3124-0TA00-0AY0 SITOP PSU3400 12 V/15 A	6EP3234-0TA00-0AY0 SITOP PSU3400 24 V/10 A
• at rated output voltage for rated value of the output current typical	20 W	21 W	17 W
• during no-load operation maximum	1.5 W	0.5 W	1.5 W
closed-loop control			
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	0.3 %	0.3 %	0.3 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	2 %	4 %	2 %
setting time			
• load step 50 to 100% typical	1 ms	2 ms	1 ms
• load step 100 to 50% typical	1 ms	2 ms	1 ms
protection and monitoring			
design of the overvoltage protection	Ua < 35 V	Ua < 22 V	Ua < 35 V
property of the output short-circuit proof	Yes	Yes	Yes
design of short-circuit protection	Electronic shutdown, automatic restart	Electronic shutdown, automatic restart	Electronic shutdown, automatic restart
• typical	13 A	16 A	13 A
display version for overload and short circuit	LED yellow for "overload"	LED yellow for "overload"	LED yellow for "overload"
safety			
galvanic isolation between input and output	Yes	Yes	Yes
galvanic isolation	Safety extra low output voltage Vout according to EN 60950-1	Safety extra low output voltage Vout according to EN 60950-1	Safety extra low output voltage Vout according to EN 60950-1
operating resource protection class	Class III	Class III	Class III
protection class IP	IP20	IP20	IP20
standard			
• for emitted interference	EN 61000-6-3	EN 61000-6-3	EN 61000-6-3
• for mains harmonics limitation	not applicable	not applicable	not applicable
• for interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals			
certificate of suitability			
• CE marking	Yes	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• EAC approval	Yes	Yes	Yes
• Regulatory Compliance Mark (RCM)	Yes	Yes	Yes
• NEC Class 2	No	No	No
type of certification			
• CB-certificate	Yes	Yes	Yes
MTBF at 40 °C	1 579 080 h	1 411 273 h	1 552 337 h
standards, specifications, approvals hazardous environments			
certificate of suitability			
• IECEx	No	No	No
• ATEX	No	No	No
• ULhazloc approval	No	No	No
• cCSAus, Class 1, Division 2	No	No	No
• FM registration	No	No	No

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3134-0TA00-0AY0 SITOP PSU3400 24 V/10 A	6EP3124-0TA00-0AY0 SITOP PSU3400 12 V/15 A	6EP3234-0TA00-0AY0 SITOP PSU3400 24 V/10 A
standards, specifications, approvals marine classification			
shipbuilding approval	Yes	Yes	Yes
Marine classification association			
• American Bureau of Shipping Europe Ltd. (ABS)	Yes	Yes	Yes
• French marine classification society (BV)	No	No	No
• Det Norske Veritas (DNV)	Yes	Yes	Yes
• Lloyds Register of Shipping (LRS)	No	No	No
ambient conditions			
ambient temperature			
• during operation	-25 ... +70 °C; with natural convection	-25 ... +70 °C; with natural convection	-25 ... +70 °C; with natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method			
type of electrical connection	screw terminal	screw terminal	screw terminal
• at input	L, N, FE: 1 screw terminal each for 0.5 ... 2.5 mm² single-core/finely stranded	L, N, FE: 1 screw terminal each for 0.5 ... 2.5 mm² single-core/finely stranded	L, N, FE: 1 screw terminal each for 0.5 ... 2.5 mm² single-core/finely stranded
• at output	+, -: 2 screw terminals each for 0.5 ... 2.5 mm²	+, -: 2 screw terminals each for 0.5 ... 2.5 mm²	+, -: 2 screw terminals each for 0.5 ... 2.5 mm²
• for auxiliary contacts	Alarm signals: 2 screw terminals for 0.5 ... 2.5 mm²	Alarm signals: 2 screw terminals for 0.5 ... 2.5 mm²	Alarm signals: 2 screw terminals for 0.5 ... 2.5 mm²
• for signaling contact	2 screw terminals for 0.5 ... 2.5 mm²	2 screw terminals for 0.5 ... 2.5 mm²	2 screw terminals for 0.5 ... 2.5 mm²
mechanical data			
width × height × depth of the enclosure	42 mm × 120 mm	42 mm × 120 mm	42 mm × 120 mm
installation width × mounting height	42 mm	42 mm	42 mm
required spacing			
• top	50 mm	50 mm	50 mm
• bottom	50 mm	50 mm	50 mm
• left	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes	Yes	Yes
• S7 rail mounting	No	No	No
• wall mounting	No	No	No
housing can be lined up	Yes	Yes	Yes
net weight	0.6 kg	0.6 kg	0.6 kg
accessories			
electrical accessories	Buffer module	Buffer module	Buffer module
further information internet links			
internet link			
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3134-0TA00-0AY0 SITOP PSU3400 24 V/10 A	6EP3124-0TA00-0AY0 SITOP PSU3400 12 V/15 A	6EP3234-0TA00-0AY0 SITOP PSU3400 24 V/10 A
additional information			
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information			
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

Article number product brand name type of current supply	6EP3133-0TA00-0AY0 SITOP PSU3400 24 V/5 A	6EP3233-0TA00-0AY0 SITOP PSU3400 24 V/5 A	6EP3123-0TA00-0AY0 SITOP PSU3400 12 V/8 A
input			
type of the power supply network	DC voltage	DC voltage	DC voltage
supply voltage at AC	Startup as of 18 V, derating necessary for 14 ... 18 V DC	Startup as of 36 V, derating necessary for 28 ... 36 V DC	Startup as of 18 V, derating necessary for 14 ... 18 V DC
supply voltage at DC	24 ... 24 V	48 ... 48 V	24 ... 24 V
input voltage at DC	14 ... 32 V	28 ... 60 V	14 ... 32 V
wide range input	No	No	No
overvoltage overload capability	-	-	-
buffering time for rated value of the output current in the event of power failure minimum	5 ms	5 ms	5 ms
operating condition of the mains buffering	at Vin = 24 V	at Vin = 48 V	at Vin = 24 V

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3133-0TA00-0AY0 SITOP PSU3400 24 V/5 A	6EP3233-0TA00-0AY0 SITOP PSU3400 24 V/5 A	6EP3123-0TA00-0AY0 SITOP PSU3400 12 V/8 A
input current			
• at rated input voltage 24 V	5.5 A		4.5 A
• at rated input voltage 48 V		2.7 A	
current limitation of inrush current at 25 °C maximum	15 A	15 A	15 A
I2t value maximum	0.18 A²·s	0.12 A²·s	0.18 A²·s
fuse protection type	25 A (not accessible), breaking capacity 300 A	15 A (not accessible), breaking capacity 100 A	15 A (not accessible), breaking capacity 100 A
fuse protection type in the feeder	Recommended miniature circuit breaker: 16 A characteristic B or C	Recommended miniature circuit breaker: 16 A characteristic B or C	Recommended miniature circuit breaker: 16 A characteristic B or C
output			
voltage curve at output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
output voltage at DC rated value	24 V	24 V	12 V
output voltage			
• at output 1 at DC rated value	24 V	24 V	12 V
	24 V	24 V	12 V
output voltage adjustable	Yes; via potentiometer	Yes; via potentiometer	Yes; via potentiometer
adjustable output voltage	24 ... 28 V	24 ... 28 V	12 ... 15.5 V
relative control precision of the output voltage			
• on slow fluctuation of input voltage	0.1 %	0.1 %	0.2 %
• on slow fluctuation of ohm loading	0.3 %	0.3 %	1.3 %
residual ripple			
• maximum	150 mV	150 mV	150 mV
• typical	15 mV	70 mV	10 mV
voltage peak			
• maximum	250 mV	250 mV	250 mV
• typical	40 mV	220 mV	30 mV
display version for normal operation	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 12 V OK
behavior of the output voltage when switching on	No overshoot of Vout (soft start)	No overshoot of Vout (soft start)	No overshoot of Vout (soft start)
response delay maximum	0.5 s	0.5 s	0.5 s
voltage increase time of the output voltage			
• typical	10 ms	10 ms	10 ms
• maximum	20 ms	20 ms	20 ms
output current			
• rated value	5 A	5 A	8 A
• rated range	0 ... 6 A; 6 A up to +40°C; +60 ... +70 °C: Derating 2%/K	0 ... 6 A; 6 A up to +40°C; +60 ... +70 °C: Derating 2%/K	0 ... 8 A; +60 ... +70 °C: Derating 2%/K
	5 A	5 A	5.1 ... 9.9 A
supplied active power typical	130 W	130 W	107 W
bridging of equipment	Yes	Yes	Yes
number of parallel-switched equipment resources	2	2	2
efficiency			
efficiency in percent	93 %	92 %	90 %
power loss [W]			
• at rated output voltage for rated value of the output current typical	10 W	10 W	11 W
• during no-load operation maximum	1.5 W	1.5 W	1.5 W
closed-loop control			
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	0.3 %	0.3 %	0.3 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	2 %	2 %	4 %

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3133-0TA00-0AY0 SITOP PSU3400 24 V/5 A	6EP3233-0TA00-0AY0 SITOP PSU3400 24 V/5 A	6EP3123-0TA00-0AY0 SITOP PSU3400 12 V/8 A
setting time			
• load step 50 to 100% typical	1 ms	1 ms	2 ms
• load step 100 to 50% typical	1 ms	1 ms	2 ms
protection and monitoring			
design of the overvoltage protection	Ua < 35 V	Ua < 35 V	Ua < 22 V
property of the output short-circuit proof	Yes	Yes	Yes
design of short-circuit protection	Electronic shutdown, automatic restart	Electronic shutdown, automatic restart	Electronic shutdown, automatic restart
• typical	6.5 A	6.5 A	9 A
display version for overload and short circuit	LED yellow for "overload"	LED yellow for "overload"	LED yellow for "overload"
safety			
galvanic isolation between input and output	Yes	Yes	Yes
galvanic isolation	Safety extra low output voltage Vout according to EN 60950-1	Safety extra low output voltage Vout according to EN 60950-1	Safety extra low output voltage Vout according to EN 60950-1
operating resource protection class	Class III	Class III	Class III
protection class IP	IP20	IP20	IP20
standard			
• for emitted interference	EN 61000-6-3	EN 61000-6-3	EN 61000-6-3
• for mains harmonics limitation	not applicable	not applicable	not applicable
• for interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals			
certificate of suitability			
• CE marking	Yes	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• EAC approval	Yes	Yes	Yes
• Regulatory Compliance Mark (RCM)	Yes	Yes	Yes
• NEC Class 2	No	No	No
type of certification			
• CB-certificate	Yes	Yes	Yes
MTBF at 40 °C	1 953 545 h	1 965 061 h	1 934 648 h
standards, specifications, approvals hazardous environments			
certificate of suitability			
• IECEx	No	No	No
• ATEX	No	No	No
• ULhazloc approval	No	No	No
• cCSAus, Class 1, Division 2	No	No	No
• FM registration	No	No	No
standards, specifications, approvals marine classification			
shipbuilding approval	Yes	Yes	Yes
Marine classification association			
• American Bureau of Shipping Europe Ltd. (ABS)	Yes	Yes	Yes
• French marine classification society (BV)	No	No	No
• Det Norske Veritas (DNV)	Yes	Yes	Yes
• Lloyds Register of Shipping (LRS)	No	No	No

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3133-0TA00-0AY0 SITOP PSU3400 24 V/5 A	6EP3233-0TA00-0AY0 SITOP PSU3400 24 V/5 A	6EP3123-0TA00-0AY0 SITOP PSU3400 12 V/8 A
ambient conditions			
ambient temperature			
• during operation	-25 ... +70 °C; with natural convection	-25 ... +70 °C; with natural convection	-25 ... +70 °C; with natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method			
type of electrical connection	screw terminal	screw terminal	screw terminal
• at input	L, N, FE: 1 screw terminal each for 0.5 ... 2.5 mm² single-core/finely stranded	L, N, FE: 1 screw terminal each for 0.5 ... 2.5 mm² single-core/finely stranded	L, N, FE: 1 screw terminal each for 0.5 ... 2.5 mm² single-core/finely stranded
• at output	+, -: 2 screw terminals each for 0.5 ... 2.5 mm²	+, -: 2 screw terminals each for 0.5 ... 2.5 mm²	+, -: 2 screw terminals each for 0.5 ... 2.5 mm²
mechanical data			
width × height × depth of the enclosure	32 mm × 100 mm	32 mm × 100 mm	32 mm × 100 mm
installation width × mounting height	32 mm	32 mm	32 mm
required spacing			
• top	50 mm	50 mm	50 mm
• bottom	50 mm	50 mm	50 mm
• left	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes	Yes	Yes
• S7 rail mounting	No	No	No
• wall mounting	No	No	No
housing can be lined up	Yes	Yes	Yes
net weight	0.32 kg	0.32 kg	0.32 kg
accessories			
electrical accessories	Buffer module	Buffer module	Buffer module
further information internet links			
internet link			
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com
additional information			
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3133-0TA00-0AY0 SITOP PSU3400 24 V/5 A	6EP3233-0TA00-0AY0 SITOP PSU3400 24 V/5 A	6EP3123-0TA00-0AY0 SITOP PSU3400 12 V/8 A
security information			
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

More information

Select the appropriate power supply quickly and easily with the TIA Selection Tool:

http://www.siemens.com/tst

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Overview

The SITOP PSU400M power supply with 600 V DC input is suitable as an efficient DC/DC converter for drive and battery systems. A voltage surge limiter is available as an accessory as ballast for the PSU400M. This gives the option of connecting the DC/DC converter directly to a DC voltage of up to 900 V DC, e.g. on the DC link of drive converters.

The advantages at a glance:

- Wide input and temperature range
- High efficiency of 95%
- Slim design
- With 50% extra power for 5 s/min.

Selection and ordering data

SITOP PSU400M 1-phase, 24 V DC/20 A Stabilized power supply Input: 600 V DC Output: 24 V DC/20 A	**6EP1536-3AA00**

Accessories

Device identification label	**3RT2900-1SB20**
SITOP PSU400M voltage surge limiter	**6EP1566-3AA00**

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Technical specifications

Article number product brand name type of current supply	6EP1536-3AA00 SITOP PSU400M 24 V/20 A
input	
type of the power supply network	DC voltage
supply voltage at AC	startup from 340 V DC; derating necessary at 300 ... 400 V DC and 824 ... 900 V DC
supply voltage at DC	600 ... 600 V
input voltage at DC	300 ... 900 V
overvoltage overload capability	Shutdown at Vin > 900 V DC
input current at DC	
• at rated input voltage 600 V	0.85 A
current limitation of inrush current at 25 °C maximum	8 A
I2t value maximum	0.02 $A^2 \cdot s$
fuse protection type	yes, cut-off capacity 20 kA; L/R < 2 ms ("+" and "-" input)
output	
voltage curve at output	Controlled, isolated DC voltage
output voltage at DC rated value	24 V
output voltage	
• at output 1 at DC rated value	24 V
	24 V
output voltage adjustable	Yes; via potentiometer
adjustable output voltage	24 ... 28.8 V; max. 480 W
relative control precision of the output voltage	
• on slow fluctuation of input voltage	0.3 %
• on slow fluctuation of ohm loading	0.3 %
residual ripple	
• maximum	150 mV
• typical	30 mV
voltage peak	
• maximum	200 mV
• typical	100 mV
display version for normal operation	Green LED for 24 V OK, green flashing LED for start delay
type of signal at output	Relay contact (NO contact, rating 60 V DC/ 0.3 A; 30 V DC/1 A) for 24 V OK
behavior of the output voltage when switching on	No overshoot of Vout (soft start)
response delay maximum	0.1 s; 10 s adjustable using switch
voltage increase time of the output voltage	
• maximum	150 ms
output current	
• rated value	20 A
• rated range	0 ... 20 A; +60 ... +70 °C: Derating 5.5%/K
	20 A
supplied active power typical	480 W
short-term overload current	
• on short-circuiting during the start-up typical	40 A
• at short-circuit during operation typical	60 A
duration of overloading capability for excess current	
• on short-circuiting during the start-up	150 ms
• at short-circuit during operation	25 ms
constant overload current	
• on short-circuiting during the start-up typical	23 A
bridging of equipment	Yes; switchable characteristic
number of parallel-switched equipment resources	2

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1536-3AA00 SITOP PSU400M 24 V/20 A
efficiency	
efficiency in percent	95 %
power loss [W]	
• at rated output voltage for rated value of the output current typical	25 W
closed-loop control	
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	1.5 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	1.5 %
setting time	
• load step 50 to 100% typical	1 ms
• load step 100 to 50% typical	1 ms
setting time	
• maximum	5 ms
protection and monitoring	
design of the overvoltage protection	< 33 V
property of the output short-circuit proof	Yes
design of short-circuit protection	Alternatively, constant current characteristic approx. 22 A or latching shutdown
• typical	22 A
overcurrent overload capability	
• in normal operation	overload capability 150 % Iout rated up to 5 s/min
enduring short circuit current RMS value	
• typical	22 A
display version for overload and short circuit	LED yellow for "overload", LED red for "latching shutdown", red LED flashing for "Overtemperature"
safety	
galvanic isolation between input and output	Yes
galvanic isolation	Protective extra low output voltage Vout according to EN 60950-1 and EN 50178
operating resource protection class	Class I
protection class IP	IP20
standard	
• for emitted interference	EN 55022 Class A (emission)
• for mains harmonics limitation	-
• for interference immunity	EN 61000-6-2
standards, specifications, approvals	
certificate of suitability	
• CE marking	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• EAC approval	Yes
• Regulatory Compliance Mark (RCM)	Yes
• NEC Class 2	No
type of certification	
• CB-certificate	Yes
MTBF at 40 °C	622 277 h
standards, specifications, approvals hazardous environments	
certificate of suitability	
• IECEx	No
• ATEX	No
• ULhazloc approval	No
• cCSAus, Class 1, Division 2	No

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1536-3AA00 SITOP PSU400M 24 V/20 A
• FM registration	No
standards, specifications, approvals marine classification	
shipbuilding approval	Yes
Marine classification association	
• American Bureau of Shipping Europe Ltd. (ABS)	No
• French marine classification society (BV)	No
• Det Norske Veritas (DNV)	Yes
• Lloyds Register of Shipping (LRS)	No
standards, specifications, approvals Environmental Product Declaration	
Environmental Product Declaration	Yes
Global Warming Potential [CO2 eq]	
• total	801.7 kg
• during manufacturing	18.9 kg
• during operation	782.3 kg
• after end of life	0.27 kg
ambient conditions	
ambient temperature	
• during operation	-25 ... +70 °C; with natural convection
• during transport	-40 ... +85 °C
• during storage	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation
connection method	
type of electrical connection	screw terminal
• at input	DC input, +, -, PE: 1 screw terminal each for 0.2 ... 6/4 mm² single-core/finely stranded
• at output	+, -: 2 screw terminals each for 0.2 ... 6/4 mm² single-core/finely stranded
• for auxiliary contacts	Alarm signals: 2 screw terminals for 0.14 ... 1.5 mm² single-core/finely stranded
mechanical data	
width × height × depth of the enclosure	90 mm × 125 mm
installation width × mounting height	90 mm
required spacing	
• top	50 mm
• bottom	50 mm
• left	0 mm
• right	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes
• S7 rail mounting	No
• wall mounting	No
housing can be lined up	Yes
net weight	1.2 kg
accessories	
mechanical accessories	Device identification label 20 mm × 7 mm, pale turquoise 3RT1900-1SB20
further information internet links	
internet link	
• to website: Industry Mall	https://mall.industry.siemens.com

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1536-3AA00 SITOP PSU400M 24 V/20 A
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com
additional information	
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information	
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

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Special designs, special uses

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7/3	Introduction
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7/63	1-phase / 1-phase and 2-phase / DC, AS-i 30 V (with data decoupling)
7/65	1-phase, 30 V DC (without data decoupling)

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Overview

Well prepared for special tasks and conditions

Whether restricted installation conditions, harsh ambient conditions, or special input or output voltages are concerned: These standard power supply units ensure a reliable and efficient supply of power, even when subject to extraordinary demands. Thanks to their compact design they can be integrated perfectly into existing installations.

More information

Select the appropriate power supply quickly and easily with the TIA Selection Tool:

http://www.siemens.com/tst

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Overview

Low-cost power supply for wall mounting

The PSU100D switched mode power supplies extend the Siemens power supply portfolio to include single-phase devices for direct wall mounting using screws. The flat and rugged aluminum enclosure can be installed in various orientations and is therefore ideal for installation locations with limited space or for mounting in control cabinets and enclosures without a DIN rail. The low-cost devices meet all the basic requirements for a power supply, typical applications being apparatus, automated equipment and automation solutions.

Product highlights of the product line

- Flat and rugged aluminum enclosure
- Installation without DIN rail by direct wall mounting in various positions
- 24 V or 12 V output voltage, adjustable for compensation of voltage drops
- Green LED for "DC OK".
- Temperature range from -25 °C to +70 °C
- Certified to CE, UKAC, cULus, cURus and BIS

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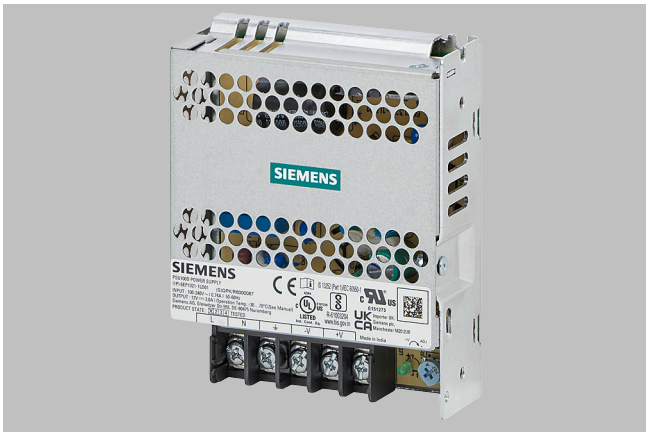
1-phase, 12 V DC (PSU100D)

Overview



The single-phase PSU100D are switched mode power supplies for direct wall mounting using screws.

Product highlights

- 1-phase, 12 V DC/ 3 A and 8.5 A
- Wide-range input, input voltage 90 ... 264 V

Selection and ordering data

PSU100D 1-phase, 12 V DC/3 A Stabilized power supply 35 W, for wall mounting Input: 100 ... 240 V AC Output: 12 V DC/3 A	**6EP1321-1LD01**
PSU100D 1-phase, 12 V DC/8.5 A Stabilized power supply 100 W, for wall mounting Input: 100 ... 240 V AC Output: 12 V DC/8.5 A	**6EP1322-1LD01**

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Technical specifications

Article number product brand name type of current supply	6EP1321-1LD01 PSU100D 12 V/3 A	6EP1322-1LD01 PSU100D 12 V/8.5 A
input		
type of the power supply network	1-phase AC	1-phase AC
supply voltage at AC		
• minimum rated value	100 V	100 V
• maximum rated value	240 V	240 V
• initial value	90 V	90 V
• full-scale value	264 V	264 V
wide range input	Yes	Yes
overvoltage overload capability	1.25 × Vin rated, 500 ms	1.25 × Vin rated, 500 ms
buffering time for rated value of the output current in the event of power failure minimum	16 ms	9 ms
operating condition of the mains buffering	at Vin = 115/230 V	at Vin = 115/230 V
line frequency	50 Hz/60 Hz	50 Hz/60 Hz
line frequency	47 ... 63 Hz	47 ... 63 Hz
input current		
• at rated input voltage 100 V	0.85 A	2.2 A
• at rated input voltage 240 V	0.5 A	1.2 A
current limitation of inrush current at 25 °C maximum	45 A	55 A
I2t value maximum	1.5 A^2·s	2.5 A^2·s
fuse protection type	T3.15AL250V (internal)	T4AL250V (internal)
fuse protection type in the feeder	Recommended miniature circuit breaker: from 16 A characteristic B, from 20 A characteristic B (for North America)	Recommended miniature circuit breaker: from 16 A characteristic B, from 20 A characteristic B (for North America)
output		
voltage curve at output	Controlled, isolated DC voltage	Controlled, isolated DC voltage
output voltage at DC rated value	12 V	12 V
output voltage		
• at output 1 at DC rated value	12 V	12 V
	12 V	12 V
output voltage adjustable	Yes; via potentiometer	Yes; via potentiometer
adjustable output voltage	10.8 ... 13.2 V	10.8 ... 13.2 V
relative control precision of the output voltage		
• on slow fluctuation of input voltage	0.5 %	0.5 %
• on slow fluctuation of ohm loading	0.5 %	0.5 %
voltage peak		
• maximum	120 mV	120 mV
display version for normal operation	Green LED for 12 V OK	Green LED for 12 V OK
behavior of the output voltage when switching on	Overshoot of Vout < 10 %	Overshoot of Vout < 10 %
response delay maximum	1 s	0.5 s
voltage increase time of the output voltage		
• maximum	30 ms	30 ms
output current		
• rated value	3 A	8.5 A
• rated range	0 ... 3 A; +50 ... +70 °C: Derating 2.0%/K	0 ... 8.5 A; +50 ... +70 °C: Derating 2.0%/K
	2.6 ... 4.9 A	5.1 ... 9.9 A
supplied active power typical	35 W	100 W
bridging of equipment	No	No
efficiency		
efficiency in percent	86 %	87.5 %
power loss [W]		
• at rated output voltage for rated value of the output current typical	5.7 W	14.22 W

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1321-1LD01 PSU100D 12 V/3 A	6EP1322-1LD01 PSU100D 12 V/8.5 A
closed-loop control		
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	10 %	10 %
setting time		
• load step 50 to 100% typical	4 ms	4 ms
• load step 100 to 50% typical	4 ms	4 ms
protection and monitoring		
design of the overvoltage protection	< 17.4 V	< 17.4 V
property of the output short-circuit proof	Yes	Yes
design of short-circuit protection	Electronic shutdown, automatic restart	Electronic shutdown, automatic restart
response value current limitation	3.3 ... 5.25 A	9.35 ... 14.88 A
enduring short circuit current RMS value		
• typical	4 A	9 A
safety		
galvanic isolation between input and output	Yes	Yes
galvanic isolation	Safety extra low output voltage Vout according to EN 62368-1	Safety extra low output voltage Vout according to EN 62368-1
operating resource protection class	Class I	Class I
leakage current		
• maximum	0.5 mA	0.5 mA
standard		
• for emitted interference	EN 55032 Class B	EN 55032 Class B
• for mains harmonics limitation	IEC 61000-3-2	IEC 61000-6-3 Class A
• for interference immunity	EN 55035	EN 55035
standards, specifications, approvals		
certificate of suitability		
• CE marking	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus (UL 62368-1, CSA C22.2 NO 62368-1-14), File E151273	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus (UL 62368-1, CSA C22.2 NO 62368-1-14), File E151273
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus (UL 62368-1, CSA C22.2 NO 62368-1-14), File E151273	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus (UL 62368-1, CSA C22.2 NO 62368-1-14), File E151273
• UKCA marking	Yes	Yes
• EAC approval	No	No
• NEC Class 2	No	No
type of certification		
• BIS	Yes; R-611003204	Yes; R-611003204
• CB-certificate	Yes	Yes
standards, specifications, approvals hazardous environments		
certificate of suitability		
• IECEx	No	No
• ATEX	No	No
• ULhazloc approval	No	No
• cCSAus, Class 1, Division 2	No	No
• FM registration	No	No
standards, specifications, approvals marine classification		
shipbuilding approval	No	No
Marine classification association		
• American Bureau of Shipping Europe Ltd. (ABS)	No	No
• French marine classification society (BV)	No	No
• Det Norske Veritas (DNV)	No	No

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1321-1LD01 PSU100D 12 V/3 A	6EP1322-1LD01 PSU100D 12 V/8.5 A
• Lloyds Register of Shipping (LRS)	No	No
standards, specifications, approvals Environmental Product Declaration		
Environmental Product Declaration	Yes	Yes
Global Warming Potential [CO2 eq]		
• total	181.8 kg	450.7 kg
• during manufacturing	3.4 kg	5.7 kg
• during operation	178.3 kg	444.8 kg
• after end of life	0.05 kg	0.09 kg
ambient conditions		
ambient temperature		
• during operation	-25 ... +70 °C; with natural convection; The device is not recommended to be placed on low thermal conductive surface (e. g. plastics).	-25 ... +70 °C; with natural convection; The device is not recommended to be placed on low thermal conductive surface (e. g. plastics).
• during transport	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C
relative humidity with condensation according to IEC 60068-2-38 maximum	20 ... 90% without condensation	20 ... 90% without condensation
connection method		
type of electrical connection	screw terminal	screw terminal
• at input	L, N, PE: 1 screw terminal each for 0.75 ... 2 mm² single-core/finely stranded	L, N, PE: 1 screw terminal each for 0.75 ... 2 mm² single-core/finely stranded
• at output	+, -: 1 screw terminal each for 0.75 ... 2 mm²	+, -: 2 screw terminals each for 0.75 ... 2 mm²
• for auxiliary contacts	-	-
mechanical data		
width × height × depth of the enclosure	82 mm × 99 mm	97 mm × 129 mm
fastening method	Wall mounting	Wall mounting
• standard rail mounting	No	No
• S7 rail mounting	No	No
• wall mounting	Yes	Yes
net weight	0.17 kg	0.29 kg
further information internet links		
internet link		
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com
additional information		
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1321-1LD01 PSU100D 12 V/3 A	6EP1322-1LD01 PSU100D 12 V/8.5 A
security information		
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

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Overview

The single-phase PSU100D are switched mode power supplies for direct wall mounting using screws. The flat and rugged aluminum enclosure with degree of protection IP20 can be installed in various orientations and is therefore ideal for installation locations with limited space or for mounting in control cabinets and enclosures without a DIN rail. The low-cost devices meet all the basic requirements for a power supply, typical applications being apparatus, automated equipment and automation solutions.

Product highlights

- 1-phase, 24 V DC/ 2.2 A, 6.25 A and 14.6 A
- Cooling through natural convection, 300 W device (24 V/14.6 A) with fan only
- 24 V/2.2 A: Wide-range input 100...264 V AC
- 24 V/6.25 A and 14.6 A: Wide-range input with range switch 90...132/180...264 V AC

Selection and ordering data

PSU100D 1-phase, 24 V DC/2.2 A Stabilized power supply 50 W, for wall mounting Input: 100 ... 240 V AC Output: 24 V DC/2.2 A	**6EP1331-1LD01**
PSU100D 1-phase, 24 V DC/6.25 A Stabilized power supply 150 W, for wall mounting Input: 100 ... 240 V AC Output: 24 V DC/6.25 A	**6EP1333-1LD01**
PSU100D 1-phase, 24 V DC/14.6 A Stabilized power supply 300 W, for wall mounting Input: 100 ... 240 V AC Output: 24 V DC/14.6 A	**6EP1334-1LD01**

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Technical specifications

Article number product brand name type of current supply	6EP1331-1LD01 PSU100D 24 V/2.2 A	6EP1333-1LD01 PSU100D 24 V/6.25 A	6EP1334-1LD01 PSU100D 24 V/14.6 A
input			
type of the power supply network	1-phase AC	1-phase AC	1-phase AC
supply voltage at AC			
• minimum rated value	100 V		
• maximum rated value	240 V		
• initial value	90 V		
• full-scale value	264 V		
supply voltage 1 at AC		100 ... 120 V	100 ... 120 V
supply voltage 2 at AC		200 ... 240 V	200 ... 240 V
input voltage 1 at AC		90 ... 132 V	90 ... 132 V
input voltage 2 at AC		180 ... 264 V	180 ... 264 V
wide range input	Yes	Yes	Yes
overvoltage overload capability	1.25 × Vin rated, 500 ms	1.25 × Vin rated, 500 ms	1.25 × Vin rated, 500 ms
buffering time for rated value of the output current in the event of power failure minimum	12 ms	30 ms	20 ms
operating condition of the mains buffering	at Vin = 115/230 V	at Vin = 115/230 V	at Vin = 115/230 V
line frequency	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz
line frequency	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz
input current			
• at rated input voltage 100 V	1.2 A	3 A	6.8 A
• at rated input voltage 240 V	0.7 A	1.6 A	3.4 A
current limitation of inrush current at 25 °C maximum	45 A	60 A	60 A
I2t value maximum	2 $A^2 \cdot s$	1.5 $A^2 \cdot s$	4.5 $A^2 \cdot s$
fuse protection type	T3.15AL250V (internal)	T4AL250V (internal)	T10AH250V (internal)
fuse protection type in the feeder	Recommended miniature circuit breaker: from 16 A characteristic B, from 20 A characteristic B (for North America)	Recommended miniature circuit breaker: from 16 A characteristic B, from 20 A characteristic B (for North America)	Recommended miniature circuit breaker: from 16 A characteristic B, from 20 A characteristic B (for North America)
output			
voltage curve at output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
output voltage at DC rated value	24 V	24 V	24 V
output voltage			
• at output 1 at DC rated value	24 V	24 V	24 V
	24 V	24 V	24 V
output voltage adjustable	Yes; via potentiometer	Yes; via potentiometer	Yes; via potentiometer
adjustable output voltage	21.6 ... 26.4 V	21.6 ... 26.4 V	21.6 ... 26.4 V
relative control precision of the output voltage			
• on slow fluctuation of input voltage	0.5 %	0.5 %	0.5 %
• on slow fluctuation of ohm loading	0.5 %	0.5 %	0.5 %
voltage peak			
• maximum	150 mV	200 mV	200 mV
display version for normal operation	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK
type of signal at output			-
behavior of the output voltage when switching on	Overshoot of Vout < 10 %	Overshoot of Vout < 10 %	Overshoot of Vout < 10 %
response delay maximum	1 s	0.5 s	1.5 s
voltage increase time of the output voltage			
• maximum	30 ms	30 ms	30 ms
output current			
• rated value	2.2 A	6.25 A	14.6 A

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1331-1LD01 PSU100D 24 V/2.2 A	6EP1333-1LD01 PSU100D 24 V/6.25 A	6EP1334-1LD01 PSU100D 24 V/14.6 A
• rated range	0 ... 2.2 A; +50 ... +70 °C: Derating 2.0%/K	0 ... 6.25 A; +50 ... +70 °C: Derating 2.0%/K	0 ... 14.6 A; +50 ... +70 °C: Derating 2.0%/K
	0.0 ... 2.4 A	5.1 ... 9.9 A	10.1 ... 19.9 A
supplied active power typical	50 W	150 W	350 W
bridging of equipment	No	No	No
efficiency			
efficiency in percent	88 %	89 %	87 %
power loss [W]			
• at rated output voltage for rated value of the output current typical	7.1 W	18 W	46.8 W
closed-loop control			
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	10 %	10 %	10 %
setting time			
• load step 50 to 100% typical	4 ms	4 ms	20 ms
• load step 100 to 50% typical	4 ms	4 ms	20 ms
protection and monitoring			
design of the overvoltage protection	< 33.6 V	< 33.6 V	< 33.6 V
property of the output short-circuit proof	Yes	Yes	Yes
design of short-circuit protection	Electronic shutdown, automatic restart	Electronic shutdown, automatic restart	Electronic shutdown, automatic restart
response value current limitation	2.42 ... 3.85 A	6.88 ... 10.94 A	16.06 ... 25.55 A
enduring short circuit current RMS value			
• typical	5 A	9 A	9 A
safety			
galvanic isolation between input and output	Yes	Yes	Yes
galvanic isolation	Safety extra low output voltage Vout according to EN 62368-1	Safety extra low output voltage Vout according to EN 62368-1	Safety extra low output voltage Vout according to EN 62368-1
operating resource protection class	Class I	Class I	Class I
leakage current			
• maximum	0.5 mA	0.5 mA	0.75 mA
standard			
• for emitted interference	EN 55032 Class B	EN 55032 Class B	EN 55032 Class B
• for mains harmonics limitation	IEC 61000-3-2	IEC 61000-6-3 Class A	No
• for interference immunity	EN 55035	EN 55035	EN 55035
standards, specifications, approvals			
certificate of suitability			
• CE marking	Yes	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus (UL 62368-1, CSA C22.2 NO 62368-1-14), File E151273	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus (UL 62368-1, CSA C22.2 NO 62368-1-14), File E151273	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus (UL 62368-1, CSA C22.2 NO 62368-1-14), File E151273
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus (UL 62368-1, CSA C22.2 NO 62368-1-14), File E151273	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus (UL 62368-1, CSA C22.2 NO 62368-1-14), File E151273	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus (UL 62368-1, CSA C22.2 NO 62368-1-14), File E151273
• UKCA marking	Yes	Yes	Yes
• EAC approval	No	No	No
• NEC Class 2	No	No	No
type of certification			
• BIS	Yes; R-611003204	Yes; R-611003204	Yes; R-611003204
• CB-certificate	Yes	Yes	Yes

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1331-1LD01 PSU100D 24 V/2.2 A	6EP1333-1LD01 PSU100D 24 V/6.25 A	6EP1334-1LD01 PSU100D 24 V/14.6 A
standards, specifications, approvals hazardous environments			
certificate of suitability			
• IECEx	No	No	No
• ATEX	No	No	No
• ULhazloc approval	No	No	No
• cCSAus, Class 1, Division 2	No	No	No
• FM registration	No	No	No
standards, specifications, approvals marine classification			
shipbuilding approval	No	No	No
Marine classification association			
• American Bureau of Shipping Europe Ltd. (ABS)	No	No	No
• French marine classification society (BV)	No	No	No
• Det Norske Veritas (DNV)	No	No	No
• Lloyds Register of Shipping (LRS)	No	No	No
standards, specifications, approvals Environmental Product Declaration			
Environmental Product Declaration	Yes	Yes	Yes
Global Warming Potential [CO2 eq]			
• total	225.7 kg	570.3 kg	1 480.9 kg
• during manufacturing	3.6 kg	7.1 kg	16.6 kg
• during operation	222.1 kg	563 kg	1 463.7 kg
• after end of life	0.05 kg	0.11 kg	0.25 kg
ambient conditions			
ambient temperature			
• during operation	-25 ... +70 °C; with natural convection; The device is not recommended to be placed on low thermal conductive surface (e. g. plastics).	-25 ... +70 °C; with natural convection; The device is not recommended to be placed on low thermal conductive surface (e. g. plastics).	-25 ... +70 °C; with forced convection (ventilator); The device is not recommended to be placed on low thermal conductive surface (e. g. plastics).
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
relative humidity with condensation according to IEC 60068-2-38 maximum	20 ... 90% without condensation	20 ... 90% without condensation	20 ... 90% without condensation
connection method			
type of electrical connection	screw terminal	screw terminal	screw terminal
• at input	L, N, PE: 1 screw terminal each for 0.75 ... 2 mm² single-core/finely stranded	L, N, PE: 1 screw terminal each for 0.75 ... 2 mm² single-core/finely stranded	L, N, PE: 1 screw terminal each for 0.75 ... 2 mm² single-core/finely stranded
• at output	+, -: 1 screw terminal each for 0.75 ... 2 mm²	+, -: 2 screw terminals each for 0.75 ... 2 mm²	+, -: 3 screw terminals each for 0.75 ... 2 mm²
• for auxiliary contacts	-	-	-
mechanical data			
width × height × depth of the enclosure	82 mm × 99 mm	97 mm × 159 mm	115 mm × 215 mm
fastening method	Wall mounting	Wall mounting	Wall mounting
• standard rail mounting	No	No	No
• S7 rail mounting	No	No	No
• wall mounting	Yes	Yes	Yes
net weight	0.18 kg	0.36 kg	0.84 kg
further information internet links			
internet link			
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1331-1LD01 PSU100D 24 V/2.2 A	6EP1333-1LD01 PSU100D 24 V/6.25 A	6EP1334-1LD01 PSU100D 24 V/14.6 A
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com
additional information			
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information			
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

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Overview

The 1- and 3-phase power supplies for wall mounting, with their rugged design and IP67 degree of protection, are ideal for distributed applications outside the control cabinet.

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Overview

The SITOP PSU100P 1-phase power supplies for wall mounting, with their rugged design and IP67 degree of protection, are ideal for distributed applications outside the control cabinet.

Product highlights

- 1-phase, 24 V DC/ 5 A and 8 A
- Input voltage 85 ... 132 V, 170 ... 264 V with automatic switchover
- High efficiency of up to 93% for low intrinsic energy consumption
- Isolated relay contact "24 V OK"
- Status indicator on the device by means of LED (green = "24 V OK", flashing red = overload)
- Temperature range from -25 °C to +60 °C without derating
- Optionally with inch thread (6EP133-7CA**00**) or metric thread (6EP133-7CA**10**)

Selection and ordering data

SITOP PSU100P 1-phase, 24 V DC/5 A Stabilized power supply with IP67 degree of protection Input: 120/230 V AC Output: 24 V DC/5 A Output connector 7/8"	**6EP1333-7CA00**
SITOP PSU100P 1-phase, 24 V DC/8 A Stabilized power supply with IP67 degree of protection Input: 120/230 V AC Output: 24 V DC/8 A Output connector 7/8"	**6EP1334-7CA00**
SITOP PSU100P 1-phase, 24 V DC/5 A Stabilized power supply with IP67 degree of protection Input: 120/230 V AC Output: 24 V DC/5 A Output connector M12L-coded	**6EP1333-7CA10**
SITOP PSU100P 1-phase, 24 V DC/8 A Stabilized power supply with IP67 degree of protection Input: 120/230 V AC Output: 24 V DC/8 A Output connector M12L-coded	**6EP1334-7CA10**

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Technical specifications

Article number product brand name type of current supply	6EP1333-7CA00 SITOP PSU100P 24 V/5 A	6EP1334-7CA00 SITOP PSU100P 24 V/8 A	6EP1333-7CA10 SITOP PSU100P 24 V/5 A	6EP1334-7CA10 SITOP PSU100P 24 V/8 A
input				
type of the power supply network	1-phase AC	1-phase AC	1-phase AC	1-phase AC
supply voltage at AC	Automatic range selection	Automatic range selection	Automatic range selection	Automatic range selection
supply voltage	120 V/230 V	120 V/230 V	120 V/230 V	120 V/230 V
input voltage 1 at AC	85 ... 132 V	85 ... 132 V	85 ... 132 V	85 ... 132 V
input voltage 2 at AC	170 ... 264 V	170 ... 264 V	170 ... 264 V	170 ... 264 V
wide range input	No	No	No	No
overvoltage overload capability	Implemented internally with varistor	Implemented internally with varistor	Implemented internally with varistor	Implemented internally with varistor
buffering time for rated value of the output current in the event of power failure minimum	40 ms	40 ms	40 ms	40 ms
operating condition of the mains buffering	at Vin = 120/230 V	at Vin = 120/230 V	at Vin = 120/230 V	at Vin = 120/230 V
line frequency	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz
line frequency	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz
input current				
• at rated input voltage 120 V	2.25 A	3.5 A	2.25 A	3.5 A
• at rated input voltage 230 V	1.24 A	1.52 A	1.24 A	1.52 A
current limitation of inrush current at 25 °C maximum	15 A	15 A	15 A	15 A
I2t value maximum	0.6 $A^2 \cdot s$	0.6 $A^2 \cdot s$	0.6 $A^2 \cdot s$	0.6 $A^2 \cdot s$
fuse protection type	T 3.15 A	T 6.3 A	T 3.15 A	T 6.3 A
fuse protection type in the feeder	Recommended miniature circuit breaker: from 6 A characteristic C/B	Recommended miniature circuit breaker: from 6 A characteristic C/B	Recommended miniature circuit breaker: from 6 A characteristic C/B	Recommended miniature circuit breaker: from 6 A characteristic C/B
output				
voltage curve at output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
output voltage at DC rated value	24 V	24 V	24 V	24 V
output voltage				
• at output 1 at DC rated value	24 V	24 V	24 V	24 V
	24 V	24 V	24 V	24 V
output voltage adjustable	No	No	No	No
relative control precision of the output voltage				
• on slow fluctuation of input voltage	0.1 %	0.1 %	0.1 %	0.1 %
• on slow fluctuation of ohm loading	0.2 %	0.2 %	0.2 %	0.2 %
residual ripple				
• maximum	50 mV	50 mV	50 mV	50 mV
voltage peak				
• maximum	100 mV	100 mV	100 mV	100 mV
display version for normal operation	Green LED: 24 V OK; red LED flashing: "overload/short-circuit"	Green LED: 24 V OK; red LED flashing: "overload/short-circuit"	Green LED: 24 V OK; red LED flashing: "overload/short-circuit"	Green LED: 24 V OK; red LED flashing: "overload/short-circuit"
type of signal at output	Relay contact (NO contact, rating 30 V AC/ 0.5 A; 30 V DC/1 A) for 24 V OK	Relay contact (NO contact, rating 30 V AC/ 0.5 A; 30 V DC/1 A) for 24 V OK	Relay contact (NO contact, rating 30 V AC/ 0.5 A; 30 V DC/1 A) for 24 V OK	Relay contact (NO contact, rating 30 V AC/ 0.5 A; 30 V DC/1 A) for 24 V OK
behavior of the output voltage when switching on	Overshoot of Vout < 3 %	Overshoot of Vout < 3 %	Overshoot of Vout < 3 %	Overshoot of Vout < 3 %
response delay maximum	1.5 s	1.5 s	1.5 s	1.5 s
voltage increase time of the output voltage				
• typical	22 ms	23 ms	22 ms	23 ms
• maximum	100 ms	100 ms	100 ms	100 ms

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1333-7CA00 SITOP PSU100P 24 V/5 A	6EP1334-7CA00 SITOP PSU100P 24 V/8 A	6EP1333-7CA10 SITOP PSU100P 24 V/5 A	6EP1334-7CA10 SITOP PSU100P 24 V/8 A
output current				
• rated value	5 A	8 A	5 A	8 A
• rated range	0 ... 5 A	0 ... 8 A	0 ... 5 A	0 ... 8 A
	5 A	5.1 ... 9.9 A	5 A	5.1 ... 9.9 A
supplied active power typical	133 W	206 W	133 W	206 W
short-term overload current				
• on short-circuiting during the start-up typical	20 A	30 A	20 A	30 A
• at short-circuit during operation typical	20 A	30 A	20 A	30 A
duration of overloading capability for excess current				
• on short-circuiting during the start-up	50 ms	50 ms	50 ms	50 ms
• at short-circuit during operation	50 ms	50 ms	50 ms	50 ms
bridging of equipment	Yes; Symmetric wiring required	Yes; Symmetric wiring required	Yes; Symmetric wiring required	Yes; Symmetric wiring required
number of parallel-switched equipment resources	2	2	2	2
efficiency				
efficiency in percent	90 %	93.6 %	90 %	93.6 %
power loss [W]				
• at rated output voltage for rated value of the output current typical	12.9 W	13.1 W	12.9 W	13.1 W
closed-loop control				
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	0.2 %	0.2 %	0.2 %	0.2 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	1 %	1 %	1 %	1 %
setting time				
• maximum	2 ms	2 ms	2 ms	2 ms
protection and monitoring				
design of the overvoltage protection	< 29 V	< 29 V	< 29 V	< 29 V
property of the output short-circuit proof	Yes	Yes	Yes	Yes
design of short-circuit protection	Electronic shutdown, automatic restart	Electronic shutdown, automatic restart	Electronic shutdown, automatic restart	Electronic shutdown, automatic restart
• typical	5.5 A	9 A	5.5 A	9 A
enduring short circuit current RMS value				
• maximum	6 A	9 A	6 A	9 A
• typical	5 A	8 A	5 A	8 A
display version for overload and short circuit	Red LED flashing for "overload/short-circuit"	Red LED flashing for "overload/short-circuit"	Red LED flashing for "overload/short-circuit"	Red LED flashing for "overload/short-circuit"
safety				
galvanic isolation between input and output	Yes	Yes	Yes	Yes
galvanic isolation	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178
operating resource protection class	Class I	Class I	Class I	Class I
leakage current				
• maximum	3.5 mA	3.5 mA	3.5 mA	3.5 mA
• typical	1 mA	1 mA	1 mA	1 mA
protection class IP	IP67	IP67	IP67	IP67
standard				

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1333-7CA00 SITOP PSU100P 24 V/5 A	6EP1334-7CA00 SITOP PSU100P 24 V/8 A	6EP1333-7CA10 SITOP PSU100P 24 V/5 A	6EP1334-7CA10 SITOP PSU100P 24 V/8 A
• for emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
• for mains harmonics limitation	EN 61000-3-2	EN 61000-3-2	EN 61000-3-2	EN 61000-3-2
• for interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals				
certificate of suitability				
• CE marking	Yes	Yes	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1)
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1)
• EAC approval	Yes	Yes	Yes	Yes
• NEC Class 2	No	No	No	No
type of certification				
• CB-certificate	No	No	No	No
MTBF at 40 °C	1 500 000 h	800 000 h	1 500 000 h	800 000 h
standards, specifications, approvals hazardous environments				
certificate of suitability				
• IECEx	No	No	No	No
• ATEX	No	No	No	No
• ULhazloc approval	No	No	No	No
• cCSAus, Class 1, Division 2	No	No	No	No
• FM registration	No	No	No	No
standards, specifications, approvals marine classification				
shipbuilding approval	No	No	No	No
Marine classification association				
• American Bureau of Shipping Europe Ltd. (ABS)	No	No	No	No
• French marine classification society (BV)	No	No	No	No
• Det Norske Veritas (DNV)	No	No	No	No
• Lloyds Register of Shipping (LRS)	No	No	No	No
ambient conditions				
ambient temperature				
• during operation	-25 ... +60 °C; with natural convection	-25 ... +60 °C; with natural convection	-25 ... +60 °C; with natural convection	-25 ... +60 °C; with natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	3K6 without direct sunlight	3K6 without direct sunlight	3K6 without direct sunlight	3K6 without direct sunlight
connection method				
type of electrical connection	screw terminal	screw terminal	screw terminal	screw terminal
• at input	L1, N, PE: Plug connector 7/8" (counterpart see "Operating Instructions (compact)")	L1, N, PE: Plug connector 7/8" (counterpart see "Operating Instructions (compact)")	L1, N, PE: Plug connector 7/8" (counterpart see "Operating Instructions (compact)")	L1, N, PE: Plug connector 7/8" (counterpart see "Operating Instructions (compact)")
• at output	+, -: Plug connector 7/8" (counterpart see "Operating Instructions (compact)")	+, -: Plug connector 7/8" (counterpart see "Operating Instructions (compact)")	+, -: Plug connector M12-L coded (counterpart see "Operating Instructions (compact)")	+, -: Plug connector M12-L coded (counterpart see "Operating Instructions (compact)")
• for auxiliary contacts	Alarm signals: M12 plug-in connector 4-pin	Alarm signals: M12 plug-in connector 4-pin	Alarm signals: M12 plug-in connector 4-pin	Alarm signals: M12 plug-in connector 4-pin
removable terminal at input	Yes	Yes	Yes	Yes
removable terminal at output	Yes	Yes	Yes	Yes

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1333-7CA00 SITOP PSU100P 24 V/5 A	6EP1334-7CA00 SITOP PSU100P 24 V/8 A	6EP1333-7CA10 SITOP PSU100P 24 V/5 A	6EP1334-7CA10 SITOP PSU100P 24 V/8 A
mechanical data				
width × height × depth of the enclosure	120 mm × 60.5 mm	120 mm × 60.5 mm	120 mm × 60.5 mm	120 mm × 60.5 mm
installation width × mounting height	120 mm	120 mm	120 mm	120 mm
required spacing				
• top	50 mm	50 mm	50 mm	50 mm
• bottom	0 mm	0 mm	0 mm	0 mm
• left	0 mm	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm	0 mm
fastening method	Wall mounting	Wall mounting	Wall mounting	Wall mounting
• standard rail mounting	No	No	No	No
• S7 rail mounting	No	No	No	No
• wall mounting	Yes	Yes	Yes	Yes
housing can be lined up	Yes	Yes	Yes	Yes
net weight	1.1 kg	1.3 kg	1.1 kg	1.3 kg
further information internet links				
internet link				
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com
additional information				
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information				
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional inform-	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional inform-	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional inform-	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional inform-

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1333-7CA00 SITOP PSU100P 24 V/5 A	6EP1334-7CA00 SITOP PSU100P 24 V/8 A	6EP1333-7CA10 SITOP PSU100P 24 V/5 A	6EP1334-7CA10 SITOP PSU100P 24 V/8 A
	ation on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	ation on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	ation on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	ation on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

More information

Select the appropriate power supply quickly and easily with the TIA Selection Tool:
http://www.siemens.com/tst

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Overview

Power supply for ET200pro:

- 3-phase, 24 V DC/8 A

The SIMATIC ET200pro PS power supply unit with IP67 degree of protection is used as the electronics/encoder supply and load voltage supply of the new SIMATIC ET 200pro distributed I/O system for use close to the machine without a cabinet. With a second connector for looping the input voltage.

Product highlights

- 3-phase, 24 V DC/8 A
- Wide-range input, input voltage 340 ... 550 V
- Up to 88% efficiency
- With signaling contact for "24 V OK" and "Overtemperature"
- Status indicator on the device by means of LED (green = "24 V OK")
- Temperature range from -25 °C to +55 °C

Selection and ordering data

SIMATIC ET 200pro PS Stabilized power supply in distributed I/O system design, permitting the loop-through of energy to further modules; with degree of protection IP67; Input: 400–480 V 3 AC Output: 24 V DC/8 A	**6ES7148-4PC00-0HA0**
Accessories	
Power connector For connecting to the distributed I/O system	
• For X1 (6 mm^2)	**3RK1911-2BE30**
• For X2 (4 mm^2)	**3RK1911-2BF10**
National Fire Protection Association compatible These devices are only approved for installation in industrial machinery according to the NFPA79 Electrical Standard for Industrial Machinery.	
• For X1 SIMATIC ET 200pro PS 61 88 201 1003.xx (AWG10)*	* https://www.harting.com/US/en
• For X1 SITOP PSU300P 61 88 201 1000.xx / 61 88 201 1002.xx (AWG14)*	
• For X2 SIMATIC ET 200pro PS 61 88 202 1010.xx (AWG10)*	
supplied blanking cap for X2	**3RK1902-0CK00**
• For X3 Phoenix-Contact SAC-5P-M12-M12FS	
supplied blanking cap for X3	
Sealing cap For 9-pin power sockets	
• X2 (1 unit)	**3RK1902-0CK00**
• X2 (10 units)	**3RK1902-0CJ00**

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Technical specifications

Article number product brand name type of current supply	6ES7148-4PC00-0HA0 SIMATIC ET200pro PS 24 V/8 A
input	
type of the power supply network	3-phase AC
supply voltage at AC	
• minimum rated value	400 V
• maximum rated value	480 V
• initial value	340 V
• full-scale value	550 V
supply voltage at AC	320 ... 340 V for max. 1 min
wide range input	Yes
overvoltage overload capability	Implemented internally with varistors
buffering time for rated value of the output current in the event of power failure minimum	15 ms
operating condition of the mains buffering	at Vin = 400 V
line frequency	50 Hz/60 Hz
line frequency	45 ... 66 Hz
input current	
• at rated input voltage 400 V	0.5 A
current limitation of inrush current at 25 °C maximum	40 A
I2t value maximum	3.5 A^2·s
fuse protection type	T 4 A
fuse protection type in the feeder	Required: Circuit breaker 3RV2011-1DA10 or 3RV2711-1DD10 (UL 489)
output	
voltage curve at output	Controlled, isolated DC voltage
output voltage at DC rated value	24 V
output voltage	
• at output 1 at DC rated value	24 V
	24 V
output voltage adjustable	No; -
relative control precision of the output voltage	
• on slow fluctuation of input voltage	0.5 %
• on slow fluctuation of ohm loading	0.5 %
residual ripple	
• maximum	200 mV
voltage peak	
• maximum	250 mV
display version for normal operation	Green LED for 24 V OK
type of signal at output	max. 30 V, 10 mA; Power-Good (High-Pegel 1L+ for Vout in range 21.3 ... 29 V); Overtemperature warning at least 30 s before switch-off (high level 1L+ when the max. internal temperature is exceeded)
behavior of the output voltage when switching on	Overshoot of Vout < 2 %
response delay maximum	1.5 s
voltage increase time of the output voltage	
• typical	40 ms
output current	

Technical specifications (continued)

Article number product brand name type of current supply	6ES7148-4PC00-0HA0 SIMATIC ET200pro PS 24 V/8 A
• rated value	8 A
• rated range	0 ... 8 A
	5.1 ... 9.9 A
supplied active power typical	192 W
short-term overload current	
• on short-circuiting during the start-up typical	50 A
• at short-circuit during operation typical	50 A
duration of overloading capability for excess current	
• on short-circuiting during the start-up	100 ms
• at short-circuit during operation	100 ms
bridging of equipment	No
efficiency	
efficiency in percent	88 %
power loss [W]	
• at rated output voltage for rated value of the output current typical	25 W
closed-loop control	
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	0.5 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	1 %
setting time	
• maximum	2 ms
protection and monitoring	
design of the overvoltage protection	< 33 V
property of the output short-circuit proof	Yes
design of short-circuit protection	Electronic shutdown, automatic restart
• typical	9.4 A
enduring short circuit current RMS value	
• maximum	10 A
safety	
galvanic isolation between input and output	Yes
galvanic isolation	Protective extra low output voltage Vout according to EN 60950-1 and EN 50178
operating resource protection class	Class I
leakage current	
• maximum	3.5 mA
• typical	0.4 mA
protection class IP	IP67
standard	
• for emitted interference	EN 55022 Class A
• for mains harmonics limitation	-
• for interference immunity	EN 61000-6-2

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Technical specifications (continued)

Article number product brand name type of current supply	6ES7148-4PC00-0HA0 SIMATIC ET200pro PS 24 V/8 A
standards, specifications, approvals	
certificate of suitability	
• CE marking	Yes
• UL approval	Yes; UL-Listed (UL 508) according to NFPA compatibility (National Fire Protection Association), see operating instructions
• CSA approval	No; -
• EAC approval	Yes
• NEC Class 2	No
type of certification	
• CB-certificate	Yes
MTBF at 40 °C	196 354 h
standards, specifications, approvals hazardous environments	
certificate of suitability	
• IECEx	No
• ATEX	No
• ULhazloc approval	No
• cCSAus, Class 1, Division 2	No
• FM registration	No
standards, specifications, approvals marine classification	
shipbuilding approval	No
Marine classification association	
• American Bureau of Shipping Europe Ltd. (ABS)	No
• French marine classification society (BV)	No
• Det Norske Veritas (DNV)	No
• Lloyds Register of Shipping (LRS)	No
ambient conditions	
ambient temperature	
• during operation	-25 ... +55 °C; with natural convection
• during transport	-40 ... +70 °C
• during storage	-40 ... +70 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation
connection method	
type of electrical connection	screw terminal
• at input	L1, L2, L3, PE: Plug connector HAN Q4/2 (counterpart see "Electrical accessories")
• at output	L+, M: 2 x 1.5 mm² each (4-pole cable for +/- with open, labeled ends, 4 x 1.5 mm²)
• for auxiliary contacts	Alarm signals: M12 plug-in connector 5-pin
mechanical data	
width × height × depth of the enclosure	310 mm × 90 mm
fastening method	Can be mounted onto ET200pro mounting rail

Technical specifications (continued)

Article number product brand name type of current supply	6ES7148-4PC00-0HA0 SIMATIC ET200pro PS 24 V/8 A
• standard rail mounting	No
• S7 rail mounting	No
• wall mounting	Yes
housing can be lined up	No
net weight	2.8 kg
accessories	
electrical accessories	Power connector (Input: 3RK1911-2BE30 (6 mm²)) (Output: 3RK1911-2BF10 (4 mm²))
further information internet links	
internet link	
• to website: Industry Mall	https://mall.industry.siemens.com
additional information	
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information	
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

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Overview

Ideal for battery charging.

SITOP PSU3800 power supplies are ideal for battery charging, thanks to their constant-current characteristic. For other applications the output characteristic can also be switched to latching shutdown. The three-phase, wide-range input enables them to be used worldwide. The slim design requires little space on the DIN rail. Installation gaps are not required. The high degree of efficiency keeps the heat dissipation and energy consumption to a minimum. An LED and an isolated signaling contact indicate the status of the output voltage.

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Overview

The SITOP PSU3800 3-phase power supplies are suitable for battery charging, thanks to their constant current characteristic.

Product highlights

- 12 V/ 20 A
- 3-phase wide-range input, input voltage 320 ... 575 V
- Up to 91% efficiency

Selection and ordering data

SITOP PSU3800, 3-phase, 12 V DC/20 A Stabilized power supply Input: 400 ... 500 V 3 AC Output: 12 V DC/20 A	**6EP3424-8UB00-0AY0**

Accessories

Device identification label	**3RT2900-1SB20**

Technical specifications

Article number **product brand name** **type of current supply**	**6EP3424-8UB00-0AY0** **SITOP PSU3800** **12 V/20 A**
input	
type of the power supply network	3-phase AC
supply voltage at AC	
• minimum rated value	400 V
• maximum rated value	500 V
• initial value	320 V
• full-scale value	575 V
wide range input	Yes
buffering time for rated value of the output current in the event of power failure minimum	15 ms
operating condition of the mains buffering	at Vin = 400 V
line frequency	50 Hz/60 Hz
line frequency	47 ... 63 Hz
input current	
• at rated input voltage 400 V	0.7 A
• at rated input voltage 500 V	0.6 A
current limitation of inrush current at 25 °C maximum	16 A
I2t value maximum	0.8 $A^2 \cdot s$
fuse protection type	none
fuse protection type in the feeder	Required: 3-pole connected miniature circuit breaker 6 ... 16 A characteristic C or circuit breaker 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10 (UL 489)
output	
voltage curve at output	Controlled, isolated DC voltage
output voltage at DC rated value	12 V
output voltage	
• at output 1 at DC rated value	12 V
	12 V
output voltage adjustable	Yes; via potentiometer
adjustable output voltage	12 ... 14 V; max. 240 W
relative control precision of the output voltage	
• on slow fluctuation of input voltage	0.1 %
• on slow fluctuation of ohm loading	0.2 %
residual ripple	
• maximum	100 mV
voltage peak	
• maximum	200 mV
display version for normal operation	Green LED for 12 V OK
type of signal at output	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for 12 V OK
behavior of the output voltage when switching on	No overshoot of Vout (soft start)
response delay maximum	2.5 s
voltage increase time of the output voltage	
• maximum	500 ms

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3424-8UB00-0AY0 SITOP PSU3800 12 V/20 A
output current	
• rated value	20 A
• rated range	0 ... 20 A; +60 ... +70 °C: Derating 2%/K
	20 A
supplied active power typical	240 W
constant overload current	
• on short-circuiting during the start-up typical	22 A
bridging of equipment	Yes; switchable characteristic
number of parallel-switched equipment resources	2
efficiency	
efficiency in percent	91 %
power loss [W]	
• at rated output voltage for rated value of the output current typical	24 W
closed-loop control	
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	0.1 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	1 %
setting time	
• load step 50 to 100% typical	0.2 ms
• load step 100 to 50% typical	0.2 ms
relative control precision of the output voltage at load step of resistive load 10/90/10 % typical	2 %
setting time	
• load step 10 to 90% typical	0.2 ms
• load step 90 to 10% typical	0.2 ms
• maximum	10 ms
protection and monitoring	
design of the overvoltage protection	< 18 V
property of the output short-circuit proof	Yes
design of short-circuit protection	Alternatively, constant current characteristic approx. 22 A or latching shutdown
• typical	22 A
enduring short circuit current RMS value	
• typical	22 A
display version for overload and short circuit	LED yellow for "overload", LED red for "latching shutdown"
safety	
galvanic isolation between input and output	Yes
galvanic isolation	Safety extra low output voltage Vout according to EN 60950-1
operating resource protection class	Class I
leakage current	
• maximum	3.5 mA

Technical specifications (continued)

Article number product brand name type of current supply	6EP3424-8UB00-0AY0 SITOP PSU3800 12 V/20 A
• typical	0.9 mA
protection class IP	IP20
standard	
• for emitted interference	EN 55022 Class B
• for mains harmonics limitation	EN 61000-3-2
• for interference immunity	EN 61000-6-2
standards, specifications, approvals	
certificate of suitability	
• CE marking	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• EAC approval	Yes
• Regulatory Compliance Mark (RCM)	Yes
• NEC Class 2	No
• SEMI F47	Yes
type of certification	
• CB-certificate	Yes
standards, specifications, approvals hazardous environments	
certificate of suitability	
• IECEx	No
• ATEX	No
• ULhazloc approval	No
• cCSAus, Class 1, Division 2	No
• FM registration	No
standards, specifications, approvals marine classification	
shipbuilding approval	Yes
Marine classification association	
• American Bureau of Shipping Europe Ltd. (ABS)	Yes
• French marine classification society (BV)	No
• Det Norske Veritas (DNV)	Yes
• Lloyds Register of Shipping (LRS)	No
standards, specifications, approvals Environmental Product Declaration	
Environmental Product Declaration	Yes
Global Warming Potential [CO2 eq]	
• total	770.2 kg
• during manufacturing	18.9 kg
• during operation	750.8 kg
• after end of life	0.27 kg
ambient conditions	
ambient temperature	
• during operation	-25 ... +70 °C; with natural convection
• during transport	-40 ... +85 °C
• during storage	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3424-8UB00-0AY0 SITOP PSU3800 12 V/20 A
connection method	
type of electrical connection	screw terminal
• at input	L1, L2, L3, PE: 1 screw terminal each for 0.2 ... 4 mm² single-core/finely stranded
• at output	+, -: 2 screw terminals each for 0.2 ... 4 mm²
• for auxiliary contacts	13, 14 (alarm signal): 1 screw terminal each for 0.14 ... 1.5 mm²; 15, 16 (Remote): 1 screw terminal each for 0.14 ... 1.5 mm²
mechanical data	
width × height × depth of the enclosure	70 mm × 125 mm
installation width × mounting height	70 mm
required spacing	
• top	50 mm
• bottom	50 mm
• left	0 mm
• right	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes
• S7 rail mounting	No
• wall mounting	No
housing can be lined up	Yes
net weight	1.2 kg
accessories	
electrical accessories	Buffer module
mechanical accessories	Device identification label 20 mm × 7 mm, pale turquoise 3RT1900-1SB20
further information internet links	
internet link	
• to website: Industry Mall	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com
additional information	
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)

Technical specifications (continued)

Article number product brand name type of current supply	6EP3424-8UB00-0AY0 SITOP PSU3800 12 V/20 A
security information	
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

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Overview

The SITOP PSU3800 3-phase power supplies are suitable for battery charging, thanks to their constant current characteristic.

Product highlights

- 24 V / 17 A and 30 A/40 A
- 3-phase wide-range input, input voltage 320 ... 575 V
- Up to 94% efficiency

Selection and ordering data

SITOP PSU3800 3-phase, 24 V DC/17 A Stabilized power supply Input: 400 ... 500 V 3 AC Output: 24 V DC/17 A	**6EP3436-8UB00-0AY0**
SITOP PSU3800 3-phase, 24 V DC/30/40 A Stabilized power supply Input: 400 ... 500 V 3 AC Output: 24 V DC/30/40 A	**6EP3437-8UB00-0AY0**

Accessories

SITOP buffer modules	For more information, visit: www.siemens.com/sitop-buffering/mall
Device identification label	**3RT2900-1SB20**

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Technical specifications

Article number product brand name type of current supply	6EP3436-8UB00-0AY0 SITOP PSU3800 24 V/17 A	6EP3437-8UB00-0AY0 SITOP PSU3800 24 V/30 - 40 A
input		
type of the power supply network	3-phase AC	3-phase AC
supply voltage at AC		
• minimum rated value	400 V	400 V
• maximum rated value	500 V	500 V
• initial value	320 V	320 V
• full-scale value	575 V	575 V
wide range input	Yes	Yes
buffering time for rated value of the output current in the event of power failure minimum	15 ms	10 ms
operating condition of the mains buffering	at Vin = 400 V	at Vin = 400 V
line frequency	50 Hz/60 Hz	50 Hz/60 Hz
line frequency	47 ... 63 Hz	45 ... 65 Hz
input current		
• at rated input voltage 400 V	1.1 A	2.1 A
• at rated input voltage 500 V	0.9 A	1.7 A
current limitation of inrush current at 25 °C maximum	16 A	13 A
I2t value maximum	0.8 $A^2 \cdot s$	2.24 $A^2 \cdot s$
fuse protection type	none	
fuse protection type in the feeder	Required: 3-pole connected miniature circuit breaker 6 ... 16 A characteristic C or circuit breaker 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10 (UL 489)	Required: 3-pole connected miniature circuit breaker 10 ... 16 A characteristic C or circuit breaker 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10 (UL 489)
output		
voltage curve at output	Controlled, isolated DC voltage	Controlled, isolated DC voltage
output voltage at DC rated value	24 V	24 V
output voltage		
• at output 1 at DC rated value	24 V	24 V
	24 V	24 V
output voltage adjustable	Yes; via potentiometer	Yes; via potentiometer
adjustable output voltage	24 ... 28 V; max. 480 W	24 ... 28 V; max. 960 W
relative control precision of the output voltage		
• on slow fluctuation of input voltage	0.1 %	0.1 %
• on slow fluctuation of ohm loading	0.2 %	0.2 %
residual ripple		
• maximum	100 mV	100 mV
voltage peak		
• maximum	200 mV	240 mV
display version for normal operation	Green LED for 24 V OK	Green LED for 24 V OK
type of signal at output	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"
behavior of the output voltage when switching on	No overshoot of Vout (soft start)	minimal overshoot (< 3 %)
response delay maximum	2.5 s	0.1 s
voltage increase time of the output voltage		
• maximum	500 ms	100 ms
output current		
• rated value	17 A	40 A
• rated range	0 ... 17 A; +60 ... +70 °C: Derating 2%/K	0 ... 40 A; +60 ... +70 °C: Derating 4%/K
	10.1 ... 19.9 A	40 A
supplied active power typical	408 W	960 W
constant overload current		

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3436-8UB00-0AY0 SITOP PSU3800 24 V/17 A	6EP3437-8UB00-0AY0 SITOP PSU3800 24 V/30 - 40 A
• on short-circuiting during the start-up typical	19 A	48 A
bridging of equipment	Yes; switchable characteristic	Yes; switchable characteristic
number of parallel-switched equipment resources	2	2
efficiency		
efficiency in percent	94 %	94 %
power loss [W]		
• at rated output voltage for rated value of the output current typical	26 W	66 W
• during no-load operation maximum		4 W
closed-loop control		
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	0.1 %	1 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	1 %	3 %
setting time		
• load step 50 to 100% typical	0.2 ms	
• load step 100 to 50% typical	0.2 ms	
relative control precision of the output voltage at load step of resistive load 10/90/10 % typical	2 %	
setting time		
• load step 10 to 90% typical	0.2 ms	
• load step 90 to 10% typical	0.2 ms	
• maximum	10 ms	10 ms
protection and monitoring		
design of the overvoltage protection	< 32 V	< 31.8 V
property of the output short-circuit proof	Yes	Yes
design of short-circuit protection	Alternatively, constant current characteristic approx. 19 A or latching shutdown	Constant current characteristic approx. 44 A
• typical	19 A	44 A
enduring short circuit current RMS value		
• typical	19 A	50 A
display version for overload and short circuit	LED yellow for "overload", LED red for "latching shutdown"	LED yellow for "overload", LED red for "latching shutdown"
safety		
galvanic isolation between input and output	Yes	Yes
galvanic isolation	Safety extra low output voltage Vout according to EN 60950-1	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178
operating resource protection class	Class I	Class I
leakage current		
• maximum	3.5 mA	1 mA
• typical	0.9 mA	0.6 mA
protection class IP	IP20	IP20
standard		
• for emitted interference	EN 55022 Class B	EN 55022 Class B
• for mains harmonics limitation	EN 61000-3-2	EN 61000-3-2
• for interference immunity	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals		
certificate of suitability		
• CE marking	Yes	Yes

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3436-8UB00-0AY0 SITOP PSU3800 24 V/17 A	6EP3437-8UB00-0AY0 SITOP PSU3800 24 V/30 - 40 A
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
• EAC approval	Yes	Yes
• Regulatory Compliance Mark (RCM)	Yes	Yes
• NEC Class 2	No	No
• SEMI F47	Yes	Yes
type of certification		
• CB-certificate	Yes	Yes
MTBF at 40 °C		517 015 h
standards, specifications, approvals hazardous environments		
certificate of suitability		
• IECEx	No	No
• ATEX	No	No
• ULhazloc approval	No	No
• cCSAus, Class 1, Division 2	No	No
• FM registration	No	No
standards, specifications, approvals marine classification		
shipbuilding approval	Yes	Yes
Marine classification association		
• American Bureau of Shipping Europe Ltd. (ABS)	Yes	No
• French marine classification society (BV)	No	No
• Det Norske Veritas (DNV)	Yes	Yes
• Lloyds Register of Shipping (LRS)	No	No
standards, specifications, approvals Environmental Product Declaration		
Environmental Product Declaration	Yes	Yes
Global Warming Potential [CO2 eq]		
• total	833.3 kg	2 118.7 kg
• during manufacturing	18.9 kg	52 kg
• during operation	813.8 kg	2 065.2 kg
• after end of life	0.27 kg	0.74 kg
ambient conditions		
ambient temperature		
• during operation	-25 ... +70 °C; with natural convection	-25 ... +70 °C; With natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method		
type of electrical connection	screw terminal	screw terminal
• at input	L1, L2, L3, PE: 1 screw terminal each for 0.2 ... 4 mm² single-core/finely stranded	L1, L2, L3, PE: 1 screw terminal each for 0.5 ... 4 mm² single-core/finely stranded
• at output	+, -: 2 screw terminals each for 0.2 ... 4 mm²	+: 2 screw terminals each for 0.5 ... 16 mm²; -: 3 screw terminals each for 0.5 ... 16 mm²
• for auxiliary contacts	13, 14 (alarm signal): 1 screw terminal each for 0.14 ... 1.5 mm²; 15, 16 (Remote): 1 screw terminal each for 0.14 ... 1.5 mm²	13, 14 (alarm signal), 15, 16 (Remote): 1 screw terminal each for 0.05 ... 2.5 mm²
mechanical data		
width × height × depth of the enclosure	70 mm × 125 mm	135 mm × 150 mm
installation width × mounting height	70 mm	135 mm

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3436-8UB00-0AY0 SITOP PSU3800 24 V/17 A	6EP3437-8UB00-0AY0 SITOP PSU3800 24 V/30 - 40 A
required spacing		
• top	50 mm	40 mm
• bottom	50 mm	40 mm
• left	0 mm	0 mm
• right	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x15
• standard rail mounting	Yes	Yes
• S7 rail mounting	No	No
• wall mounting	No	No
housing can be lined up	Yes	Yes
net weight	1.2 kg	3.3 kg
accessories		
electrical accessories	Buffer module	Buffer module
mechanical accessories	Device identification label 20 mm × 7 mm, TI-grey 3RT2900-1SB20	Device identification label 20 mm × 7 mm, TI-grey 3RT2900-1SB20
further information internet links		
internet link		
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com
additional information		
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information		
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

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Overview

SITOP PSU2600 for use in medical engineering

The 1-phase and 3-phase stabilized SITOP PSU2600 power supplies are specially designed for use in medical engineering.

These devices are characterized by a high degree of efficiency and low heat dissipation. The adjustable 24 to 28 V output voltage provides compensation of voltage drops on long cables. The overvoltage protection on the secondary side (< 32 V) ensures the supply for safety I/O components. SITOP PSU2600 power supplies are certified according to CE, UL/cUL and IEC60601-1 (MOOP) and feature radio interference suppression Class B according to EN 60601 as well as limiting harmonic components of the input current according to EN 61000-3-2. To further increase 24 V availability, the SITOP PSU2600 can be combined with **DC UPS, redundancy and selectivity** modules.

Product highlights of the product line

- Rugged metal enclosure
- Parallel operation with max. 2 PSUs possible
- Power Boost with 3 times the rated current for selective tripping of downstream miniature circuit breakers
- Status indicator via LED display (green – DC is OK) und signaling contact
- Radio interference suppression Class B according to EN 60601
- Supply harmonics limitation according to EN 61000-3-2
- CE, UL/cUL approval, IEC 60601-1 (MOOP)

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Overview

1-phase power supply for medical engineering

The rugged, 1-phase SITOP PSU2600 power supplies in metal enclosures are specially designed for use in medical engineering.

To further increase 24 V availability, the SITOP PSU2600 can be combined with **BUF1200 buffer module, DC UPS**, **redundancy** and **selectivity** modules.

Product highlights

- 1-phase, 24 V DC
- Wide-range input, input voltage 85 ... 264 V AC, 88 ... 265 V DC
- Up to 89% efficiency

Selection and ordering data

SITOP PSU2600 1-phase, 24 V DC/5 A Stabilized power supply Input: 120 ... 230 V AC Output: 24 V DC/5 A	**6EP4333-0SB00-0AY0**

Accessories

SITOP redundancy modules	For more information, visit: www.siemens.com/sitop-redundancy/mall
SITOP selectivity modules	For more information, visit: www.siemens.com/sitop-selectivity/mall
SITOP BUF1200 buffer module	For more information, visit: www.siemens.com/sitop-buffering/mall

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Technical specifications

Article number product brand name type of current supply	6EP4333-0SB00-0AY0 SITOP PSU2600 24 V/5 A
input	
type of the power supply network	1-phase AC or DC
supply voltage at AC	
• minimum rated value	120 V
• maximum rated value	230 V
• initial value	85 V
• full-scale value	264 V
supply voltage at DC	110 ... 220 V
input voltage at DC	88 ... 265 V
wide range input	Yes
buffering time for rated value of the output current in the event of power failure minimum	30 ms
operating condition of the mains buffering	at Vin = 230 V
line frequency	50 Hz/60 Hz
line frequency	47 ... 63 Hz
input current	
• at rated input voltage 120 V	2.5 A
• at rated input voltage 230 V	1.4 A
current limitation of inrush current at 25 °C maximum	36 A
fuse protection type	3.15 A
fuse protection type in the feeder	None required. Fuse protection starting from 6 A Char. C possible
output	
voltage curve at output	Controlled, isolated DC voltage
output voltage at DC rated value	24 V
output voltage	
• at output 1 at DC rated value	24 V
	24 V
output voltage adjustable	Yes; via potentiometer
adjustable output voltage	24 ... 28.8 V; max. 120 W
relative control precision of the output voltage	
• on slow fluctuation of input voltage	0.1 %
• on slow fluctuation of ohm loading	0.2 %
residual ripple	
• maximum	50 mV
voltage peak	
• maximum	200 mV
display version for normal operation	Green LED for 24 V OK
type of signal at output	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"
behavior of the output voltage when switching on	No overshoot of Vout (soft start)
response delay maximum	1 s
voltage increase time of the output voltage	
• maximum	500 ms
output current	
• rated value	5 A
• rated range	0 ... 5 A; +60 °C
	5 A
supplied active power typical	120 W
constant overload current	
• on short-circuiting during the start-up typical	6 A
bridging of equipment	No

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Technical specifications (continued)

Article number product brand name type of current supply	6EP4333-0SB00-0AY0 SITOP PSU2600 24 V/5 A
efficiency	
efficiency in percent	89 %
power loss [W]	
• at rated output voltage for rated value of the output current typical	15 W
• during no-load operation maximum	1 W
closed-loop control	
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	0.1 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	1 %
setting time	
• load step 50 to 100% typical	0.2 ms
• load step 100 to 50% typical	0.2 ms
relative control precision of the output voltage at load step of resistive load 10/90/10 % typical	2 %
setting time	
• load step 10 to 90% typical	0.2 ms
• load step 90 to 10% typical	0.2 ms
• maximum	10 ms
protection and monitoring	
design of the overvoltage protection	< 32 V
property of the output short-circuit proof	Yes
design of short-circuit protection	Shutdown and periodic restart attempts
• typical	6 A
enduring short circuit current RMS value	
• typical	6 A
safety	
galvanic isolation between input and output	Yes
galvanic isolation	Safety extra low output voltage Vout according to EN 60950-1
operating resource protection class	Class I
leakage current	
• maximum	3.5 mA
• typical	1.1 mA
protection class IP	IP20
standard	
• for emitted interference	EN 55022 Class B
• for mains harmonics limitation	EN 61000-3-2
• for interference immunity	EN 61000-6-2
standards, specifications, approvals	
certificate of suitability	
• CE marking	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• EAC approval	Yes
• NEC Class 2	No
type of certification	
• CB-certificate	Yes
standards, specifications, approvals hazardous environments	
certificate of suitability	
• IECEx	No

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Technical specifications (continued)

Article number product brand name type of current supply	6EP4333-0SB00-0AY0 SITOP PSU2600 24 V/5 A
• ATEX	No
• ULhazloc approval	No
• cCSAus, Class 1, Division 2	No
• FM registration	No
standards, specifications, approvals marine classification	
shipbuilding approval	No
Marine classification association	
• American Bureau of Shipping Europe Ltd. (ABS)	No
• French marine classification society (BV)	No
• Det Norske Veritas (DNV)	No
• Lloyds Register of Shipping (LRS)	No
ambient conditions	
ambient temperature	
• during operation	0 ... 60 °C; with natural convection
• during transport	-40 ... +85 °C
• during storage	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation
connection method	
type of electrical connection	screw terminal
• at input	L1, N, PE: 1 screw terminal each for 0.2 ... 2.5 mm² single-core/finely stranded
• at output	+, -: 2 screw terminals each for 0.2 ... 2.5 mm²
• for auxiliary contacts	13, 14 (alarm signal): 1 screw terminal each for 0.05 ... 2.5 mm²
mechanical data	
width × height × depth of the enclosure	42 mm × 125 mm
installation width × mounting height	42 mm
required spacing	
• top	50 mm
• bottom	50 mm
• left	0 mm
• right	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes
• S7 rail mounting	No
• wall mounting	No
housing can be lined up	Yes
net weight	0.6 kg
further information internet links	
internet link	
• to website: Industry Mall	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com
additional information	
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)

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Technical specifications (continued)

Article number product brand name type of current supply	6EP4333-0SB00-0AY0 SITOP PSU2600 24 V/5 A
security information	
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

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Overview

3-phase power supply for medical engineering

The rugged, 3-phase SITOP PSU2600 power supplies in metal enclosures are specially designed for use in medical engineering.

To further increase 24 V availability, the SITOP PSU2600 can be combined with **BUF1200 buffer module, DC UPS**, **redundancy** and **selectivity** modules.

Product highlights

- 3-phase, 24 V DC
- Wide-range input, input voltage 340 ... 575 V AC
- Up to 93% efficiency
- Enables electronic RESET of 24 V via an isolated input

Selection and ordering data

SITOP PSU2600 3-phase, 24 V DC/20 A Stabilized power supply Input: 400 ... 500 V 3 AC Output: 24 V DC/20 A	**6EP4436-0SB00-0AY0**

Accessories

SITOP redundancy modules	For more information, visit: www.siemens.com/sitop-redundancy/mall
SITOP selectivity modules	For more information, visit: www.siemens.com/sitop-selectivity/mall
SITOP buffer modules	For more information, visit: www.siemens.com/sitop-buffering/mall
Device identification label	**3RT2900-1SB20**

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Technical specifications

Article number product brand name type of current supply	6EP4436-0SB00-0AY0 SITOP PSU2600 24 V/20 A
input	
type of the power supply network	3-phase AC
supply voltage at AC	
• minimum rated value	400 V
• maximum rated value	500 V
• initial value	340 V
• full-scale value	575 V
wide range input	Yes
buffering time for rated value of the output current in the event of power failure minimum	15 ms
operating condition of the mains buffering	at Vin = 400 V
line frequency	50 Hz/60 Hz
line frequency	47 ... 63 Hz
input current	
• at rated input voltage 400 V	1.2 A
• at rated input voltage 500 V	1 A
current limitation of inrush current at 25 °C maximum	16 A
I2t value maximum	0.8 A^2·s
fuse protection type	none
fuse protection type in the feeder	Required: 3-pole connected miniature circuit breaker 6 ... 16 A characteristic C or circuit breaker 3RV2011-1DA10 (setting 3 A), 3RV2021-1HA (setting 8 A) or 3RV2711-1DD10 (UL 489)
output	
voltage curve at output	Controlled, isolated DC voltage
output voltage at DC rated value	24 V
output voltage	
• at output 1 at DC rated value	24 V
	24 V
output voltage adjustable	Yes; via potentiometer
adjustable output voltage	24 ... 28.8 V; max. 480 W
relative control precision of the output voltage	
• on slow fluctuation of input voltage	1 %
• on slow fluctuation of ohm loading	0.2 %
residual ripple	
• maximum	50 mV
voltage peak	
• maximum	200 mV
display version for normal operation	Green LED for 24 V OK
type of signal at output	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"
behavior of the output voltage when switching on	No overshoot of Vout (soft start)
response delay maximum	2.5 s
voltage increase time of the output voltage	
• maximum	500 ms
output current	
• rated value	20 A
• rated range	0 ... 20 A; +60 °C
	20 A
supplied active power typical	480 W
short-term overload current	
• at short-circuit during operation typical	60 A
duration of overloading capability for excess current	
• at short-circuit during operation	25 ms

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Technical specifications (continued)

Article number product brand name type of current supply	6EP4436-0SB00-0AY0 SITOP PSU2600 24 V/20 A
constant overload current	
• on short-circuiting during the start-up typical	23 A
bridging of equipment	Yes
number of parallel-switched equipment resources	2
efficiency	
efficiency in percent	93 %
power loss [W]	
• at rated output voltage for rated value of the output current typical	36 W
• during no-load operation maximum	4 W
closed-loop control	
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	0.1 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	2 %
setting time	
• load step 50 to 100% typical	0.2 ms
• load step 100 to 50% typical	0.2 ms
relative control precision of the output voltage at load step of resistive load 10/90/10 % typical	3 %
setting time	
• load step 10 to 90% typical	0.2 ms
• load step 90 to 10% typical	0.2 ms
• maximum	10 ms
protection and monitoring	
design of the overvoltage protection	< 32 V
property of the output short-circuit proof	Yes
design of short-circuit protection	Constant current characteristic approx. 23 A
• typical	23 A
enduring short circuit current RMS value	
• typical	23 A
safety	
galvanic isolation between input and output	Yes
galvanic isolation	Safety extra low output voltage Vout according to EN 60950-1
operating resource protection class	Class I
leakage current	
• maximum	3.5 mA
• typical	1.7 mA
protection class IP	IP20
standard	
• for emitted interference	EN 55022 Class B
• for mains harmonics limitation	EN 61000-3-2
• for interference immunity	EN 61000-6-2
standards, specifications, approvals	
certificate of suitability	
• CE marking	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• EAC approval	Yes
• NEC Class 2	No
type of certification	
• BIS	Yes; R-41183539
• CB-certificate	Yes

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Technical specifications (continued)

Article number product brand name type of current supply	6EP4436-0SB00-0AY0 SITOP PSU2600 24 V/20 A
standards, specifications, approvals hazardous environments	
certificate of suitability	
• IECEx	No
• ATEX	No
• ULhazloc approval	No
• cCSAus, Class 1, Division 2	No
• FM registration	No
standards, specifications, approvals marine classification	
shipbuilding approval	No
Marine classification association	
• American Bureau of Shipping Europe Ltd. (ABS)	No
• French marine classification society (BV)	No
• Det Norske Veritas (DNV)	No
• Lloyds Register of Shipping (LRS)	No
ambient conditions	
ambient temperature	
• during operation	0 ... 60 °C; with natural convection
• during transport	-40 ... +85 °C
• during storage	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation
connection method	
type of electrical connection	screw terminal
• at input	L1, L2, L3, PE: 1 screw terminal each for 0.2 ... 4 mm² single-core/finely stranded
• at output	+, -: 2 screw terminals each for 0.2 ... 4 mm²
• for auxiliary contacts	Signal and remote: 1 screw terminal each for 0.14 ... 1.5 mm²
mechanical data	
width × height × depth of the enclosure	90 mm × 125 mm
installation width × mounting height	90 mm
required spacing	
• top	50 mm
• bottom	50 mm
• left	0 mm
• right	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes
• S7 rail mounting	No
• wall mounting	No
housing can be lined up	Yes
net weight	1.3 kg
further information internet links	
internet link	
• to website: Industry Mall	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com
additional information	
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)

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Technical specifications (continued)

Article number	**6EP4436-0SB00-0AY0**
product brand name	**SITOP PSU2600**
type of current supply	**24 V/20 A**
security information	
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

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Overview

Not just 24 V power supplies with alternative output voltages

SITOP provides a reliable supply of precisely stabilized DC voltage not just to 24 V loads, but also to those with "alternative" supply voltages.

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Overview

Two power supplies in one compact device

The SITOP PSU3600 single-phase power supply dual was designed as a two-voltage power supply with two independent outputs in order to allow electronic loads to be supplied with both a positive and negative voltage at the same time. If the two potential-free outputs are connected in series, a positive and negative supply voltage of e.g. ±15 V can be generated.

Or you can leave the independent outputs separate and supply different loads with different nominal voltages, e.g. 24 V and 15 V, with only a single power supply unit due to the wide adjustment range of the output voltage from 12 V to 28 V for each output.

In addition, each of the two outputs is limited in performance according to NEC Class 2, which opens up further application options.

Selection and ordering data

SITOP PSU3600 dual	**6EP3323-0SA00-0BY0**
Stabilized power supply Input: 120 ... 230 V AC Output: 2 x 15 V DC/3.5 A	

Technical specifications

Article number **product brand name** **type of current supply**	**6EP3323-0SA00-0BY0** **SITOP PSU3600 dual** **2 x 15 V/3.5 A**
input	
type of the power supply network	1-phase AC or DC
supply voltage at AC	
• minimum rated value	120 V
• maximum rated value	230 V
• initial value	85 V
• full-scale value	264 V
supply voltage at AC	Derating at < 110 V AC/DC: output power max. 100 W
input voltage at DC	88 ... 250 V
wide range input	Yes
buffering time for rated value of the output current in the event of power failure minimum	10 ms
operating condition of the mains buffering	at Vin = 120 V, 40 ms at Vin = 187 V
line frequency	50 Hz/60 Hz
line frequency	47 ... 63 Hz
input current	
• at rated input voltage 110 V	1.3 A
• at rated input voltage 120 V	2.2 A
• at rated input voltage 220 V	0.7 A
• at rated input voltage 230 V	1.3 A
current limitation of inrush current at 25 °C maximum	35 A
I2t value maximum	1 A^2·s
fuse protection type	T 3.15 A (not accessible)
fuse protection type in the feeder	Recommended miniature circuit breaker: 6-10 A characteristic C
output	
voltage curve at output	Controlled, isolated DC voltage
number of outputs	2
output voltage at DC rated value	15 V
formula for output voltage	2 x 15 V DC
output voltage	
• at output 1 at DC rated value	15 V
• at output 2 at DC rated value	15 V
	15 V
output voltage adjustable	Yes; via potentiometer per output
adjustable output voltage	12 ... 28 V
relative control precision of the output voltage	
• on slow fluctuation of input voltage	0.1 %
• on slow fluctuation of ohm loading	1 %
residual ripple	
• maximum	50 mV
voltage peak	
• maximum	150 mV
display version for normal operation	Green LED grün for Vout >10 V (summation display)
type of signal at output	-
behavior of the output voltage when switching on	Overshoot of Vout < 1 %

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3323-0SA00-0BY0 SITOP PSU3600 dual 2 x 15 V/3.5 A
response delay maximum	0.5 s
output current	
• rated value	3.5 A
• at output 1 rated value	3.5 A
• at output 2 rated value	3.5 A
• rated range	0 ... 3.5 A; Output power max. 60 W per output
	2.6 ... 4.9 A
supplied active power typical	105 W
bridging of equipment	Yes
number of parallel-switched equipment resources	2
efficiency	
efficiency in percent	88 %
power loss [W]	
• at rated output voltage for rated value of the output current typical	18 W
protection and monitoring	
design of the overvoltage protection	≤ 35 V
property of the output short-circuit proof	Yes
design of short-circuit protection	Electronic shutdown, automatic restart
response value current limitation	5 A
design of the current limitation	depending on the voltage setting
safety	
galvanic isolation between input and output	Yes
galvanic isolation	Safety extra low output voltage Vout according to EN 60950-1
operating resource protection class	Class I
leakage current	
• maximum	3.5 mA
protection class IP	IP20
standard	
• for emitted interference	EN 55022 Class B
• for mains harmonics limitation	EN 61000-3-2
• for interference immunity	EN 61000-6-2
standards, specifications, approvals	
certificate of suitability	
• CE marking	Yes
• UL approval	Yes; cULus-listed (UL 508, CSA C22.2 No. 107.1), file E197259; outputs NEC Class 2 acc. to UL 1310
• CSA approval	Yes; -
• EAC approval	Yes
• Regulatory Compliance Mark (RCM)	Yes
• NEC Class 2	Yes; according to UL1310
type of certification	
• CB-certificate	No
standards, specifications, approvals hazardous environments	
certificate of suitability	
• IECEx	No

Technical specifications (continued)

Article number product brand name type of current supply	6EP3323-0SA00-0BY0 SITOP PSU3600 dual 2 x 15 V/3.5 A
• ATEX	No
• ULhazloc approval	No
• cCSAus, Class 1, Division 2	No
• FM registration	No
standards, specifications, approvals marine classification	
shipbuilding approval	No
Marine classification association	
• American Bureau of Shipping Europe Ltd. (ABS)	No
• French marine classification society (BV)	No
• Det Norske Veritas (DNV)	No
• Lloyds Register of Shipping (LRS)	No
ambient conditions	
ambient temperature	
• during operation	-25 ... +70 °C; Derating > 60°C: 2%/°K
• during transport	-40 ... +70 °C
• during storage	-40 ... +70 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation
connection method	
type of electrical connection	screw terminal
• at input	L1, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm² single-core/finely stranded
• at output	+: 1 screw terminal per output for 0.5 ... 2.5 mm²; -: 2 screw terminals per output for 0.5 ... 2.5 mm²
• for auxiliary contacts	-
mechanical data	
width × height × depth of the enclosure	42 mm × 125 mm
installation width × mounting height	42 mm
required spacing	
• top	50 mm
• bottom	50 mm
• left	0 mm
• right	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes
• S7 rail mounting	No
• wall mounting	No
housing can be lined up	Yes
net weight	0.55 kg
further information internet links	
internet link	
• to website: Industry Mall	https://mall.industry.siemens.com

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3323-0SA00-0BY0 SITOP PSU3600 dual 2 x 15 V/3.5 A
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com
additional information	
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information	
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

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1-phase, 3-52 V DC (SITOP PSU3600 flexi)

Overview

Limitless diversity thanks to variable output – the standard device for varying output voltages

What to do if, for example, you need a power supply unit for 5 V, one for 15 V – and then one for 38.5 V as well? Install a special power supply every time?

SITOP PSU3600 power supply is the clever solution in this case! The output voltage can be flexibly adjusted between 3 and 52 V, with a maximum output power of 120 W. The current limitation can also be set between 2 and 10 A. Since you now only need one standard device for multiple applications, you save a lot of time in procurement and avoid costs for logistics and service.

But conventional use as a power supply is not the only conceivable application. The possibility of dynamically changing the output voltage during operation using a control signal between 0 and 52 V along with numerous additional functions opens up a wide range of potential uses.

Selection and ordering data

SITOP PSU3600 flexi Stabilized power supply Input: 120 ... 230 V AC Output: 3 ... 52 V DC / 2 ... 10 A, 120 W	**6EP3343-0SA00-0AY0**

Accessories

SITOP redundancy modules	For more information, visit: www.siemens.com/sitop-redundancy/mall

Technical specifications

Article number **product brand name** **type of current supply**	**6EP3343-0SA00-0AY0** **SITOP PSU3600 flexi** **3-52 V/10 A, 120 W**
input	
type of the power supply network	1-phase AC or DC
supply voltage at AC	
• minimum rated value	120 V
• maximum rated value	230 V
• initial value	85 V
• full-scale value	264 V
supply voltage at AC	Derating at < 110 V AC/DC: output power max. 100 W
supply voltage at DC	110 ... 220 V
input voltage at DC	88 ... 250 V
wide range input	Yes
buffering time for rated value of the output current in the event of power failure minimum	80 ms
operating condition of the mains buffering	With Pa = 120 W and Ue = 230 V AC
line frequency	50 Hz/60 Hz
line frequency	47 ... 63 Hz
input current	
• at rated input voltage 110 V	1.3 A
• at rated input voltage 120 V	2.6 A
• at rated input voltage 220 V	0.7 A
• at rated input voltage 230 V	1.3 A
current limitation of inrush current at 25 °C maximum	35 A
I2t value maximum	1 $A^2 \cdot s$
fuse protection type	T 3.15 A (not accessible)
fuse protection type in the feeder	Recommended miniature circuit breaker: 6-10 A characteristic C
output	
voltage curve at output	Controlled, isolated DC voltage
output voltage at DC rated value	24 V
formula for output voltage	3-52 V DC
output voltage	
• at output 1 at DC rated value	24 V
	3 ... 52 V
output voltage adjustable	Yes; via potentiometer (setting range 3 to 52 V) or analog control voltage signal 0 to 2.5 V (setting range 0 to 52 V)
adjustable output voltage	0 ... 52 V
relative control precision of the output voltage	
• on slow fluctuation of input voltage	0.1 %
• on slow fluctuation of ohm loading	1 %
voltage compensation per sense line	0.5 V
residual ripple	
• maximum	50 mV
voltage peak	
• maximum	100 mV
display version for normal operation	Two-color LED: green for 24 V o.k., red for overload

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3343-0SA00-0AY0 SITOP PSU3600 flexi 3-52 V/10 A, 120 W
type of signal at output	DC OK via relay contact, current monitor signal (0 to 2.5 V correspond to 0 to 10 A)
behavior of the output voltage when switching on	No overshoot of Vout (soft start)
response delay maximum	0.5 s
voltage increase time of the output voltage	
• typical	20 ms
output current	
• rated value	10 A
• rated range	0 ... 10 A; Output power max. 120 W
	10 A
supplied active power typical	120 W
constant overload current	
• on short-circuiting during the start-up typical	12 A
• at short-circuit during operation typical	12 A
bridging of equipment	Yes
number of parallel-switched equipment resources	2
efficiency	
efficiency in percent	88 %
power loss [W]	
• at rated output voltage for rated value of the output current typical	16 W
• during no-load operation maximum	3 W
closed-loop control	
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	0.3 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	5 %
setting time	
• maximum	0.2 ms
protection and monitoring	
design of the overvoltage protection	≤ 60 V according to EN 60950-1
property of the output short-circuit proof	Yes
design of short-circuit protection	Electronic current limiting (2 ... 10 A) in the range 3 ... 12 V or power limiting (120 W) in the range 12 ... 52 V
response value current limitation	2 ... 10 A
design of the current limitation	Can be set with potentiometer or analog control voltage signal 0.5 ... 2.5 V
enduring short circuit current RMS value	
• maximum	12 A
safety	
galvanic isolation between input and output	Yes
galvanic isolation	Safety extra low output voltage Vout according to EN 60950-1

Technical specifications (continued)

Article number product brand name type of current supply	6EP3343-0SA00-0AY0 SITOP PSU3600 flexi 3-52 V/10 A, 120 W
operating resource protection class	Class I
leakage current	
• maximum	3.5 mA
protection class IP	IP20
standard	
• for emitted interference	EN 55022 Class B
• for mains harmonics limitation	EN 61000-3-2
• for interference immunity	EN 61000-6-2
standards, specifications, approvals	
certificate of suitability	
• CE marking	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• CSA approval	No; -
• EAC approval	Yes
• Regulatory Compliance Mark (RCM)	Yes
• NEC Class 2	No
type of certification	
• CB-certificate	Yes
MTBF at 40 °C	1 200 000 h
standards, specifications, approvals hazardous environments	
certificate of suitability	
• IECEx	No
• ATEX	No
• ULhazloc approval	No
• cCSAus, Class 1, Division 2	No
• FM registration	No
standards, specifications, approvals marine classification	
shipbuilding approval	No
Marine classification association	
• American Bureau of Shipping Europe Ltd. (ABS)	No
• French marine classification society (BV)	No
• Det Norske Veritas (DNV)	No
• Lloyds Register of Shipping (LRS)	No
ambient conditions	
ambient temperature	
• during operation	-25 ... +70 °C; Derating > 60°C: 2%/°K
• during transport	-40 ... +85 °C
• during storage	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation
connection method	
type of electrical connection	screw terminal
• at input	L1, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm^2 single-core/finely stranded

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Technical specifications (continued)

Article number product brand name type of current supply	6EP3343-0SA00-0AY0 SITOP PSU3600 flexi 3-52 V/10 A, 120 W
• at output	+, -: 2 screw terminals each for 0.5 ... 2.5 mm² single-core/finely stranded
• for auxiliary contacts	Alarm signals, control inputs: screw-type terminals for 0.14 ... 1.5 mm² single-core/finely stranded
mechanical data	
width × height × depth of the enclosure	42 mm × 135 mm
installation width × mounting height	42 mm
required spacing	
• top	50 mm
• bottom	50 mm
• left	0 mm
• right	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes
• S7 rail mounting	No
• wall mounting	No
housing can be lined up	Yes
net weight	0.55 kg
further information internet links	
internet link	
• to website: Industry Mall	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com
additional information	
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information	
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

Technical specifications (continued)

Article number product brand name type of current supply	6EP3343-0SA00-0AY0 SITOP PSU3600 flexi 3-52 V/10 A, 120 W

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Overview

With their particular design and metal enclosures, the 1-phase and 3-phase power supplies are ideally suited to special requirements.

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1-phase, 48 V DC (SITOP PSU100E)

Overview

This power supply is optimized for 48 V industrial applications with a focus on single-series and special-purpose machines in the manufacturing industry with power demands up to 5 A. Thanks to the higher voltage of 48 V (instead of 24 V), the same amount of power can be used to achieve a higher performance – even over longer distances. Examples include low-cost machines for cost-efficient switching of valves and magnets, tool systems with electric controls instead of compressed air supplies, supplies for 48 V DC motors or devices which are connected with long cables. The SITOP PSU100E power supply is also suitable for supplying Power over Ethernet (PoE).

Selection and ordering data

SITOP PSU100E 1-phase, 48 V DC/5 A Stabilized power supply Input: 120/230 V AC Output: 48 V DC/5 A	**6EP3344-0SB00-0AY0**

Accessories

SITOP RED1200 redundancy modules	For more information, visit: www.siemens.com/sitop-redundancy/mall
SITOP SEL1200 48 V selectivity module	For more information, visit: www.siemens.com/sitop-selectivity/mall

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Technical specifications

Article number type of current supply	6EP3344-0SB00-0AY0 48 V/5 A
input	
type of the power supply network	1-phase AC
supply voltage	100 V/230 V
input voltage 1 at AC	85 ... 132 V
input voltage 2 at AC	170 ... 264 V
wide range input	No
buffering time for rated value of the output current in the event of power failure minimum	30 ms
operating condition of the mains buffering	at Vin = 120/230 V
line frequency	50 Hz/60 Hz
line frequency	47 ... 63 Hz
input current	
• at rated input voltage 120 V	4.4 A
• at rated input voltage 230 V	2 A
current limitation of inrush current at 25 °C maximum	58 A
I2t value maximum	1.5 A^2·s
fuse protection type	T 6.3 A (not accessible), soldered
fuse protection type in the feeder	Recommended miniature circuit breaker: from 10 A characteristic C
output	
voltage curve at output	Controlled, isolated DC voltage
output voltage at DC rated value	48 V
output voltage	
• at output 1 at DC rated value	48 V
	48 V
output voltage adjustable	Yes; via potentiometer
adjustable output voltage	48 ... 54 V; max. 240 W
relative control precision of the output voltage	
• on slow fluctuation of input voltage	0.2 %
• on slow fluctuation of ohm loading	0.5 %
residual ripple	
• maximum	50 mV
• typical	30 mV
voltage peak	
• maximum	150 mV
• typical	100 mV
display version for normal operation	Green LED for 48 V OK
type of signal at output	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for 48 V OK
behavior of the output voltage when switching on	Overshoot of Vout approx. 2 %
response delay maximum	1.5 s
voltage increase time of the output voltage	
• typical	15 ms
• maximum	500 ms
output current	
• rated value	5 A
• rated range	0 ... 5 A; +60 ... +70 °C: Derating 5%/K
	5 A
supplied active power typical	240 W
bridging of equipment	Yes
number of parallel-switched equipment resources	2
efficiency	
efficiency in percent	92 %
power loss [W]	

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Technical specifications (continued)

Article number type of current supply	6EP3344-0SB00-0AY0 48 V/5 A
• at rated output voltage for rated value of the output current typical	12 W
closed-loop control	
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	0.3 %
relative control precision of the output voltage at load step of resistive load 10/90/10 % typical	1 %
setting time	
• load step 10 to 90% typical	0.5 ms
• load step 90 to 10% typical	0.5 ms
• maximum	1 ms
protection and monitoring	
design of the overvoltage protection	< 60 V
property of the output short-circuit proof	Yes
design of short-circuit protection	Electronic shutdown, automatic restart
• typical	5.3 A
enduring short circuit current RMS value	
• typical	8.7 A
safety	
galvanic isolation between input and output	Yes
galvanic isolation	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178
operating resource protection class	Class I
leakage current	
• maximum	3.5 mA
• typical	1 mA
protection class IP	IP20
standard	
• for emitted interference	EN 61000-6-4
• for mains harmonics limitation	EN 61000-3-2
• for interference immunity	EN 61000-6-2
standards, specifications, approvals	
certificate of suitability	
• CE marking	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• EAC approval	Yes
• NEC Class 2	No
type of certification	
• CB-certificate	No
MTBF at 40 °C	1 050 000 h
standards, specifications, approvals hazardous environments	
certificate of suitability	
• IECEx	No
• ATEX	No
• ULhazloc approval	No
• cCSAus, Class 1, Division 2	No
• FM registration	No
standards, specifications, approvals marine classification	
shipbuilding approval	No
Marine classification association	

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Technical specifications (continued)

Article number type of current supply	6EP3344-0SB00-0AY0 48 V/5 A
• American Bureau of Shipping Europe Ltd. (ABS)	No
• French marine classification society (BV)	No
• Det Norske Veritas (DNV)	No
• Lloyds Register of Shipping (LRS)	No
ambient conditions	
ambient temperature	
• during operation	-25 ... +70 °C; with natural convection
• during transport	-40 ... +85 °C
• during storage	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation
connection method	
type of electrical connection	screw terminal
• at input	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm² single-core/finely stranded
• at output	+, -: 2 screw terminals each for 0.5 ... 2.5 mm²
• for auxiliary contacts	13, 14 (alarm signal): 1 screw terminal each for 0.5 ... 2.5 mm²
mechanical data	
width × height × depth of the enclosure	42 mm × 125 mm
installation width × mounting height	42 mm
required spacing	
• top	50 mm
• bottom	50 mm
• left	0 mm
• right	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes
• S7 rail mounting	No
• wall mounting	No
housing can be lined up	Yes
net weight	0.5 kg
further information internet links	
internet link	
• to website: Industry Mall	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com
additional information	
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)

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Technical specifications (continued)

Article number type of current supply	6EP3344-0SB00-0AY0 48 V/5 A
security information	
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

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Overview

Slimline 3-phase power supply for low power ratings

The SITOP PSU300E 3-phase power supply is designed with a 5 A output current for 24 V applications with low power requirements. The metal enclosure is only 42 mm wide and does not require any lateral gap to other devices on the DIN rail. This is made possible by the low heat dissipation (90% efficiency). The wide-range input from 320 V to 550 V AC permits mains buffering times of 50 ms and thus allows the supply to be used in unstable three-phase networks, thanks to UL certification also in North America. The removable plug-in terminals simplify the AC and DC connection.

Selection and ordering data

SITOP PSU300E 3-phase, 24 V DC/5 A Stabilized power supply Input: 400 ... 500 V 3 AC Output: 24 V DC/5 A	**6EP1433-0AA00**

Accessories

SITOP redundancy modules	For more information, visit: www.siemens.com/sitop-redundancy/mall
SITOP selectivity modules	For more information, visit: www.siemens.com/sitop-selectivity/mall
SITOP buffer modules	For more information, visit: www.siemens.com/sitop-buffering/mall

Technical specifications

Article number **product brand name** **type of current supply**	**6EP1433-0AA00** **SITOP PSU300E** **24 V/5 A**
input	
type of the power supply network	3-phase AC
supply voltage at AC	
• minimum rated value	400 V
• maximum rated value	500 V
• initial value	320 V
• full-scale value	550 V
wide range input	Yes
buffering time for rated value of the output current in the event of power failure minimum	50 ms
operating condition of the mains buffering	at Vin = 400 V
line frequency	50 Hz/60 Hz
line frequency	47 ... 63 Hz
input current	
• at rated input voltage 400 V	0.36 A
• at rated input voltage 500 V	0.29 A
current limitation of inrush current at 25 °C maximum	15 A
I2t value maximum	0.9 $A^2 \cdot s$
fuse protection type	none
fuse protection type in the feeder	Required: 3-pole connected miniature circuit breaker 6 A characteristic B or C or circuit breaker 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10 (UL 489)
output	
voltage curve at output	Controlled, isolated DC voltage
output voltage at DC rated value	24 V
output voltage	
• at output 1 at DC rated value	24 V
	24 V
output voltage adjustable	Yes; via potentiometer
adjustable output voltage	24 ... 29 V; max. 120 W
relative control precision of the output voltage	
• on slow fluctuation of input voltage	3 %
• on slow fluctuation of ohm loading	3 %
residual ripple	
• maximum	150 mV
• typical	35 mV
voltage peak	
• maximum	240 mV
• typical	70 mV
display version for normal operation	Green LED for 24 V OK
type of signal at output	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"
behavior of the output voltage when switching on	Overshoot of Vout approx. 3 %
response delay maximum	0.5 s

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1433-0AA00 SITOP PSU300E 24 V/5 A
voltage increase time of the output voltage	
• typical	10 ms
• maximum	100 ms
output current	
• rated value	5 A
• rated range	0 ... 5 A
	5 A
supplied active power typical	120 W
short-term overload current	
• on short-circuiting during the start-up typical	33 A
• at short-circuit during operation typical	28 A
duration of overloading capability for excess current	
• on short-circuiting during the start-up	140 ms
• at short-circuit during operation	135 ms
bridging of equipment	No
efficiency	
efficiency in percent	90 %
power loss [W]	
• at rated output voltage for rated value of the output current typical	13 W
closed-loop control	
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	3 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	5 %
setting time	
• load step 50 to 100% typical	1 ms
• load step 100 to 50% typical	1 ms
relative control precision of the output voltage at load step of resistive load 10/90/10 % typical	1 %
setting time	
• load step 10 to 90% typical	1 ms
• load step 90 to 10% typical	1 ms
• maximum	30 ms
protection and monitoring	
design of the overvoltage protection	Yes, according to EN 60950-1
property of the output short-circuit proof	Yes
design of short-circuit protection	Electronic shutdown, automatic restart
• typical	11 A
enduring short circuit current RMS value	
• maximum	7.5 A

Technical specifications (continued)

Article number product brand name type of current supply	6EP1433-0AA00 SITOP PSU300E 24 V/5 A
safety	
galvanic isolation between input and output	Yes
galvanic isolation	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178
operating resource protection class	Class I
protection class IP	IP20
standard	
• for emitted interference	EN 55022 Class A
• for mains harmonics limitation	EN 61000-3-2
• for interference immunity	EN 61000-6-2
standards, specifications, approvals	
certificate of suitability	
• CE marking	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• EAC approval	Yes
• NEC Class 2	No
type of certification	
• CB-certificate	No
MTBF at 40 °C	2 389 441 h
standards, specifications, approvals hazardous environments	
certificate of suitability	
• IECEx	No
• ATEX	No
• ULhazloc approval	No
• cCSAus, Class 1, Division 2	No
• FM registration	No
standards, specifications, approvals marine classification	
shipbuilding approval	No
Marine classification association	
• American Bureau of Shipping Europe Ltd. (ABS)	No
• French marine classification society (BV)	No
• Det Norske Veritas (DNV)	No
• Lloyds Register of Shipping (LRS)	No
ambient conditions	
ambient temperature	
• during operation	0 ... 60 °C; with natural convection
• during transport	-40 ... +85 °C
• during storage	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation
connection method	
type of electrical connection	screw terminal
• at input	L1, L2, L3, PE: Removable screw terminal for 0.5 ... 2.5 mm² single-core/finely stranded

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1433-0AA00 SITOP PSU300E 24 V/5 A
• at output	+, -: 2 screw terminals each for 0.5 ... 2.5 mm²
• for auxiliary contacts	13, 14 (alarm signal): 1 screw terminal each for 0.5 ... 2.5 mm²
removable terminal at input	Yes
removable terminal at output	Yes
mechanical data	
width × height × depth of the enclosure	42 mm × 125 mm
installation width × mounting height	42 mm
required spacing	
• top	50 mm
• bottom	50 mm
• left	0 mm
• right	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes
• S7 rail mounting	No
• wall mounting	No
housing can be lined up	Yes
net weight	0.6 kg
further information internet links	
internet link	
• to website: Industry Mall	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com
additional information	
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information	
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

Technical specifications (continued)

Article number product brand name type of current supply	6EP1433-0AA00 SITOP PSU300E 24 V/5 A

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Overview

Particularly harsh industrial ambient conditions demand products with special characteristics - products that are more rugged than standard products.

Siemens offers the perfect answer to these requirements with SIPLUS extreme.
SIPLUS product variants are based on the SITOP, LOGO!Power standard power supplies and the power supplies for SIMATIC S7 and expansion modules, and feature the following characteristics:

• Extended ambient temperature range (e.g. -40 ... +70 °C) and conformal coating as protection against extreme and difficult conditions and exposure to environmental substances

There are also SIPLUS Rail variants that meet the special requirements of the railroad industry:

• EN 50155: conforms with standard for electronic equipment used on rolling stock (EN 50155).

Ambient conditions	
Conformal coating	Coating of the printed circuit boards and the electronic components
Technical specifications	The technical data of the standard product applies except for the ambient conditions.
Relative humidity	100%, condensation/frost permissible. No commissioning in bedewed state.
Biologically active substances, compliance with EN 60721-3-3	Class 3B2 mold and fungal spores (excluding fauna). The supplied plug covers must remain in place over the unused interfaces during operation.
Chemically active substances, compliance with EN 60721-3-3	Class 3C4 incl. salt spray acc. to EN 60068-2-52 (severity 3). The supplied plug covers must remain in place over the unused interfaces during operation.
Mechanically active substances, compliance with EN 60721-3-3	Class 3S4 incl. sand, dust. The supplied plug covers must remain in place over the unused interfaces during operation.
Air pressure (depending on the highest positive temperature range specified)	1080 ... 795 hPa (-1000 ... +2000 m) see ambient temperature range 795 ... 658 hPa (+2000 ... +3500 m) derating 10 K 658 ... 540 hPa (+3500 ... +5000 m) derating 20 K

For further technical specifications, see the standard products, or visit http://www.siemens.com/siplus-extreme

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Selection and ordering data

	Article No.
SIPLUS LOGO!Power	
SIPLUS LOGO!Power 24 V 1.3 A Extended temperature range and exposure to environmental substances Input: 100 ... 240 V AC Output: 24 V DC, 1.3 A	6AG1331-6SB00-7AY0
SIPLUS LOGO!Power 24 V 2.5 A Extended temperature range and exposure to environmental substances Input: 100 ... 240 V AC Output: 24 V DC, 2.5 A	6AG1332-6SB00-7AY0
SIPLUS LOGO!Power 24 V 4 A Extended temperature range and exposure to environmental substances Input: 100 ... 240 V AC Output: 24 V DC, 4 A	6AG1333-6SB00-7AY0
SIPLUS Advanced power supplies	
SIPLUS PS PSU8200 1-phase, 24 V DC/40 A Extended temperature range and exposure to environmental substances Stabilized power supply Input: 120/230 V AC Output: 24 V DC/40 A	6AG1337-8SB00-7AY0
SIPLUS PS PSU8200 3-phase, 24 V DC/40 A Extended temperature range and exposure to environmental substances Stabilized power supply Input: 400-500 V 3 AC Output: 24 V DC/40 A	6AG1437-8SB00-7AY0
SIPLUS smart	
SIPLUS PSU100S 24 V/10 A Extended temperature range and exposure to environmental substances Stabilized power supply Input: 120/230 V AC Output: 24 V DC/10 A	6AG1334-2BA20-4AA0
SIPLUS PSU300S 3-phase, 24 V DC/5 A Extended temperature range and exposure to environmental substances Stabilized power supply Input: 400 ... 500 V 3 AC Output: 24 V DC/5 A	6AG1433-2BA20-7AA0
SIPLUS PSU300S, 3-phase, 24 V DC/10 A Extended temperature range and exposure to environmental substances Stabilized power supply Input: 400 ... 500 V 3 AC Output: 24 V DC/10 A	6AG1434-2BA20-7AA0
SIPLUS PSU300S 3-phase, 24 V DC/20 A Extended temperature range and exposure to environmental substances Stabilized power supply Input: 400 ... 500 V 3 AC Output: 24 V DC/20 A	6AG1436-2BA10-7AA0

Selection and ordering data (continued)

	Article No.
SIPLUS modular	
SIPLUS PS PSU200M 1- and 2-phase, 24 V DC/5 A Exposure to environmental substances Stabilized power supply Input: 120 ... 230/230 ... 500 V AC Output: 24 V DC/5 A	6AG1333-3BA10-7AA0
SIPLUS PS PSU200M 1- and 2-phase, 24 V DC/10 A Exposure to environmental substances Stabilized power supply Input: 120 ... 230/230 ... 500 V AC Output: 24 V DC/10 A	6AG1334-3BA10-7AA0
SIPLUS in SIMATIC design	
SIPLUS S7-300 PS 305 Extended temperature range and exposure to environmental substances Input: 24 ... 110 V DC Output: 24 V DC/2 A	6AG1305-1BA80-2AA0
SIPLUS S7-300 PS 307 5 A Extended temperature range and exposure to environmental substances Incl. connecting comb 120/230 V AC; 24 V DC Output current 5 A (dimensions 60 x 125 x 120)	6AG1307-1EA01-7AA0
SIPLUS S7-300 PS 307 10 A Extended temperature range and exposure to environmental substances Incl. connecting comb 120/230 V AC; 24 V DC Output current 10 A (dimensions 80 x 125 x 120) For rolling stock railway applications	6AG1307-1KA02-7AA0
SIPLUS S7-1200 PM 1207 Extended temperature range and exposure to environmental substances Input: 120/230 V AC Output: 24 V DC, 2.5 A Derating from +55 °C to +70 °C to 1.2 A output current Ambient temperature -25 ... +70 °C	6AG1332-1SH71-7AA0
SIPLUS S7-1200 PM 1207 Extended temperature range and exposure to environmental substances Input: 120/230 V AC Output: 24 V DC, 2.5 A Derating from +55 °C to +70 °C to 1.2 A output current Ambient temperature 0 ... +60 °C	6AG1332-1SH71-4AA0
SIPLUS S7-1500 PM 1507 Extended temperature range and exposure to environmental substances Input: 120/230 V AC Output: 24 V DC, 3 A	6AG1332-4BA00-7AA0
SIPLUS S7-1500 PM 1507 Extended temperature range and exposure to environmental substances Input 120/230 V AC Output: 24 V DC, 8 A	6AG1333-4BA00-7AA0

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Selection and ordering data (continued)

	Article No.
SIPLUS S7-1500 system power supply	
Extended temperature range and exposure to environmental substances for supplying the backplane bus of the S7-1500 controller 24 V DC input voltage, power 25 W	6AG1505-0KA00-7AB0
Extended temperature range and exposure to environmental substances for supplying the backplane bus of the S7-1500 controller 24/48/60 V DC input voltage, power 60 W	6AG1505-0RA00-7AB0
Extended temperature range and exposure to environmental substances for supplying the backplane bus of the S7-1500 controller 120/230 V AC input voltage, power 60 W	6AG1507-0RA00-7AB0
SIPLUS DC/DC converter	
SIPLUS PS 24V/0.375A	6AG1931-2BA00-3AA0
Exposure to environmental substances DC/DC stabilized power supply Input: 48 ... 220 V DC Output: 24 V DC/0.375 A Condensation permissible	
SIPLUS PS PSU3400 1ACDC DC 24V 2.5A	6AG1332-0TA00-7AY0
With conformal coating -40 ... +70 °C, startup -25 °C Stabilized power supply Input: 230 V AC (88 ... 264 V) Input: 24 V DC (18 ... 264 V) Output: 24 V DC/2.5 A	
SIPLUS add-on modules	
SIPLUS PS E202U redundancy module	6AG1961-3BA21-7AX0
Extended temperature range and exposure to environmental substances Input/output: 24 V DC/40 A Suitable for decoupling two SITOP power supplies each with a maximum of 20 A output current	
SIPLUS PS E202U redundancy module	6AG1961-3BA21-4AX0
Exposure to environmental substances Input/output: 24 V DC/40 A Suitable for decoupling two SITOP power supplies each with a maximum of 20 A output current	
SIPLUS PSE200U 3 A selectivity module	6AG1961-2BA31-7AA0
For exposure to environmental substances Selectivity module, 4-channel Input: 24 V DC Output: 24 V DC/3 A per channel Output current adjustable 0.5 ... 3 A With single-channel signaling	
SIPLUS PSE200U 10 A selectivity module	6AG1961-2BA41-7AA0
For exposure to environmental substances Selectivity module, 4-channel Input: 24 V DC Output: 24 V DC/10 A per channel Output current adjustable 3 ... 10 A With single-channel signaling	

Selection and ordering data (continued)

	Article No.
SIPLUS modular buffer module	6AG1961-3BA01-7AA0
For 6AG1 961-3BA01-7AA0; Buffer time 100 ms up to 10 s, depending on load current	
SIPLUS DC UPS, uninterruptible power supplies	
SIPLUS PS DC UPS module 15 A	6AG1931-2EC21-2AA0
Extended temperature range and exposure to environmental substances Uninterruptible power supply without interface; Input: 24 V DC/16 A Output: 24 V DC/15 A	
SIPLUS PS DC UPS module 40 A	6AG1931-2FC21-7AA0
Extended temperature range and exposure to environmental substances Uninterruptible power supply without interface; Input: 24 V DC/43 A Output: 24 V DC/40 A	
SIPLUS PS UPS1600 24 V/10 A	6AG1134-3AB00-7AY0
Extended temperature range and exposure to environmental substances Without interface	
SIPLUS PS UPS1600 24 V/10 A	6AG1134-3AB00-7AY2
Extended temperature range and exposure to environmental substances With PROFINET/Ethernet: two RJ45 sockets (2 port switch)	
SIPLUS PS UPS1100 battery module 7 Ah	6AG1134-0GB00-4AY0
Exposure to environmental substances With maintenance-free, sealed rechargeable lead-acid batteries for SIPLUS UPS1600 DC UPS module, 10 A	

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Overview

AS-Interface power supply unit for 3 A

AS-Interface power supply units feed 30 V DC into the AS-Interface cable and supply the AS-Interface components. They contain performance-optimized data decoupling for separating communication signals and supply voltage. As a result, AS-Interface is able to convey both data and power along a single line. The power supply units are overload and short-circuit-proof.

Dimensions

AS-Interface power supply units have compact dimensions in widths of 50 / 70 / 120 mm. No distances to other devices must be observed during the installation.

Characteristics

- Higher performance: The power supply units deliver currents from 2.6 to 8 A.
- Integrated data decoupling: As a result, AS-Interface is able to convey both data and power along a single line.
- Integrated ground fault detection: The power supply units ensure reliable detection and signaling of ground faults according to IEC 60204-1. The AS-Interface voltage can be disconnected automatically in the event of a ground fault.
- Integrated overload detection: An overload on the output side is detected and signaled via a diagnostics LED.
- Diagnostics memory: Any ground faults or overloads on the output side are signaled and stored in a diagnostics memory until the device is RESET.
- Remote RESET and remote signaling: A ground fault can be signaled and evaluated by relay contacts via a central control and/or indicator light.
- Diagnostics LEDs: Three different LEDs indicate the status of the AS-Interface power supply unit locally at the power supply unit.
- Ultra-wide input range/2-phase connection: The ultra-wide input range of 120 to 500 V of the 8 A variant means that the supply units can be used in virtually any network worldwide. In addition, this variant dispenses with the need for an N conductor as the device can be connected directly between two phases of a network.
- Operation with 24 V DC: The 3 A power supply unit is also available as a variant with 24 V DC input. This power supply unit is suitable for use in battery-operated plants or plants with uninterruptible power supply (UPS).

Overview (continued)

- Removable terminal blocks with spring-loaded terminals: The power supply units are equipped with three removable terminal blocks for simple device replacement: for the input side, for the output side and for signal/RESET connections.

Benefits

- Complete solution for supplying AS-Interface networks while making full use of the maximum possible cable length per AS-i segment
- Only connection of AS-i master and AS-i slaves to the AS-Interface cable necessary for operation of AS-Interface
- Compact, space-saving dimensions
- Reliable power supply even for large numbers of AS-Interface modules with high power requirements
- Increased safety and no need for additional components thanks to integrated ground fault and overload detection
- Fast fault detection and reduced downtimes through diagnostics memory, remote signaling and remote RESET
- Reduced downtimes due to removable terminal blocks that enable quick device replacement
- 1-phase and 2-phase use and no need for an N conductor due to ultra-wide input range in the 8 A variant
- Can be used worldwide thanks to, for example, UL/CSA approval (UL 508)
- For the 2.6 A variant, the output power is limited to a maximum of 100 W for use in Class 2 circuits according to NEC (National Electrical Code)

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Selection and ordering data

	Article No.
AS-i Power 3A AC 120/230 V AS-Interface power supply unit IP20 Input: 120 / 230 V AC Output: AS-i, 3 A (30 V DC) • With integrated ground fault detection • With integrated overload detection with AS-i data decoupling	3RX9501-0BA00
AS-i Power 5A AC 120/230 V AS-Interface power supply unit IP20 Input: 120 / 230 V AC Output: AS-i, 5 A (30 V DC) • With integrated ground fault detection • With integrated overload detection with AS-i data decoupling	3RX9502-0BA00
AS-i Power 8A 120/230 V AC AS-Interface power supply unit IP20 Input: 120 / 230 V AC Output: AS-i, 8 A (30 V DC) • With integrated ground fault detection • With integrated overload detection with AS-i data decoupling	3RX9503-0BA00
AS-i Power 3 A 24 V DC AS-Interface power supply unit IP20 Input: 24 V DC Output: AS-i, 3 A (30 V DC) • With integrated ground fault detection • With integrated overload detection with AS-i data decoupling	3RX9501-1BA00
AS-i Power 2.6 A 120/230 V AC AS-Interface power supply unit IP20 Input: 120 / 230 V AC Output: AS-i, 2.6 A (30 V DC) • Output power limit: Max. 100 W • With integrated ground fault detection with AS-i data decoupling	3RX9501-2BA00

More information

More information
Operating instructions for AS-i power supply units, **see** https://support.industry.siemens.com/cs/ww/en/view/21489904 **and** https://support.industry.siemens.com/cs/ww/en/view/22317836

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Overview

PSN130S 30 V power supply units for 3 A, 4 A and 8 A

The PSN130S 30 V power supply units feed 30 V DC into the AS-Interface cable and supply the AS-Interface components, but do not include data decoupling. Therefore, additional data decoupling modules are required to separate communication signals and supply voltage, see S22.5 data decoupling modules and DCM 1271 data decoupling module.

The power supply units are overload and short-circuit-proof.

Dimensions

The 30 V power supply units have compact dimensions in widths of 50 and 70 mm. No distances to other devices must be observed during the installation.

Characteristics

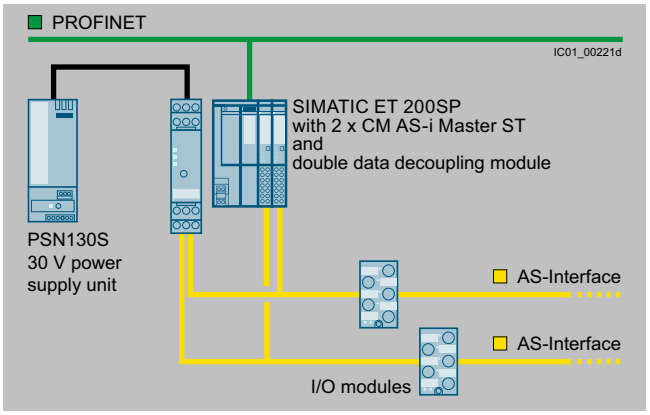
- Primary switched-mode power supplies for connection to a 1-phase AC grid
- Power for currents of 3 A, 4 A and 8 A
- The output voltage is potential-free, short-circuit-proof and open-circuit-proof. If there is an overload, the output voltage is reduced or switched off. After a short-circuit or overload, the devices start up again automatically.
- In the event of a device fault, the output voltage will be limited to max. 37 V.
- Built-in devices in degree of protection IP20 and protection class I
- Diagnostics: With an output voltage > 26.5 V DC, the green LED (30 V O.K.) is lit and the signaling contact 13-14 is closed.

Benefits

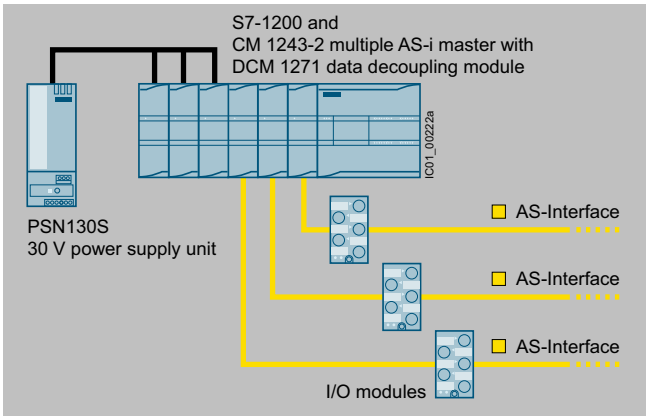
- Low-cost alternative solution for supplying AS-Interface networks while making full use of the maximum possible cable length per AS-i segment
- Cost advantage particularly for multiple networks
- Compact, space-saving dimensions
- Reliable power supply even for large numbers of AS-Interface modules with high power requirements
- Can be used worldwide thanks to, for example, UL/CSA approval (UL 508)

Application

Configuration examples of AS-Interface networks with a 30 V power supply unit



Configuration of AS-Interface multiple networks, each with one PSN130S 30 V power supply unit (examples with schematic representation): Double network based on S22.5 double data decoupling module and a SIMATIC ET 200SP with two CM AS-i Master ST modules



Configuration of AS-Interface multiple networks, each with one PSN130S 30 V power supply unit (examples with schematic representation): Triple network based on SIMATIC S7-1200 with DCM 1271 data decoupling modules and CM 1243-2 communications processors

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Selection and ordering data

	Article No.
PSN130S 3A power supply unit IP20 Input: 120 / 230 V AC Output: 30 V DC • For AS-i without AS-i data decoupling • With integrated overload detection with signaling contact	3RX9511-0AA00
PSN130S 4A power supply unit IP20 Input: 120 / 230 V AC Output: 30 V DC • For AS-i without AS-i data decoupling • With integrated overload detection with signaling contact	3RX9512-0AA00
PSN130S 8A power supply unit IP20 Input: 120 / 230 V AC Output: 30 V DC • For AS-i without AS-i data decoupling • With integrated overload detection with signaling contact	3RX9513-0AA00

Accessories

	Article No.
S22.5 data decoupling modules	
Single data decoupling module with screw terminals 1 x 4 A screw terminals Width: 22.5 mm Input: 24 V DC / 30 V Output: 1x AS-i	3RK1901-1DE12-1AA0
Double data decoupling module with screw terminals 2 x 4 A screw terminals Width: 22.5 mm Input: 24 V DC / 30 V Output: 2 x AS-i	3RK1901-1DE22-1AA0
Single data decoupling module with spring-loaded terminals 1 x 4 spring terminals Width: 22.5 mm Input: 24 V DC / 30 V Output: 1 x AS-i	3RK1901-1DG12-1AA0
Double data decoupling module with spring-loaded terminals 2 x 4 spring-loaded terminals Width: 22.5 mm Input: 24 V DC / 30 V Output: 2 x AS-i **Data decoupling modules for S7-1200**	3RK1901-1DG22-1AA0
DCM 1271 data decoupling module With screw terminals Input: 24 V DC / 30 V Output: 1 x AS-Interface	3RK7271-1AA30-0AA0

More information

More information
For operating instructions and other technical information, see https://support.industry.siemens.com/cs/ww/en/view/64364000 and https://support.industry.siemens.com/cs/ww/en/view/44030789

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8/2	**Introduction**
8/5	**DC UPS with capacitors**
8/11	**DC UPS with battery modules**
8/12	SITOP UPS1600 DC UPS modules
8/31	SITOP BAT1600 battery modules
8/40	SITOP UPS1100 battery modules
8/46	SITOP DC UPS
8/55	DC UPS battery modules

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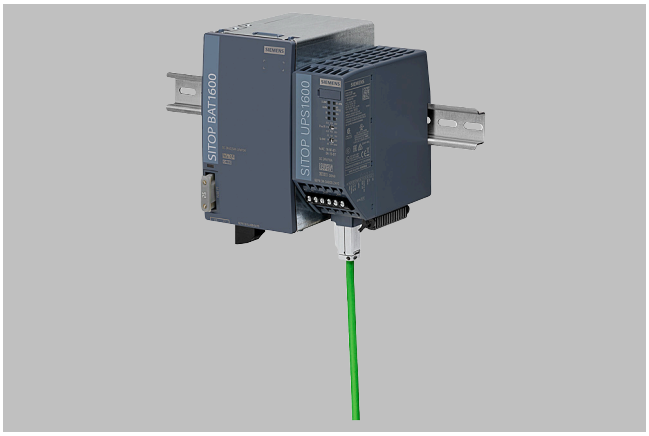
Overview



SITOP offers a comprehensive portfolio to protect against power failures with durations from a few seconds to several hours, ranging from buffer modules to system-integrated DC UPS units. Selection is based on the energy storage unit used, the associated ambient conditions, performance and functionality.

The selection matrix should help you to find the right 24 V buffering for your application:

SITOP modules for 24 V buffering	Buffer module [1]	DC UPS with capacitors	DC UPS with rechargeable battery		
	SITOP PSE201U SITOP BUF1200	SITOP UPS500S + SITOP UPS501S expansion modules	SITOP UPS1600 + SITOP BAT1600 battery modules	SITOP UPS1600 + SITOP UPS1100 battery modules	SITOP DC UPS + Battery module
Energy storage units					
24 V buffering up to	240 s	Minutes	Hours	Hours	Hours
Storage medium	Electrolytic capacitors	Double-layer capacitors	Lead gel batteries (Pb), lithium iron phosphate (LiFePO4) batteries	Lead gel batteries (Pb), pure lead batteries (pure Pb)	Lead gel batteries, pure lead batteries (Pure Pb)
Battery service life dependent on temperature. Specified time indicates the drop of the original capacity to 80% for lead-acid batteries.	0 ... +50 °C: > 8 years	0 ... +50 °C: > 8 years	Pb: +20 ... +40 °C: 4 ... 1 years (LiFePO4: +20 ... +40 °C: 11 ... 8 years)	Pb: +20 ... +40 °C: 4 ... 1 years (Pure Pb:+20 ... +60 °C: > 10 ... 1 years)	Pb: +20 ... +40 °C: 4 ... 1 years (Pure Pb:+20 ... +60 °C: > 10 ... 1 years)
Operating temperature range of battery	-25 ... +70 °C	0 ... +60 °C	Pb: -15 ... +50 °C LiFePO4: -10 ... +50 °C	Pb: -15 ... +50 °C Pure Pb: -40 ... +60 °C	Pb: -15 ... +50 °C Pure Pb: -40 ... +60 °C
Capacity selection	200 ... 300 ms/40 A	2.5 ... 20 kWs	Pb: 3.2 ... 228 Ah LiFePO4: 2.5 ... 45 Ah	Pb: 1.2 ... 72 Ah Pure Pb: 2.5 ... 15 Ah	Pb: 1.2 ... 72 Ah Pure Pb: 2.5 ... 15 Ah
Energy storage management	Passive	Charging current limiting, buffer readiness	Temperature-controlled charging, state of health modeling, buffer readiness	Temperature-controlled charging, buffer readiness	Charging current limiting, buffer readiness
Ventilation required	-	-	- LiFePO4 • Pb, pure Pb	• Pb, pure Pb	• Pb, pure Pb
UPS module/electronics					
Max. rated output current	40 A	15 A	40 A	40 A	40 A
Max. dynamic overload current	40 A (200 ms/300 ms)	25 A (200 ms)	120 A (30 ms) / 60 A (5 s/min)	120 A (30 ms) / 60 A (5 s/min)	56 A (80 ms)
Interfaces	-	I/O, USB	I/O, USB, OPC UA, Ethernet/ PROFINET	I/O, USB, OPC UA, Ethernet/ PROFINET	I/O, serial, USB
Information about operation and diagnostic information via					
• Signaling contact	-	•	•	•	•
• OPC servers	-	•	•	•	•
• Web server	-	-	•	•	-
• OPC UA server	-	-	•	•	-
• S7 function blocks	-	-	•	•	-
• Library for SIMATIC PCS 7	-	-	•	•	-
• WinCC faceplate	-	-	•	•	-

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Overview (continued)

SITOP modules for 24 V buffering	Buffer module [1]	DC UPS with capacitors	DC UPS with rechargeable battery		
	SITOP PSE201U SITOP BUF1200	SITOP UPS500S + SITOP UPS501S expansion modules	SITOP UPS1600 + SITOP BAT1600 battery modules	SITOP UPS1600 + SITOP UPS1100 battery modules	SITOP DC UPS + Battery module
Shutdown of multiple PCs/PLCs	-	-	•	•	-
Starting from the battery, without supply voltage (stand-alone mode)	-	-	•	•	-
Engineering via					
• Software tool (PC)	-	•	•	•	•
• TIA Portal	-	-	•	•	-
• SIMATIC STEP 7	-	-	•	•	-
• SIMATIC PCS 7	-	-	•	•	-
Degree of protection	IP20	IP20	IP00	IP00	IP00

[1] You can find technical specifications under "Add-on modules/Buffer module" http://www.siemens.com/sitop-buffering/mall

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Function

SITOP Manager - the tool for commissioning, engineering and monitoring of communication-capable SITOP power supplies

SITOP Manager is the medium for all users who do not work with SIMATIC STEP 7 in the TIA Portal or with SIMATIC PCS 7. It manages all communication-capable power supplies in a communication network and enables their commissioning, online and offline engineering and diagnostics, as well as operator control and monitoring. With the help of the SITOP Shutdown Service (autonomous function of the SITOP Manager), for example, it also supports continuous monitoring and specific shutdown of one or more PCs in case of a power failure. Data transmission is secure thanks to encrypted communication.

SITOP Manager is available as a free download in SIOS:

https://support.industry.siemens.com/cs/ww/en/view/109760607

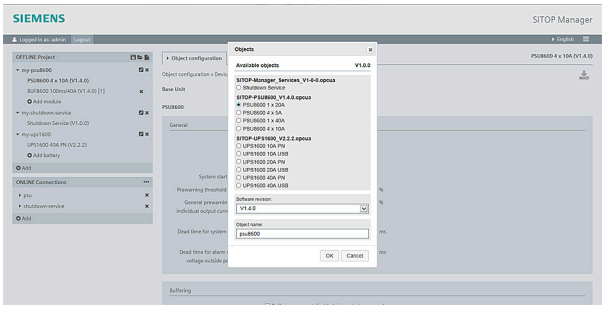
SITOP Manager functions in conjunction with SITOP uninterruptible power supplies:

- Monitoring, diagnostics and shutdown for MS Windows for
  - SITOP DC UPS modules with USB interface
  - SITOP UPS500S
- Engineering, commissioning, monitoring, diagnostics and shutdown for
  - SITOP UPS1600 PN / USB
  - SITOP PSU8600 3 AC / 1 AC

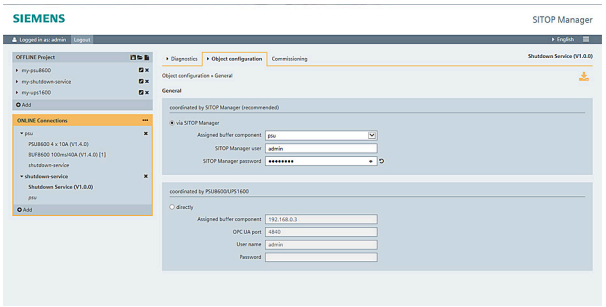
SITOP Manager functions

- Integrated engineering, monitoring, diagnostics and service functions save time and operating costs
- Operation via the web interface simplifies automation projects
- Stability and quality prevent plant failures
- Shutting down specific PCs prevents data loss in the event of a power failure
- Since SITOP Manager supports Microsoft Windows and SIMATIC Industrial OS, it can be used on all common PCs
- Flexible usage options of the SITOP Manager due to usability on a wide range of terminal devices such as PC/industrial PCs, tablets, smartphones, etc.
- Secure, encrypted communication according to the Siemens security concepts ('Security-in-depth' model)
- Saving of plant downtimes through configuration changes even during operation
- The firmware update option ensures that the SITOP UPS1600 is always up-to-date
- Time, workload and cost savings through the configuration of multiple SITOP UPS1600 PNs/ USBs via one SITOP Manager project file
- Requirement for the use of the SITOP Manager with SITOP UPS1600 PN / USB:
  - SITOP UPS1600 10 A, 20 A as of product state (PS) "6", firmware V2.2.2 and higher
  - SITOP UPS1600 40 A as of product state (PS) "3", firmware V2.2.2 and higher

Function (continued)



SITOP Manager UPS1600 offline, including saving of offline project to a project file



SITOP Manager UPS1600 Engineering SDS online

More information

The TIA Selection Tool offers detailed selection guide according to criteria such as the required buffer time, load current or peak current:

http://www.siemens.com/tst

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Overview

SITOP 24 V power supplies can be expanded with a SITOP UPS500 uninterruptible DC power supply (DC UPS) for bridging short-term power failures in the order of minutes. In PC-based automation solutions, the highly capacitive double-layer capacitors of the SITOP UPS500 supply enough energy to safeguard operating and application data and close software applications in a defined manner. You can increase the buffer times using SITOP PSU501S expansion modules (up to 3).

Benefits

- 24 V buffering for a few minutes to allow data to be backed up and applications to be closed.
- Absolutely maintenance-free
- Long lifetime, even at high temperatures
- High ambient temperatures up to +60 °C
- Short charging times
- No ventilation is required since no gas is emitted
- Basic and expansion module for Zone 2 hazardous environments (gas) available
- Free SITOP Manager software tool for simple configuration and integration in PC-based systems

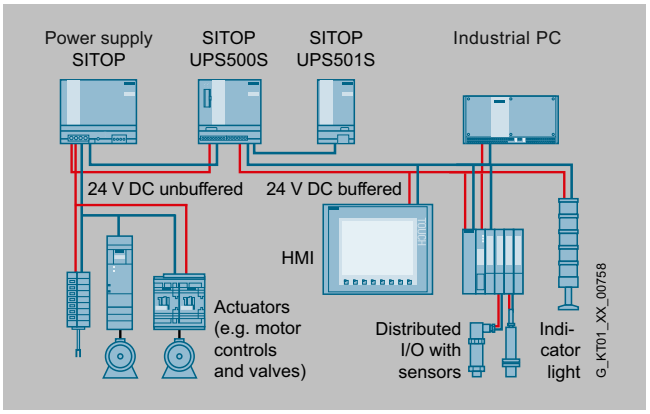
  For more information, visit: www.siemens.com/sitop-ups/mall

  Free Download SITOP Manager: https://support.industry.siemens.com/cs/ww/en/view/109760607

Application

The USB interface and a free SITOP Manager software tool enable easy communication with the PC.

The capacitors have an extremely long life even at high temperature, and can be used at ambient temperatures of up to 60 °C.

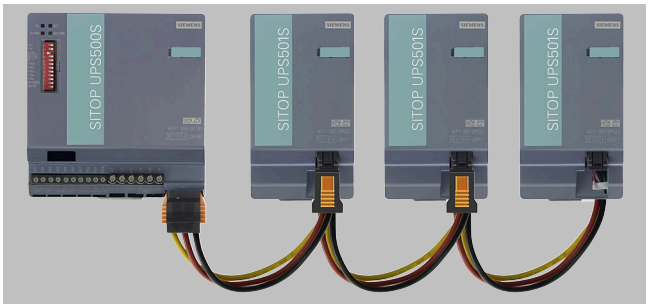


Configuration with SITOP UPS500S:
24 V buffering for backing up process data and performing a controlled shutdown of a PC. To relieve the load on the UPS, the actuators are supplied directly from the power supply unit.

Design

SITOP UPS500S

- Compact 24 V/15 A basic units with integrated energy storage units of 2.5 or 5 kWs
- Digital inputs/outputs and USB interface
- For combination with up to three UPS501S expansion modules (5 kWs each) to extend the buffer time



SITOP UPS501S expansion module

- Additional energy storage (5 kWs)
- Up to 3 expansion modules can be connected to a SITOP UPS500S to extend the buffer times
- Can be easily connected to SITOP UPS500S via a user-friendly plug-in system
- Complete with balancing and safety circuits

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Selection and ordering data

SITOP UPS500S	
DC UPS basic device 15 A	
• With USB interface and 2.5 kWs	**6EP1933-2EC41**
• With USB interface and 5 kWs	**6EP1933-2EC51**
SITOP UPS500S Ex	
• With USB interface and 5 kWs	**6EP1933-2EC51-8AA0**
SITOP UPS501S	
Expansion module 5 kWs for UPS500S	**6EP1935-5PG01**
SITOP UPS501S Ex	
Expansion module 5 kWs for UPS500S	**6EP1935-5PG01-8AA0**

Accessories

Device identification label	**3RT2900-1SB20**

Technical specifications

The UPS500S can be extended to 20 kW using UPS501S expansion modules (basic unit 5 kW + 3 expansion modules) to extend the buffer time.

The charging current can be set to 1 A or 2 A with the UPS500S.

Selection table SITOP UPS500 (optional with SITOP UPS501S expansion module) and mains buffering times

Buffer and charging times SITOP UPS500S/501S configurations								
Basic unit	2.5 kWs	5 kWs	2.5 kWs	5 kWs	2.5 kWs	5 kWs	2.5 kWs	5 kWs
Expansion modules	-	-	1 × 5 kWs	1 × 5 kWs	2 × 5 kWs	2 × 5 kWs	3 × 5 kWs	3 × 5 kWs
Total energy	2.5 kWs	5 kWs	7.5 kWs	10 kWs	12.5 kWs	15 kWs	17.5 kWs	20 kWs
Load current	**Buffer times**							
0.5 A	134 s	236 s	390 s	478 s	632 s	748 s	851 s	1007 s
0.8 A	90 s	167 s	266 s	346 s	440 s	527 s	580 s	706 s
1 A	75 s	138 s	219 s	296 s	365 s	414 s	490 s	572 s
2 A	38 s	76 s	122 s	156 s	203 s	230 s	265 s	306 s
3 A	26 s	52 s	82 s	106 s	136 s	159 s	186 s	213 s
4 A	19 s	39 s	61 s	81 s	101 s	120 s	139 s	160 s
5 A	15 s	31 s	49 s	65 s	81 s	95 s	111 s	130 s
6 A	12 s	26 s	40 s	55 s	67 s	80 s	94 s	106 s
7 A	10 s	21 s	34 s	47 s	58 s	69 s	81 s	82 s
8 A	8 s	18 s	29 s	40 s	50 s	59 s	69 s	79 s
10 A	6 s	15 s	23 s	32 s	39 s	47 s	54 s	62 s
12 A	4 s	12 s	19 s	26 s	32 s	38 s	44 s	52 s
15 A	3 s	9 s	14 s	20 s	25 s	30 s	35 s	40 s
Charging current	**Charging times**							
2 A	54 s	120 s	158 s	223 s	263 s	318 s	355 s	417 s
1 A	110 s	205 s	311 s	425 s	503 s	625 s	695 s	816 s

Important information for selecting the energy storage units:

When the mains buffering times were determined, the discharge period of new or non-aged, completely charged capacitors was used as a basis. At a continuous ambient temperature of +50 °C, a loss of capacity of approx. 20% must be considered after a service life of 8 years.

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Technical specifications

Article number product brand name type of current supply	6EP1933-2EC41 SITOP UPS500S Basic unit 2.5 kWs	6EP1933-2EC51 SITOP UPS500S Basic unit 5 kWs	6EP1933-2EC51-8AA0 SITOP UPS500S EX Basic unit 5 kWs
input			
supply voltage at DC rated value	24 V	24 V	24 V
input voltage at DC	22 ... 29 V	22 ... 29 V	22 ... 29 V
adjustable response value voltage for buffer connection preset	22.5 V	22.5 V	22.5 V
adjustable response value voltage for buffer connection	22 ... 25.5 V; Adjustable in 0.5 V increments	22 ... 25.5 V; Adjustable in 0.5 V increments	22 ... 25.5 V; Adjustable in 0.5 V increments
input current at rated input voltage 24 V rated value	15.2 A; + approx. 2.3 A with empty energy storage (capacitor)	15.2 A; + approx. 2.3 A with empty energy storage (capacitor)	15.2 A; + approx. 2.3 A with empty energy storage (capacitor)
memory			
type of energy storage	with capacitors	with capacitors	with capacitors
design of the mains power cut bridging-connection	15 A for 3 s or 10 A for 6 s or 5 A for 15 s or 2 A for 38 s; longer buffering times with expansion modules	15 A for 9 s or 10 A for 15 s or 5 A for 31 s or 2 A for 76 s; longer buffering times with expansion modules	15 A for 9 s or 10 A for 15 s or 5 A for 31 s or 2 A for 76 s; longer buffering times with expansion modules
buffering time in the event of power failure	0.05 min	0.15 min	0.15 min
energy content of energy storage	2.5 kW.s	5 kW.s	5 kW.s
output			
output voltage			
• in normal operation at DC rated value	24 V	24 V	24 V
• in buffering mode at DC rated value	24 V	24 V	24 V
startup delay time typical	0.6 s	0.6 s	0.6 s
voltage increase time of the output voltage typical	25 ms	25 ms	25 ms
output voltage in buffering mode at DC	24 ... 24.7 V	24 ... 24.7 V	24 ... 24.7 V
output current			
• rated value	15 A	15 A	15 A
• in normal operation	0 ... 15 A	0 ... 15 A	0 ... 15 A
• in buffering mode	0 ... 15 A	0 ... 15 A	0 ... 15 A
peak current	25 A	25 A	25 A
property of the output short-circuit proof	Yes	Yes	Yes
charging current	1 A - 2 A	1 A - 2 A	1 A - 2 A
efficiency			
efficiency in percent			
• at rated output voltage for rated value of the output current typical	97.5 %	97.5 %	97.5 %
power loss [W]			
• at rated output voltage for rated value of the output current typical	9 W	9 W	9 W
supplied active power typical	360 W	360 W	360 W
protection and monitoring			
product function			
• reverse polarity protection against energy storage unit polarity reversal	Yes	Yes	Yes

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1933-2EC41 SITOP UPS500S Basic unit 2.5 kWs	6EP1933-2EC51 SITOP UPS500S Basic unit 5 kWs	6EP1933-2EC51-8AA0 SITOP UPS500S EX Basic unit 5 kWs
• reverse polarity protection against input voltage polarity reversal	Yes	Yes	Yes
display version			
• for normal operation	Normal operation: LED green (OK), floating changeover contact "OK/Bat" to setting "OK" ("OK" means: Voltage of the supplying power supply unit is greater than cut-in threshold set at the DC UPS module); lack of buffer standby: LED red (ALARM), floating changeover contact "ALARM/BAT" to setting "ALARM"; energy storage > 85%: LED green (BAT > 85%), floating NO contact "BAT > 85" closed; permissible contact current capacity: DC 60 V/1 A or AC 30 V /1 A	Normal operation: LED green (OK), floating changeover contact "OK/Bat" to setting "OK" ("OK" means: Voltage of the supplying power supply unit is greater than cut-in threshold set at the DC UPS module); lack of buffer standby: LED red (ALARM), floating changeover contact "ALARM/BAT" to setting "ALARM"; energy storage > 85%: LED green (BAT > 85%), floating NO contact "BAT > 85" closed; permissible contact current capacity: DC 60 V/1 A or AC 30 V /1 A	Normal operation: LED green (OK), floating changeover contact "OK/Bat" to setting "OK" ("OK" means: Voltage of the supplying power supply unit is greater than cut-in threshold set at the DC UPS module); lack of buffer standby: LED red (ALARM), floating changeover contact "ALARM/BAT" to setting "ALARM"; energy storage > 85%: LED green (BAT > 85%), floating NO contact "BAT > 85" closed; permissible contact current capacity: DC 60 V/1 A or AC 30 V /1 A
• in buffering mode	Buffered mode: LED yellow (BAT), floating changeover contact "OK/BAT" to setting "BAT"; Prewarning buffer end after expiry of 80% of the available buffer time: LED red (ALARM), floating changeover contact "ALARM/BAT" to setting "ALARM"; Energy storage > 85%: LED green (BAT > 85%), floating NO contact "BAT > 85" closed	Buffered mode: LED yellow (BAT), floating changeover contact "OK/BAT" to setting "BAT"; Prewarning buffer end after expiry of 80% of the available buffer time: LED red (ALARM), floating changeover contact "ALARM/BAT" to setting "ALARM"; Energy storage > 85%: LED green (BAT > 85%), floating NO contact "BAT > 85" closed	Buffered mode: LED yellow (BAT), floating changeover contact "OK/BAT" to setting "BAT"; Prewarning buffer end after expiry of 80% of the available buffer time: LED red (ALARM), floating changeover contact "ALARM/BAT" to setting "ALARM"; Energy storage > 85%: LED green (BAT > 85%), floating NO contact "BAT > 85" closed
interfaces			
product component PC interface	Yes	Yes	Yes
product function communication function	No	No	No
design of the interface	USB	USB	USB
safety			
galvanic isolation between input and output	No	No	No
operating resource protection class	Class III	Class III	Class III
protection class IP	IP20	IP20	IP20
standard			
• for emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
• for interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals			
certificate of suitability			
• CE marking	Yes	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes
• CSA approval	Yes; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes
• UKCA marking			Yes
• EAC approval	Yes	Yes	
MTBF at 40 °C	638 570 h	459 137 h	459 137 h
standards, specifications, approvals hazardous environments			
certificate of suitability			
• IECEx			Yes
• ATEX			Yes
• cCSAus, Class 1, Division 2			Yes
standards, specifications, approvals marine classification			
shipbuilding approval	Yes	Yes	No
Marine classification association			

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1933-2EC41 SITOP UPS500S Basic unit 2.5 kWs	6EP1933-2EC51 SITOP UPS500S Basic unit 5 kWs	6EP1933-2EC51-8AA0 SITOP UPS500S EX Basic unit 5 kWs
• American Bureau of Shipping Europe Ltd. (ABS)	Yes	Yes	No
• Det Norske Veritas (DNV)	Yes	Yes	No; in preparation
standards, specifications, approvals Environmental Product Declaration			
Environmental Product Declaration	Yes	Yes	Yes
Global Warming Potential [CO2 eq]			
• total	328.8 kg	328.8 kg	328.8 kg
• during manufacturing	46.4 kg	46.4 kg	46.4 kg
• during operation	281.6 kg	281.6 kg	281.6 kg
• after end of life	0.74 kg	0.74 kg	0.74 kg
ambient conditions			
ambient temperature			
• during operation	0 ... 60 °C; with natural convection	0 ... 60 °C; with natural convection	0 ... 60 °C; with natural convection
• during transport	-40 ... +70 °C	-40 ... +70 °C	-40 ... +70 °C
• during storage	-40 ... +70 °C	-40 ... +70 °C	-40 ... +70 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method			
type of electrical connection	screw terminal	screw terminal	screw terminal
• at input	24 V DC: 2 screw terminals for 1 ... 4 mm²/17 ... 11 AWG	24 V DC: 2 screw terminals for 1 ... 4 mm²/17 ... 11 AWG	24 V DC: 2 screw terminals for 1 ... 4 mm²/17 ... 11 AWG
• at output	24 V DC: 4 screw terminals for 1 ... 4 mm²/17 ... 11 AWG	24 V DC: 4 screw terminals for 1 ... 4 mm²/17 ... 11 AWG	24 V DC: 4 screw terminals for 1 ... 4 mm²/17 ... 11 AWG
• for control circuit and status message	10 screw terminals for 0.5 ... 2.5 mm²/20 ... 13 AWG	10 screw terminals for 0.5 ... 2.5 mm²/20 ... 13 AWG	10 screw terminals for 0.5 ... 2.5 mm²/20 ... 13 AWG
mechanical data			
width × height × depth of the enclosure	120 mm × 125 mm × 125 mm	120 mm × 125 mm × 125 mm	120 mm × 125 mm × 125 mm
installation width × mounting height	120 mm × 225 mm	120 mm × 225 mm	120 mm × 225 mm
required spacing			
• top	50 mm	50 mm	50 mm
• bottom	50 mm	50 mm	50 mm
• left	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes	Yes	Yes
• S7 rail mounting	No	No	No
• wall mounting	No	No	No
housing can be lined up	Yes	Yes	Yes
net weight	1 kg	1 kg	1 kg
accessories			
electrical accessories	Extension module SITOP UPS501S	Extension module SITOP UPS501S	Extension module SITOP UPS501S
further information internet links			
internet link			
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1933-2EC41 SITOP UPS500S Basic unit 2.5 kWs	6EP1933-2EC51 SITOP UPS500S Basic unit 5 kWs	6EP1933-2EC51-8AA0 SITOP UPS500S EX Basic unit 5 kWs
additional information			
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information			
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

More information

The TIA Selection Tool offers detailed selection guide according to criteria such as the required buffer time, load current or peak current at:

http://www.siemens.com/tst

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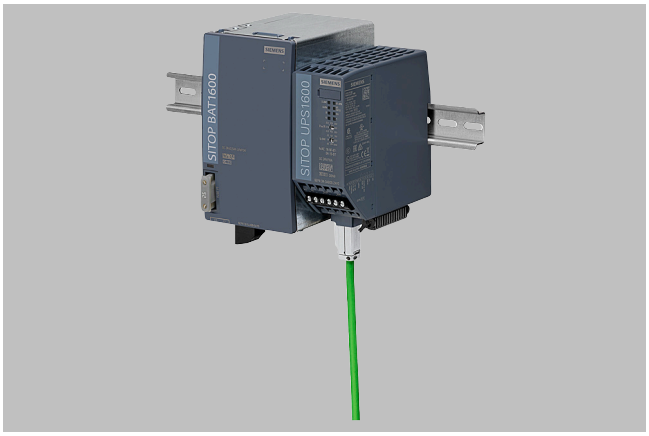
Overview



SITOP 24 V power supply units can be expanded with an uninterruptible DC power supply (DC UPS) with battery modules for bridging power failures in the order of hours. Cost-intensive downtimes and undefined system states can thus be avoided. In addition, the innovative SITOP UPS1600 offers new options for diagnostics and system integration. They offer comprehensive functions, open communication via USB or Ethernet/PROFINET, and are fully integrated in Totally Integrated Automation (TIA).

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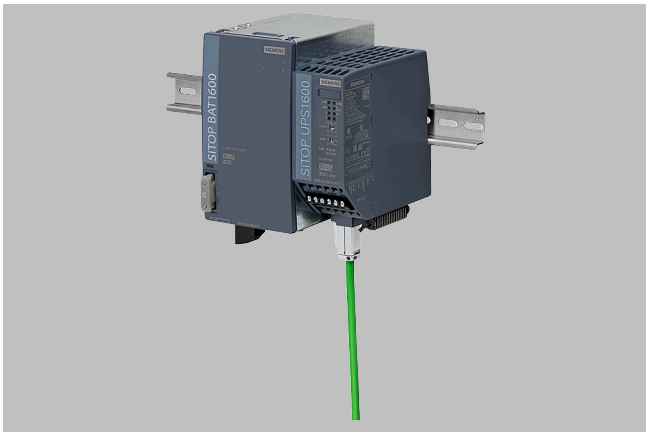
Overview



By combining one SITOP UPS1600 DC UPS module with at least one BAT1600 battery module and a SITOP power supply unit, longer power failures can be bridged without any interruption whatsoever. The intelligent battery management automatically detects the BAT1600 energy storage unit, and ensures optimized temperature-specific charging and continuous monitoring. The compact DC UPS modules have overload capability, to enable the industrial PC inrush current, for example. In stand-alone mode, they support starting from the battery.

The DC UPS communicates openly over a USB or Ethernet/PROFINET. It is easily integrated into the PC or PLC environment over the two Ethernet/PROFINET ports.

Total integration in TIA provides user-friendly engineering in the TIA Portal and is supported with ready-to-use function blocks for S7 user programs and WinCC faceplates for fast visualization.

SITOP Manager also enables simple monitoring and configuration in PC systems, e.g. shutting down multiple PCs according to the master-slave principle.

The UPS1600 modules with Ethernet/PROFINET ports have an OPC UA server, with which the DC UPS can communicate with both PCs and PLCs, even from different manufacturers, thanks to the open communication standard. Parameter assignment and the diagnostics of the uninterruptible power supply is possible via the open interface.

The integrated web server supports remote monitoring of the DC UPS.

Benefits

Security and plant availability

- 24 V buffering for a few hours for the purpose of continuing processes
- High-performance DC UPS modules in space-saving, slim design
- High overload capability for mains and buffering operation
- Starting from the battery module supports stand-alone mode, e.g. for starting generators
- Easy configuration thanks to automatic detection of battery modules
- High reliability and availability due to monitoring of the operational readiness, battery feeder, aging and charging status
- Battery protecting charging due to temperature-specific charging characteristic
- SITOP UPS1600 and BAT1600 modules available for Zone 2 (gas) hazardous environments

Simple integration into the automation system

- Open communication over USB or two Ethernet/PROFINET ports
- Defined shutdown of several PCs or controllers on one UPS (versions with Ethernet/PROFINET)
- Remote monitoring via integrated web server
  (versions with Ethernet/PROFINET)
- Integrated OPC UA server facilitates flexible, multi-vendor communication with other systems (versions with Ethernet/PROFINET)
- Time-saving engineering in PC-based systems via SITOP Manager (versions with USB or Ethernet/PROFINET)
- Time and cost savings through complete integration in the TIA Portal (versions with Ethernet/PROFINET)
- SIMATIC S7 function blocks for easy integration in STEP 7 user programs
- Fast integration in operator control and monitoring with WinCC faceplates
- Direct integration in SIMATIC PCS 7 via SITOP library

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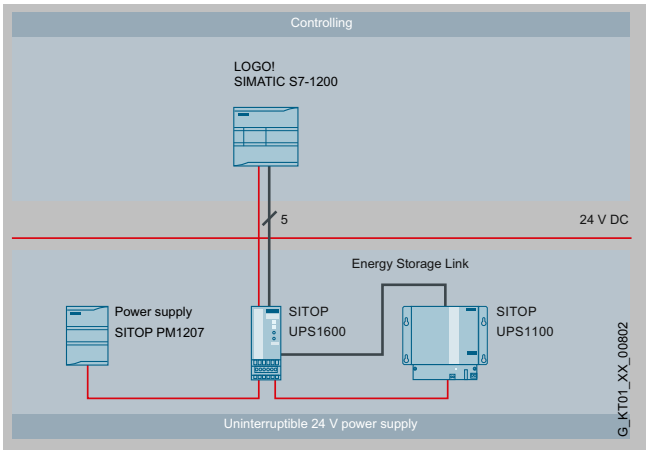
Application

The battery modules that can be connected in parallel bridge power failures for a few hours. This supports the continued operation of processes or parts of them. The function "Starting from the battery" means that the UPS1600 can also be used in stand-alone mode without connection to the supply.

Depending on the communication requirements between the DC UPS and the automation components to be protected against power failure, the version of UPS1600 can be selected accordingly.

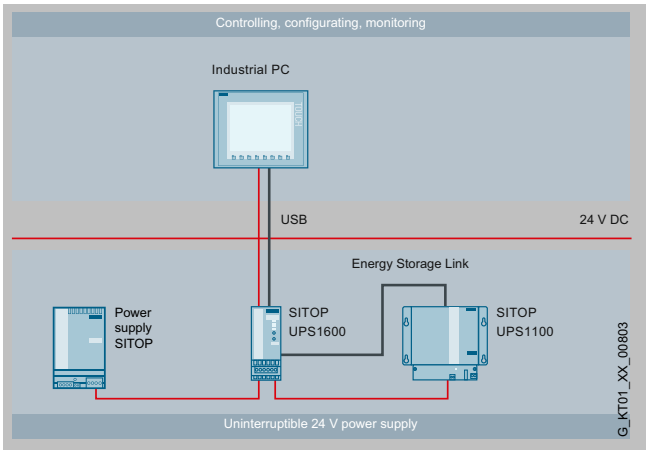
Buffering of simple automation applications

In simple applications with mini PLCs (e.g. obstruction lights, stand-alone hydro-electric plants), 24 V buffering is performed by the UPS1600 without a communications interface. The status messages are transferred to the PLC via the digital outputs (isolated).



Buffering of applications with automation computer

The UPS1600 with a USB interface is used to buffer automation solutions that are controlled by an industrial PC. All operating and configuring data is communicated over the PC interface.

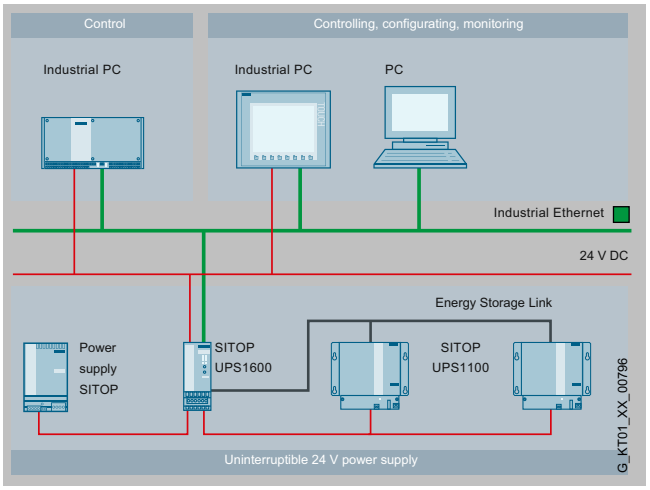


Communication over Ethernet/PROFINET offers the most comprehensive possibilities for diagnostics and system integration. The UPS1600 can be directly integrated into the LAN infrastructure over its two ports.

Buffering of applications with networked (Industrial Ethernet) automation computers

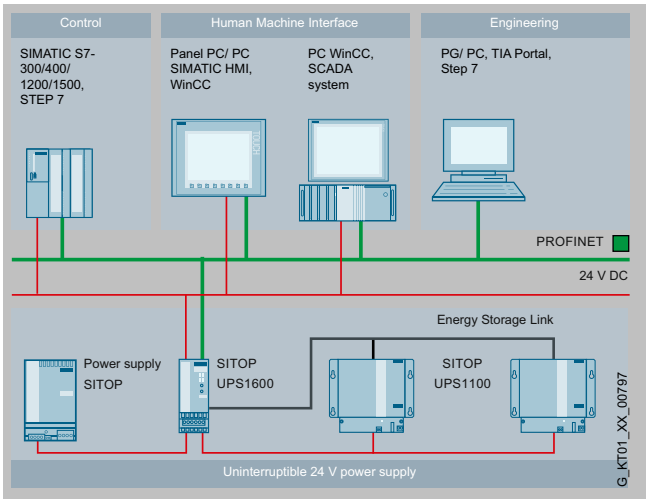
UPS1600 with an Industrial Ethernet interface protects complex PC-based applications against power failure. Configuration and monitoring is performed with the SITOP Manager PC software. It also supports defined shutdown of several PCs in accordance with the master-slave principle.

Application (continued)



Buffering of applications with networked (PROFINET) automation components

The UPS1600 with PROFINET is the perfect choice for buffering sensitive system sections (e.g. pumping stations with telecontrol) or complete controller solutions (e.g. machine tools) that are integrated into a networked automation solution. Total integration in TIA offers unique advantages for engineering and operation (e.g. diagnostics or visualization). For example, in buffer mode, several controllers can be brought to a defined independently of each other.



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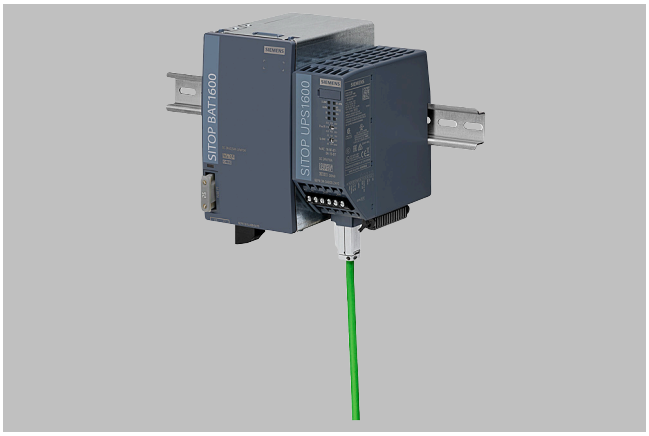
Design



- Compact DC UPS modules UPS1600 24 V/10 A, 20A and 40 A with digital inputs and outputs, optionally with USB interface or two Ethernet/PROFINET ports
- BAT1600 3.2 Ah, BAT1600 12 Ah and BAT1600 38 Ah, UPS1100 1.2 Ah and UPS1100 7 Ah battery modules with lead rechargeable batteries, as well as the UPS1100 2.5 Ah battery module with pure-lead rechargeable batteries for increased temperature conditions, and BAT1600 2.5 Ah and BAT1600 7.5 Ah battery modules with lithium-ion technology for a longer service life

Function

Web server

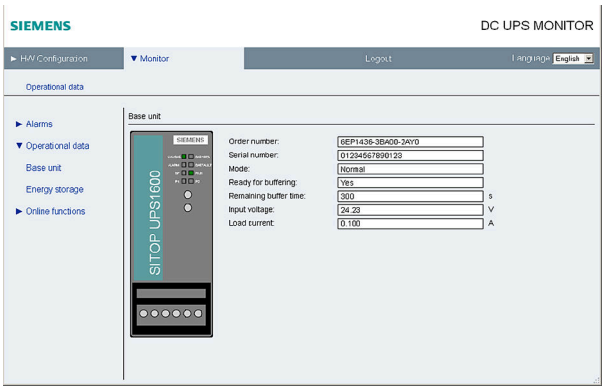
The SITOP UPS1600 with Ethernet/PROFINET has an integrated web server that supports remote monitoring and control of the uninterruptible power supply in 5 languages (DE / EN / FR / IT / ES). Using HTTPS ensures encrypted and safe data transmission.

Remote monitoring and control of:

- Hardware configuration data
- Remote monitoring
- Operating data of the UPS1600 basic unit and the connected BAT1600 and UPS1100 battery modules
- Alarm messages

Remote access via:

- Firefox 34 or higher, or Internet Explorer 10, 11 (IE 8 with charging of SVG player)
- IP address
- Password



The password-protected web server offers a view of the configuration and operating data.

Software

Software tools support convenient integration of the SITOP UPS1600 in both PC-based and PLC-based systems. They make configuring and visualizing the DC UPS easier and the user benefits from the high performance capability of the SITOP UPS1600.

Software for open, PC-based automation systems

SITOP Manager – the free tool for commissioning, engineering and monitoring of communication-capable SITOP power supplies.

For more information, visit: www.siemens.com/sitop-ups/mall

Free download at: https://support.industry.siemens.com/cs/ww/en/view/109760607

Software for TIA-based automation systems

For convenient integration of the DC UPS in the TIA environment, different software modules are available.

Engineering is simple via the TIA Portal. The data for UPS1600 is stored in the hardware catalog version V14 and higher. Special function blocks for SIMATIC S7-300, S7-400, S7-1200 and S7-1500 also support integration in the STEP 7 user program.

The comprehensive diagnostics data of the UPS1600 power supply can be visualized using prepared WinCC faceplates.

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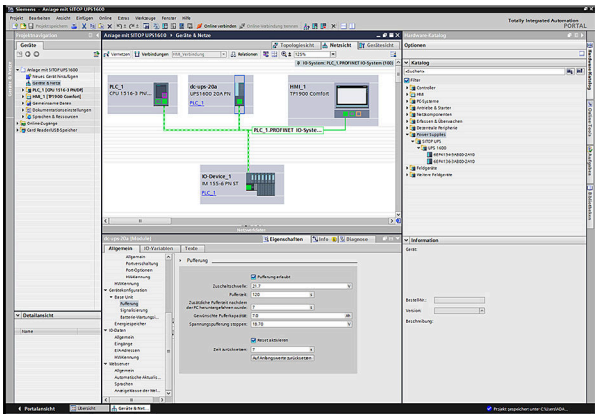
Function (continued)

TIA Portal

- Convenient and fail-safe integration of SITOP UPS1600 in the PROFINET network by means of "drag-and-drop"
- Easy configuration of SITOP UPS1600 basic units with Ethernet/PROFINET and the BAT1600 and UPS1100 battery modules with simple selection from the TIA Portal hardware catalog
- Free HSP (hardware support packages) available for the TIA Portal: http://support.automation.siemens.com/WW/view/en/72341852
- Free GSD file (generic station description) for STEP 7 V5.5: http://support.automation.siemens.com/WW/view/en/75854605



Establishing the PROFINET connection between the SITOP UPS1600 and the controller is easy and fail-safe in the TIA Portal

STEP 7 function blocks

Function blocks are available for STEP 7 user programs on SIMATIC S7-300/400/1200/1500. They allow further processing of the DC UPS operating data.

- Function blocks for STEP 7 V5.5
- Function blocks for STEP 7 in the TIA Portal

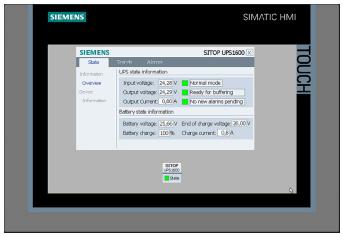
Free download at:
http://support.automation.siemens.com/WW/view/en/78817848

Faceplates for WinCC

Ready-to-use faceplates save programming time for visualization of the uninterruptible power supply. The faceplates show all relevant statuses and values of the DC UPS. They are available for the following systems:

- Faceplates for WinCC
- Faceplates for WinCC Comfort/Advanced/Professional in the TIA Portal

Free download at:
http://support.automation.siemens.com/WW/view/en/78817848



Function (continued)

The pre-compiled WinCC faceplates show all the relevant UPS data in a clearly comprehensible display. An icon with color coding for the operating state is also available

Software for SIMATIC PCS 7 process control system

The SITOP library is available with blocks and faceplates for direct integration into SIMATIC PCS 7. The SW blocks in the SIMATIC S7 supply the faceplate on the user interface of the process control system with operating and diagnostics data, generate messages and ensure connection to the maintenance system of PCS 7. This means that PCS 7 users automatically receive information about operating state conditions, maintenance requirements (e.g. battery replacement) and disturbances (e.g. power failures). This ensures constant transparency of the 24V supply in the control system. The SITOP library is supported in SIMATIC PCS 7 with SP2 as from version V8.0.

Free download at:
https://support.industry.siemens.com/cs/ww/en/view/109476154

Selection and ordering data

SITOP UPS1600 24 V/ 10 A	**6EP4134-3AB00-0AY0**
• With USB interface	**6EP4134-3AB00-1AY0**
• With PROFINET/Ethernet: two RJ45 sockets (2 port switch)	**6EP4134-3AB00-2AY0**
SITOP UPS1600, 24 V/ 20 A	**6EP4136-3AB00-0AY0**
• With USB interface	**6EP4136-3AB00-1AY0**
• With PROFINET/Ethernet: two RJ45 sockets (2 port switch)	**6EP4136-3AB00-2AY0**
SITOP UPS1600 Ex 24 V/ 20 A	**6EP4136-3AC00-0AY0**
• With PROFINET/Ethernet	**6EP4136-3AC00-2AY0**
SITOP UPS1600 24 V/ 40 A	**6EP4137-3AB00-0AY0**
• With USB interface	**6EP4137-3AB00-1AY0**
• With PROFINET/Ethernet: two RJ45 sockets (2 port switch)	**6EP4137-3AB00-2AY0**

Accessories

Device identification label	**3RT2900-1SB20**

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Technical specifications

Article number product brand name type of current supply	6EP4134-3AB00-0AY0 SITOP UPS1600 DC UPS 24 V/10 A	6EP4134-3AB00-1AY0 SITOP UPS1600 DC UPS 24 V/10 A	6EP4134-3AB00-2AY0 SITOP UPS1600 DC UPS 24 V/10 A
input			
supply voltage at DC rated value	24 V	24 V	24 V
input voltage at DC	21 ... 29 V	21 ... 29 V	21 ... 29 V
adjustable response value voltage for buffer connection preset	21.5 V	21.5 V	21.5 V
adjustable response value voltage for buffer connection	21 ... 25 V; Adjustable: 21 V, 21.5 V, 22 V, 22.5 V, 23 V, 24 V, 25 V DC	21 ... 25 V; Adjustable: 21 V, 21.5 V, 22 V, 22.5 V, 23 V, 24 V, 25 V DC or via software	21 ... 25 V; Adjustable: 21 V, 21.5 V, 22 V, 22.5 V, 23 V, 24 V, 25 V DC or via software
input current at rated input voltage 24 V rated value	14 A; for max. charging current (3 A)	14 A; for max. charging current (3 A)	14 A; for max. charging current (3 A)
memory			
type of energy storage	with batteries	with batteries	with batteries
design of the mains power cut bridging-connection	Adjustable range using rotary coding switch: 0.5 min, 1 min, 2 min, 5 min, 10 min, 20 min, max. buffering time	Adjustable range using rotary coding switch: 0.5 min, 1 min, 2 min, 5 min, 10 min, 20 min, max. buffering time or via software	Adjustable range using rotary coding switch: 0.5 min, 1 min, 2 min, 5 min, 10 min, 20 min, max. buffering time or via software
output			
output voltage			
• in normal operation at DC rated value	24 V	24 V	24 V
• in buffering mode at DC rated value	24 V	24 V	24 V
formula for output voltage	Vin - approx. 0.2 V	Vin - approx. 0.2 V	Vin - approx. 0.2 V
startup delay time typical	60 ms	60 ms	60 ms
voltage increase time of the output voltage typical	60 ms	60 ms	60 ms
output voltage in buffering mode at DC	18.5 ... 27 V	18.5 ... 27 V	18.5 ... 27 V
output current			
• rated value	10 A	10 A	10 A
• in normal operation	0 ... 30 A	0 ... 30 A	0 ... 30 A
• in buffering mode	0 ... 30 A	0 ... 30 A	0 ... 30 A
peak current	30 A	30 A	30 A
property of the output short-circuit proof	Yes	Yes	Yes
design of short-circuit protection	Limitation to 3 x I rated for 30 ms/min; through-conductivity for 1.5 x I rated for 5 sec/min	Limitation to 3 x I rated for 30 ms/min; through-conductivity for 1.5 x I rated for 5 sec/min	Limitation to 3 x I rated for 30 ms/min; through-conductivity for 1.5 x I rated for 5 sec/min
charging current	0.1 A - 3 A	0.1 A - 3 A	0.1 A - 3 A
efficiency			
efficiency in percent			
• at rated output voltage for rated value of the output current typical	97.5 %	97.5 %	97.3 %
• in case of operation on rechargeable battery typical	97.5 %	97.5 %	97.3 %
power loss [W]			
• at rated output voltage for rated value of the output current typical	6 W	6 W	7 W
• in case of operation on rechargeable battery typical	6 W	6 W	7 W
supplied active power typical	240 W	240 W	240 W
protection and monitoring			
product function			
• reverse polarity protection against energy storage unit polarity reversal	Yes	Yes	Yes

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Technical specifications (continued)

Article number product brand name type of current supply	6EP4134-3AB00-0AY0 SITOP UPS1600 DC UPS 24 V/10 A	6EP4134-3AB00-1AY0 SITOP UPS1600 DC UPS 24 V/10 A	6EP4134-3AB00-2AY0 SITOP UPS1600 DC UPS 24 V/10 A
• reverse polarity protection against input voltage polarity reversal	Yes	Yes	Yes
display version			
• for normal operation	Normal operation: LED green (OK), floating changeover contact "Bat/OK" to setting "OK" ("OK" means: Voltage of the supplying power supply unit is greater than cut-in threshold set at the DC UPS module); Lack of buffer standby: LED red (alarm), floating changeover contact "Alarm/Bat" to setting "Alarm"; Battery replacement required: LED red (alarm) flashing with approx. 0.25 Hz, floating changeover contact "Alarm/Bat" switching with approx. 0.25 Hz; Energy storage > 85%: LED green (Bat > 85%), floating NO contact "Bat > 85" closed; Permissible contact current capacity: DC 60 V/1 A or AC 30 V /1 A	Normal operation: LED green (OK), floating changeover contact "Bat/OK" to setting "OK" ("OK" means: Voltage of the supplying power supply unit is greater than cut-in threshold set at the DC UPS module); Lack of buffer standby: LED red (alarm), floating changeover contact "Alarm/Bat" to setting "Alarm"; Battery replacement required: LED red (alarm) flashing with approx. 0.25 Hz, floating changeover contact "Alarm/Bat" switching with approx. 0.25 Hz; Energy storage > 85%: LED green (Bat > 85%), floating NO contact "Bat > 85" closed; Permissible contact current capacity: DC 60 V/1 A or AC 30 V /1 A	Normal operation: LED green (OK), floating changeover contact "Bat/OK" to setting "OK" ("OK" means: Voltage of the supplying power supply unit is greater than cut-in threshold set at the DC UPS module); Lack of buffer standby: LED red (alarm), floating changeover contact "Alarm/Bat" to setting "Alarm"; Battery replacement required: LED red (alarm) flashing with approx. 0.25 Hz, floating changeover contact "Alarm/Bat" switching with approx. 0.25 Hz; Energy storage > 85%: LED green (Bat > 85%), floating NO contact "Bat > 85" closed; Permissible contact current capacity: DC 60 V/1 A or AC 30 V /1 A
• in buffering mode	Buffered mode: LED yellow (Bat), floating changeover contact "OK/Bat" to setting "Bat"; Prewarning battery voltage < 20.4 VDC: LED red (alarm), floating changeover contact "Alarm/Bat" to setting "Alarm"; Energy storage > 85%: LED green (Bat > 85%), floating NO contact "Bat > 85" closed	Buffered mode: LED yellow (Bat), floating changeover contact "OK/Bat" to setting "Bat"; Prewarning battery voltage < 20.4 VDC: LED red (alarm), floating changeover contact "Alarm/Bat" to setting "Alarm"; Energy storage > 85%: LED green (Bat > 85%), floating NO contact "Bat > 85" closed	Buffered mode: LED yellow (Bat), floating changeover contact "OK/Bat" to setting "Bat"; Prewarning battery voltage < 20.4 VDC: LED red (alarm), floating changeover contact "Alarm/Bat" to setting "Alarm"; Energy storage > 85%: LED green (Bat > 85%), floating NO contact "Bat > 85" closed
interfaces			
product component PC interface	No	Yes	Yes
product function communication function	Yes	Yes	Yes
design of the interface	without	USB	Ethernet/PROFINET
number of interfaces according to PROFINET			2
safety			
galvanic isolation between input and output	No	No	No
operating resource protection class	Class III	Class III	Class III
protection class IP	IP20	IP20	IP20
standard			
• for emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
• for interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals			
certificate of suitability			
• CE marking	Yes	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• CSA approval	Yes	Yes	Yes
• EAC approval	Yes	Yes	Yes
type of certification CB-certificate	Yes	Yes	Yes
MTBF at 40 °C	415 574 h	364 153 h	349 874 h
standards, specifications, approvals hazardous environments			
certificate of suitability			
• ATEX	No	No	No
• cCSAus, Class 1, Division 2	No	No	No
standards, specifications, approvals marine classification			
shipbuilding approval	Yes	Yes	Yes
Marine classification association			

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Technical specifications (continued)

Article number product brand name type of current supply	6EP4134-3AB00-0AY0 SITOP UPS1600 DC UPS 24 V/10 A	6EP4134-3AB00-1AY0 SITOP UPS1600 DC UPS 24 V/10 A	6EP4134-3AB00-2AY0 SITOP UPS1600 DC UPS 24 V/10 A
• American Bureau of Shipping Europe Ltd. (ABS)	Yes	Yes	Yes
• Det Norske Veritas (DNV)	Yes	Yes	Yes
standards, specifications, approvals Environmental Product Declaration			
Environmental Product Declaration	Yes	Yes	Yes
Global Warming Potential [CO2 eq]			
• total	205.7 kg	206.6 kg	239.8 kg
• during manufacturing	17.6 kg	18.6 kg	20.4 kg
• during operation	187.8 kg	187.8 kg	219.1 kg
• after end of life	0.28 kg	0.3 kg	0.32 kg
ambient conditions			
ambient temperature			
• during operation	-25 ... +70 °C; with natural convection	-25 ... +70 °C; with natural convection	-25 ... +70 °C; with natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method			
type of electrical connection	screw terminal	screw terminal	screw terminal
• at input	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG
• at output	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG
• for rechargeable battery module	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG
• for control circuit and status message	14 screw terminals for 0.2 ... 1.5 mm²/24 ... 16 AWG	14 screw terminals for 0.2 ... 1.5 mm²/24 ... 16 AWG	14 screw terminals for 0.2 ... 1.5 mm²/24 ... 16 AWG
mechanical data			
width × height × depth of the enclosure	50 mm × 139 mm × 125 mm	50 mm × 139 mm × 125 mm	50 mm × 139 mm × 125 mm
installation width × mounting height	50 mm × 239 mm	50 mm × 239 mm	50 mm × 239 mm
required spacing			
• top	50 mm	50 mm	50 mm
• bottom	50 mm	50 mm	50 mm
• left	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes	Yes	Yes
• S7 rail mounting	No	No	No
• wall mounting	No	No	No
housing can be lined up	Yes	Yes	Yes
net weight	0.38 kg	0.4 kg	0.44 kg
accessories			
electrical accessories	Battery module	Battery module	Battery module
further information internet links			
internet link			
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com

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Technical specifications (continued)

Article number product brand name type of current supply	6EP4134-3AB00-0AY0 SITOP UPS1600 DC UPS 24 V/10 A	6EP4134-3AB00-1AY0 SITOP UPS1600 DC UPS 24 V/10 A	6EP4134-3AB00-2AY0 SITOP UPS1600 DC UPS 24 V/10 A
additional information			
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information			
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

Article number product brand name type of current supply	6EP4136-3AB00-0AY0 SITOP UPS1600 DC UPS 24 V/20 A	6EP4136-3AB00-1AY0 SITOP UPS1600 DC UPS 24 V/20 A	6EP4136-3AB00-2AY0 SITOP UPS1600 DC UPS 24 V/20 A
input			
supply voltage at DC rated value	24 V	24 V	24 V
input voltage at DC	21 ... 29 V	21 ... 29 V	21 ... 29 V
adjustable response value voltage for buffer connection preset	21.5 V	21.5 V	21.5 V
adjustable response value voltage for buffer connection	21 ... 25 V; Adjustable: 21 V, 21.5 V, 22 V, 22.5 V, 23 V, 24 V, 25 V DC	21 ... 25 V; Adjustable: 21 V, 21.5 V, 22 V, 22.5 V, 23 V, 24 V, 25 V DC or via software	21 ... 25 V; Adjustable: 21 V, 21.5 V, 22 V, 22.5 V, 23 V, 24 V, 25 V DC or via software
input current at rated input voltage 24 V rated value	25 A; for max. charging current (4 A)	25 A; for max. charging current (4 A)	25 A; for max. charging current (4 A)

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Technical specifications (continued)

Article number product brand name type of current supply	6EP4136-3AB00-0AY0 SITOP UPS1600 DC UPS 24 V/20 A	6EP4136-3AB00-1AY0 SITOP UPS1600 DC UPS 24 V/20 A	6EP4136-3AB00-2AY0 SITOP UPS1600 DC UPS 24 V/20 A
memory			
type of energy storage	with batteries	with batteries	with batteries
design of the mains power cut bridging-connection	Adjustable range using rotary coding switch: 0.5 min, 1 min, 2 min, 5 min, 10 min, 20 min, max. buffering time	Adjustable range using rotary coding switch: 0.5 min, 1 min, 2 min, 5 min, 10 min, 20 min, max. buffering time or via software	Adjustable range using rotary coding switch: 0.5 min, 1 min, 2 min, 5 min, 10 min, 20 min, max. buffering time or via software
output			
output voltage			
• in normal operation at DC rated value	24 V	24 V	24 V
• in buffering mode at DC rated value	24 V	24 V	24 V
formula for output voltage	Vin - approx. 0.2 V	Vin - approx. 0.2 V	Vin - approx. 0.2 V
startup delay time typical	60 ms	60 ms	60 ms
voltage increase time of the output voltage typical	60 ms	60 ms	60 ms
output voltage in buffering mode at DC	18.5 ... 27 V	18.5 ... 27 V	18.5 ... 27 V
output current			
• rated value	20 A	20 A	20 A
• in normal operation	0 ... 60 A	0 ... 60 A	0 ... 60 A
• in buffering mode	0 ... 60 A	0 ... 60 A	0 ... 60 A
peak current	60 A	60 A	60 A
property of the output short-circuit proof	Yes	Yes	Yes
design of short-circuit protection	Limitation to 3 x I rated for 30 ms/min; through-conductivity for 1.5 x I rated for 5 sec/min	Limitation to 3 x I rated for 30 ms/min; through-conductivity for 1.5 x I rated for 5 sec/min	Limitation to 3 x I rated for 30 ms/min; through-conductivity for 1.5 x I rated for 5 sec/min
charging current	0.1 A - 4 A	0.1 A - 4 A	0.1 A - 4 A
efficiency			
efficiency in percent			
• at rated output voltage for rated value of the output current typical	97.7 %	97.7 %	97.5 %
• in case of operation on rechargeable battery typical	97.7 %	97.7 %	97.5 %
power loss [W]			
• at rated output voltage for rated value of the output current typical	10 W	10 W	11 W
• in case of operation on rechargeable battery typical	10 W	10 W	11 W
supplied active power typical	480 W	480 W	480 W
protection and monitoring			
product function			
• reverse polarity protection against energy storage unit polarity reversal	Yes	Yes	Yes
• reverse polarity protection against input voltage polarity reversal	Yes	Yes	Yes
display version			
• for normal operation	Normal operation: LED green (OK), floating changeover contact "Bat/OK" to setting "OK" ("OK" means: Voltage of the supplying power supply unit is greater than cut-in threshold set at the DC UPS module); Lack of buffer standby: LED red (alarm), floating changeover contact "Alarm/Bat" to setting "Alarm"; Battery replacement required: LED red (alarm) flashing with approx. 0.25 Hz, floating changeover contact "Alarm/Bat" switching with approx. 0.25 Hz; Energy storage > 85%: LED green (Bat > 85%), floating NO contact "Bat > 85" closed; Permissible contact current capacity: DC 60 V/1 A or AC 30 V /1 A	Normal operation: LED green (OK), floating changeover contact "Bat/OK" to setting "OK" ("OK" means: Voltage of the supplying power supply unit is greater than cut-in threshold set at the DC UPS module); Lack of buffer standby: LED red (alarm), floating changeover contact "Alarm/Bat" to setting "Alarm"; Battery replacement required: LED red (alarm) flashing with approx. 0.25 Hz, floating changeover contact "Alarm/Bat" switching with approx. 0.25 Hz; Energy storage > 85%: LED green (Bat > 85%), floating NO contact "Bat > 85" closed; Permissible contact current capacity: DC 60 V/1 A or AC 30 V /1 A	Normal operation: LED green (OK), floating changeover contact "Bat/OK" to setting "OK" ("OK" means: Voltage of the supplying power supply unit is greater than cut-in threshold set at the DC UPS module); Lack of buffer standby: LED red (alarm), floating changeover contact "Alarm/Bat" to setting "Alarm"; Battery replacement required: LED red (alarm) flashing with approx. 0.25 Hz, floating changeover contact "Alarm/Bat" switching with approx. 0.25 Hz; Energy storage > 85%: LED green (Bat > 85%), floating NO contact "Bat > 85" closed; Permissible contact current capacity: DC 60 V/1 A or AC 30 V /1 A

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Technical specifications (continued)

Article number product brand name type of current supply	6EP4136-3AB00-0AY0 SITOP UPS1600 DC UPS 24 V/20 A	6EP4136-3AB00-1AY0 SITOP UPS1600 DC UPS 24 V/20 A	6EP4136-3AB00-2AY0 SITOP UPS1600 DC UPS 24 V/20 A
• in buffering mode	Buffered mode: LED yellow (Bat), floating changeover contact "OK/Bat" to setting "Bat"; Prewarning battery voltage < 20.4 VDC: LED red (alarm), floating changeover contact "Alarm/Bat" to setting "Alarm"; Energy storage > 85%: LED green (Bat > 85%), floating NO contact "Bat > 85" closed	Buffered mode: LED yellow (Bat), floating changeover contact "OK/Bat" to setting "Bat"; Prewarning battery voltage < 20.4 VDC: LED red (alarm), floating changeover contact "Alarm/Bat" to setting "Alarm"; Energy storage > 85%: LED green (Bat > 85%), floating NO contact "Bat > 85" closed	Buffered mode: LED yellow (Bat), floating changeover contact "OK/Bat" to setting "Bat"; Prewarning battery voltage < 20.4 VDC: LED red (alarm), floating changeover contact "Alarm/Bat" to setting "Alarm"; Energy storage > 85%: LED green (Bat > 85%), floating NO contact "Bat > 85" closed
interfaces			
product component PC interface	No	Yes	Yes
product function communication function	Yes	Yes	Yes
design of the interface	without	USB	Ethernet/PROFINET
number of interfaces according to PROFINET			2
safety			
galvanic isolation between input and output	No	No	No
operating resource protection class	Class III	Class III	Class III
protection class IP	IP20	IP20	IP20
standard			
• for emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
• for interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals			
certificate of suitability			
• CE marking	Yes	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• CSA approval	Yes	Yes	Yes
• EAC approval	Yes	Yes	Yes
type of certification CB-certificate	Yes	Yes	Yes
MTBF at 40 °C	408 654 h	358 897 h	345 056 h
standards, specifications, approvals hazardous environments			
certificate of suitability			
• ATEX	No	No	No
• cCSAus, Class 1, Division 2	No	No	No
standards, specifications, approvals marine classification			
shipbuilding approval	Yes	Yes	Yes
Marine classification association			
• American Bureau of Shipping Europe Ltd. (ABS)	Yes	Yes	Yes
• Det Norske Veritas (DNV)	Yes	Yes	Yes
standards, specifications, approvals Environmental Product Declaration			
Environmental Product Declaration	Yes	Yes	Yes
Global Warming Potential [CO2 eq]			
• total	331.3 kg	331.3 kg	365.5 kg
• during manufacturing	18.1 kg	18.1 kg	20.9 kg
• during operation	312.9 kg	312.9 kg	344.2 kg
• after end of life	0.29 kg	0.29 kg	0.33 kg
ambient conditions			
ambient temperature			
• during operation	-25 ... +70 °C; with natural convection	-25 ... +70 °C; with natural convection	-25 ... +70 °C; with natural convection

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Technical specifications (continued)

Article number product brand name type of current supply	6EP4136-3AB00-0AY0 SITOP UPS1600 DC UPS 24 V/20 A	6EP4136-3AB00-1AY0 SITOP UPS1600 DC UPS 24 V/20 A	6EP4136-3AB00-2AY0 SITOP UPS1600 DC UPS 24 V/20 A
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method			
type of electrical connection	screw terminal	screw terminal	screw terminal
• at input	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG
• at output	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG
• for rechargeable battery module	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG
• for control circuit and status message	14 screw terminals for 0.2 ... 1.5 mm²/24 ... 16 AWG	14 screw terminals for 0.2 ... 1.5 mm²/24 ... 16 AWG	14 screw terminals for 0.2 ... 1.5 mm²/24 ... 16 AWG
mechanical data			
width × height × depth of the enclosure	50 mm × 139 mm × 125 mm	50 mm × 139 mm × 125 mm	50 mm × 139 mm × 125 mm
installation width × mounting height	50 mm × 239 mm	50 mm × 239 mm	50 mm × 239 mm
required spacing			
• top	50 mm	50 mm	50 mm
• bottom	50 mm	50 mm	50 mm
• left	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes	Yes	Yes
• S7 rail mounting	No	No	No
• wall mounting	No	No	No
housing can be lined up	Yes	Yes	Yes
net weight	0.39 kg	0.41 kg	0.45 kg
accessories			
electrical accessories	Battery module	Battery module	Battery module
further information internet links			
internet link			
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax
• to website: Industry Online Support	https://sup-port.industry.siemens.com	https://sup-port.industry.siemens.com	https://sup-port.industry.siemens.com
additional information			
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)

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Technical specifications (continued)

Article number	6EP4136-3AB00-0AY0	6EP4136-3AB00-1AY0	6EP4136-3AB00-2AY0
product brand name	SITOP UPS1600	SITOP UPS1600	SITOP UPS1600
type of current supply	DC UPS 24 V/20 A	DC UPS 24 V/20 A	DC UPS 24 V/20 A
security information			
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

Article number	6EP4137-3AB00-0AY0	6EP4137-3AB00-1AY0	6EP4137-3AB00-2AY0
product brand name	SITOP UPS1600	SITOP UPS1600	SITOP UPS1600
type of current supply	DC UPS 24 V/40 A	DC UPS 24 V/40 A	DC UPS 24 V/40 A
input			
supply voltage at DC rated value	24 V	24 V	24 V
input voltage at DC	21 ... 29 V	21 ... 29 V	21 ... 29 V
adjustable response value voltage for buffer connection preset	21.5 V	21.5 V	21.5 V
adjustable response value voltage for buffer connection	21 ... 25 V; Adjustable: 21 V, 21.5 V, 22 V, 22.5 V, 23 V, 24 V, 25 V DC	21 ... 25 V; Adjustable: 21 V, 21.5 V, 22 V, 22.5 V, 23 V, 24 V, 25 V DC or via software	21 ... 25 V; Adjustable: 21 V, 21.5 V, 22 V, 22.5 V, 23 V, 24 V, 25 V DC or via software
input current at rated input voltage 24 V rated value	46 A; for max. charging current (5 A)	46 A; for max. charging current (5 A)	46 A; for max. charging current (5 A)
memory			
type of energy storage	with batteries	with batteries	with batteries
design of the mains power cut bridging-connection	Adjustable range using rotary coding switch: 0.5 min, 1 min, 2 min, 5 min, 10 min, 20 min, max. buffering time	Adjustable range using rotary coding switch: 0.5 min, 1 min, 2 min, 5 min, 10 min, 20 min, max. buffering time or via software	Adjustable range using rotary coding switch: 0.5 min, 1 min, 2 min, 5 min, 10 min, 20 min, max. buffering time or via software

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Technical specifications (continued)

Article number product brand name type of current supply	6EP4137-3AB00-0AY0 SITOP UPS1600 DC UPS 24 V/40 A	6EP4137-3AB00-1AY0 SITOP UPS1600 DC UPS 24 V/40 A	6EP4137-3AB00-2AY0 SITOP UPS1600 DC UPS 24 V/40 A
output			
output voltage			
• in normal operation at DC rated value	24 V	24 V	24 V
• in buffering mode at DC rated value	24 V	24 V	24 V
formula for output voltage	Vin - approx. 0.2 V	Vin - approx. 0.2 V	Vin - approx. 0.2 V
startup delay time typical	60 ms	60 ms	60 ms
voltage increase time of the output voltage typical	60 ms	60 ms	60 ms
output voltage in buffering mode at DC	18.5 ... 27 V	18.5 ... 27 V	18.5 ... 27 V
output current			
• rated value	40 A	40 A	40 A
• in normal operation	0 ... 120 A	0 ... 120 A	0 ... 120 A
• in buffering mode	0 ... 120 A	0 ... 120 A	0 ... 120 A
peak current	120 A	120 A	120 A
property of the output short-circuit proof	Yes	Yes	Yes
design of short-circuit protection	Limitation to 3 x I rated for 30 ms/min; through-conductivity for 1.5 x I rated for 5 sec/min	Limitation to 3 x I rated for 30 ms/min; through-conductivity for 1.5 x I rated for 5 sec/min	Limitation to 3 x I rated for 30 ms/min; through-conductivity for 1.5 x I rated for 5 sec/min
charging current	0.1 A - 5 A	0.1 A - 5 A	0.1 A - 5 A
efficiency			
efficiency in percent			
• at rated output voltage for rated value of the output current typical	98.5 %	98.5 %	98.3 %
• in case of operation on rechargeable battery typical	98.5 %	98.5 %	98.3 %
power loss [W]			
• at rated output voltage for rated value of the output current typical	15 W	15 W	17 W
• in case of operation on rechargeable battery typical	15 W	15 W	17 W
supplied active power typical	960 W	960 W	960 W
protection and monitoring			
product function			
• reverse polarity protection against energy storage unit polarity reversal	Yes	Yes	Yes
• reverse polarity protection against input voltage polarity reversal	Yes	Yes	Yes
display version			
• for normal operation	Normal operation: LED green (OK), floating changeover contact "Bat/OK" to setting "OK" ("OK" means: Voltage of the supplying power supply unit is greater than cut-in threshold set at the DC UPS module); Lack of buffer standby: LED red (alarm), floating changeover contact "Alarm/Bat" to setting "Alarm"; Battery replacement required: LED red (alarm) flashing with approx. 0.25 Hz, floating changeover contact "Alarm/Bat" switching with approx. 0.25 Hz; Energy storage > 85%: LED green (Bat > 85%), floating NO contact "Bat > 85" closed; Permissible contact current capacity: DC 60 V/1 A or AC 30 V /1 A	Normal operation: LED green (OK), floating changeover contact "Bat/OK" to setting "OK" ("OK" means: Voltage of the supplying power supply unit is greater than cut-in threshold set at the DC UPS module); Lack of buffer standby: LED red (alarm), floating changeover contact "Alarm/Bat" to setting "Alarm"; Battery replacement required: LED red (alarm) flashing with approx. 0.25 Hz, floating changeover contact "Alarm/Bat" switching with approx. 0.25 Hz; Energy storage > 85%: LED green (Bat > 85%), floating NO contact "Bat > 85" closed; Permissible contact current capacity: DC 60 V/1 A or AC 30 V /1 A	Normal operation: LED green (OK), floating changeover contact "Bat/OK" to setting "OK" ("OK" means: Voltage of the supplying power supply unit is greater than cut-in threshold set at the DC UPS module); Lack of buffer standby: LED red (alarm), floating changeover contact "Alarm/Bat" to setting "Alarm"; Battery replacement required: LED red (alarm) flashing with approx. 0.25 Hz, floating changeover contact "Alarm/Bat" switching with approx. 0.25 Hz; Energy storage > 85%: LED green (Bat > 85%), floating NO contact "Bat > 85" closed; Permissible contact current capacity: DC 60 V/1 A or AC 30 V /1 A

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Technical specifications (continued)

Article number product brand name type of current supply	6EP4137-3AB00-0AY0 SITOP UPS1600 DC UPS 24 V/40 A	6EP4137-3AB00-1AY0 SITOP UPS1600 DC UPS 24 V/40 A	6EP4137-3AB00-2AY0 SITOP UPS1600 DC UPS 24 V/40 A
• in buffering mode	Buffered mode: LED yellow (Bat), floating changeover contact "OK/Bat" to setting "Bat"; Prewarning battery voltage < 20.4 VDC: LED red (alarm), floating changeover contact "Alarm/Bat" to setting "Alarm"; Energy storage > 85%: LED green (Bat > 85%), floating NO contact "Bat > 85" closed	Buffered mode: LED yellow (Bat), floating changeover contact "OK/Bat" to setting "Bat"; Prewarning battery voltage < 20.4 VDC: LED red (alarm), floating changeover contact "Alarm/Bat" to setting "Alarm"; Energy storage > 85%: LED green (Bat > 85%), floating NO contact "Bat > 85" closed	Buffered mode: LED yellow (Bat), floating changeover contact "OK/Bat" to setting "Bat"; Prewarning battery voltage < 20.4 VDC: LED red (alarm), floating changeover contact "Alarm/Bat" to setting "Alarm"; Energy storage > 85%: LED green (Bat > 85%), floating NO contact "Bat > 85" closed
interfaces			
product component PC interface	No	Yes	Yes
product function communication function	Yes	Yes	Yes
design of the interface	without	USB	Ethernet/PROFINET
number of interfaces according to PROFINET			2
safety			
galvanic isolation between input and output	No	No	No
operating resource protection class	Class III	Class III	Class III
protection class IP	IP20	IP20	IP20
standard			
• for emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
• for interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals			
certificate of suitability			
• CE marking	Yes	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• CSA approval	Yes	Yes	Yes
• EAC approval	Yes	Yes	Yes
type of certification CB-certificate	Yes	Yes	Yes
MTBF at 40 °C	372 738 h	330 515 h	318 776 h
standards, specifications, approvals hazardous environments			
certificate of suitability			
• ATEX	No	No	No
• cCSAus, Class 1, Division 2	No	No	No
standards, specifications, approvals marine classification			
shipbuilding approval	Yes	Yes	Yes
Marine classification association			
• American Bureau of Shipping Europe Ltd. (ABS)	Yes	Yes	Yes
• Det Norske Veritas (DNV)	Yes	Yes	Yes
standards, specifications, approvals Environmental Product Declaration			
Environmental Product Declaration	Yes	Yes	Yes
Global Warming Potential [CO2 eq]			
• total	500.1 kg	500.1 kg	565 kg
• during manufacturing	30.2 kg	30.2 kg	32.5 kg
• during operation	469.4 kg	469.4 kg	532 kg
• after end of life	0.48 kg	0.48 kg	0.52 kg
ambient conditions			
ambient temperature			
• during operation	-25 ... +70 °C; with natural convection	-25 ... +70 °C; with natural convection	-25 ... +70 °C; with natural convection

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Technical specifications (continued)

Article number product brand name type of current supply	6EP4137-3AB00-0AY0 SITOP UPS1600 DC UPS 24 V/40 A	6EP4137-3AB00-1AY0 SITOP UPS1600 DC UPS 24 V/40 A	6EP4137-3AB00-2AY0 SITOP UPS1600 DC UPS 24 V/40 A
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method			
type of electrical connection	screw terminal	screw terminal	screw terminal
• at input	24 V DC: 2 screw terminals for 0.5 ... 16 mm²/20 ... 6 AWG	24 V DC: 2 screw terminals for 0.5 ... 16 mm²/20 ... 6 AWG	24 V DC: 2 screw terminals for 0.5 ... 16 mm²/20 ... 6 AWG
• at output	24 V DC: 2 screw terminals for 0.5 ... 16 mm²/20 ... 6 AWG	24 V DC: 2 screw terminals for 0.5 ... 16 mm²/20 ... 6 AWG	24 V DC: 2 screw terminals for 0.5 ... 16 mm²/20 ... 6 AWG
• for rechargeable battery module	24 V DC: 2 screw terminals for 0.5 ... 16 mm²/20 ... 6 AWG	24 V DC: 2 screw terminals for 0.5 ... 16 mm²/20 ... 6 AWG	24 V DC: 2 screw terminals for 0.5 ... 16 mm²/20 ... 6 AWG
• for control circuit and status message	14 screw terminals for 0.2 ... 1.5 mm²/24 ... 16 AWG	14 screw terminals for 0.2 ... 1.5 mm²/24 ... 16 AWG	14 screw terminals for 0.2 ... 1.5 mm²/24 ... 16 AWG
mechanical data			
width × height × depth of the enclosure	70 mm × 139 mm × 150 mm	70 mm × 139 mm × 150 mm	70 mm × 139 mm × 150 mm
installation width × mounting height	70 mm × 239 mm	70 mm × 239 mm	70 mm × 239 mm
required spacing			
• top	50 mm	50 mm	50 mm
• bottom	50 mm	50 mm	50 mm
• left	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes	Yes	Yes
• S7 rail mounting	No	No	No
• wall mounting	No	No	No
housing can be lined up	Yes	Yes	Yes
net weight	0.65 kg	0.65 kg	0.7 kg
accessories			
electrical accessories	Battery module	Battery module	Battery module
further information internet links			
internet link			
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax
• to website: Industry Online Support	https://sup-port.industry.siemens.com	https://sup-port.industry.siemens.com	https://sup-port.industry.siemens.com
additional information			
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)

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Technical specifications (continued)

Article number product brand name type of current supply	6EP4137-3AB00-0AY0 SITOP UPS1600 DC UPS 24 V/40 A	6EP4137-3AB00-1AY0 SITOP UPS1600 DC UPS 24 V/40 A	6EP4137-3AB00-2AY0 SITOP UPS1600 DC UPS 24 V/40 A
security information			
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

Article number product brand name type of current supply	6EP4136-3AC00-0AY0 SITOP UPS1600 EX DC UPS 24 V/20 A	6EP4136-3AC00-2AY0 SITOP UPS1600 EX DC UPS 24 V/20 A
input		
supply voltage at DC rated value	24 V	24 V
input voltage at DC	21 ... 29 V	21 ... 29 V
adjustable response value voltage for buffer connection preset	21.5 V	21.5 V
adjustable response value voltage for buffer connection	21 ... 25 V; Adjustable: 21 V, 21.5 V, 22 V, 22.5 V, 23 V, 24 V, 25 V DC	21 ... 25 V; Adjustable: 21 V, 21.5 V, 22 V, 22.5 V, 23 V, 24 V, 25 V DC or via software
input current at rated input voltage 24 V rated value	25 A; for max. charging current (4 A)	25 A; for max. charging current (4 A)
memory		
type of energy storage	with batteries	with batteries
design of the mains power cut bridging-connection	Adjustable range using rotary coding switch: 0.5 min, 1 min, 2 min, 5 min, 10 min, 20 min, max. buffering time	Adjustable range using rotary coding switch: 0.5 min, 1 min, 2 min, 5 min, 10 min, 20 min, max. buffering time or via software
output		
output voltage		
• in normal operation at DC rated value	24 V	24 V

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Technical specifications (continued)

Article number product brand name type of current supply	6EP4136-3AC00-0AY0 SITOP UPS1600 EX DC UPS 24 V/20 A	6EP4136-3AC00-2AY0 SITOP UPS1600 EX DC UPS 24 V/20 A
• in buffering mode at DC rated value	24 V	24 V
formula for output voltage	Vin - approx. 0.2 V	Vin - approx. 0.2 V
startup delay time typical	60 ms	60 ms
voltage increase time of the output voltage typical	60 ms	60 ms
output voltage in buffering mode at DC	18.5 ... 27 V	18.5 ... 27 V
output current		
• rated value	20 A	20 A
• in normal operation	0 ... 60 A	0 ... 60 A
• in buffering mode	0 ... 60 A	0 ... 60 A
peak current	60 A	60 A
property of the output short-circuit proof	Yes	Yes
design of short-circuit protection	Limitation to 3 x I rated for 30 ms/min; through-conductivity for 1.5 x I rated for 5 sec/min	Limitation to 3 x I rated for 30 ms/min; through-conductivity for 1.5 x I rated for 5 sec/min
charging current	0.1 A - 4 A	0.1 A - 4 A
efficiency		
efficiency in percent		
• at rated output voltage for rated value of the output current typical	97.7 %	97.5 %
• in case of operation on rechargeable battery typical	97.7 %	97.5 %
power loss [W]		
• at rated output voltage for rated value of the output current typical	10 W	11 W
• in case of operation on rechargeable battery typical	10 W	11 W
supplied active power typical	480 W	480 W
protection and monitoring		
product function		
• reverse polarity protection against energy storage unit polarity reversal	Yes	Yes
• reverse polarity protection against input voltage polarity reversal	Yes	Yes
display version		
• for normal operation	Normal operation: LED green (OK), floating changeover contact "Bat/OK" to setting "OK" ("OK" means: Voltage of the supplying power supply unit is greater than cut-in threshold set at the DC UPS module); Lack of buffer standby: LED red (alarm), floating changeover contact "Alarm/Bat" to setting "Alarm"; Battery replacement required: LED red (alarm) flashing with approx. 0.25 Hz, floating changeover contact "Alarm/Bat" switching with approx. 0.25 Hz; Energy storage > 85%: LED green (Bat > 85%), floating NO contact "Bat > 85" closed; Permissible contact current capacity: DC 60 V/1 A or AC 30 V /1 A	Normal operation: LED green (OK), floating changeover contact "Bat/OK" to setting "OK" ("OK" means: Voltage of the supplying power supply unit is greater than cut-in threshold set at the DC UPS module); Lack of buffer standby: LED red (alarm), floating changeover contact "Alarm/Bat" to setting "Alarm"; Battery replacement required: LED red (alarm) flashing with approx. 0.25 Hz, floating changeover contact "Alarm/Bat" switching with approx. 0.25 Hz; Energy storage > 85%: LED green (Bat > 85%), floating NO contact "Bat > 85" closed; Permissible contact current capacity: DC 60 V/1 A or AC 30 V /1 A
• in buffering mode	Buffered mode: LED yellow (Bat), floating changeover contact "OK/Bat" to setting "Bat"; Prewarning battery voltage < 20.4 VDC: LED red (alarm), floating changeover contact "Alarm/Bat" to setting "Alarm"; Energy storage > 85%: LED green (Bat > 85%), floating NO contact "Bat > 85" closed	Buffered mode: LED yellow (Bat), floating changeover contact "OK/Bat" to setting "Bat"; Prewarning battery voltage < 20.4 VDC: LED red (alarm), floating changeover contact "Alarm/Bat" to setting "Alarm"; Energy storage > 85%: LED green (Bat > 85%), floating NO contact "Bat > 85" closed
interfaces		
product component PC interface	No	Yes
product function communication function	Yes	Yes
design of the interface	without	Ethernet/PROFINET
number of interfaces according to PROFINET		2
safety		
galvanic isolation between input and output	No	No
operating resource protection class	Class III	Class III

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Technical specifications (continued)

Article number product brand name type of current supply	6EP4136-3AC00-0AY0 SITOP UPS1600 EX DC UPS 24 V/20 A	6EP4136-3AC00-2AY0 SITOP UPS1600 EX DC UPS 24 V/20 A
protection class IP	IP20	IP20
standard		
• for emitted interference	EN 55022 Class B	EN 55022 Class B
• for interference immunity	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals		
certificate of suitability		
• CE marking	Yes	Yes
• UL approval	Yes	Yes
• CSA approval	Yes	Yes
• UKCA marking	Yes	Yes
MTBF at 40 °C	408 654 h	345 056 h
standards, specifications, approvals hazardous environments		
certificate of suitability		
• IECEx	Yes	Yes
• ATEX	Yes	Yes
• cCSAus, Class 1, Division 2	Yes	Yes
standards, specifications, approvals marine classification		
shipbuilding approval	No	No
Marine classification association		
• American Bureau of Shipping Europe Ltd. (ABS)	No	No
• Det Norske Veritas (DNV)	No; in preparation	No; in preparation
standards, specifications, approvals Environmental Product Declaration		
Environmental Product Declaration	Yes	Yes
Global Warming Potential [CO2 eq]		
• total	331.3 kg	365.5 kg
• during manufacturing	18.1 kg	20.9 kg
• during operation	312.9 kg	344.2 kg
• after end of life	0.29 kg	0.33 kg
ambient conditions		
ambient temperature		
• during operation	-25 ... +70 °C; with natural convection	-25 ... +70 °C; with natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method		
type of electrical connection	screw terminal	screw terminal
• at input	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG
• at output	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG
• for rechargeable battery module	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG
• for control circuit and status message	14 screw terminals for 0.2 ... 1.5 mm²/24 ... 16 AWG	14 screw terminals for 0.2 ... 1.5 mm²/24 ... 16 AWG
mechanical data		
width × height × depth of the enclosure	50 mm × 139 mm × 125 mm	50 mm × 139 mm × 125 mm
installation width × mounting height	50 mm × 239 mm	50 mm × 239 mm
required spacing		
• top	50 mm	50 mm
• bottom	50 mm	50 mm

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Technical specifications (continued)

Article number product brand name type of current supply	6EP4136-3AC00-0AY0 SITOP UPS1600 EX DC UPS 24 V/20 A	6EP4136-3AC00-2AY0 SITOP UPS1600 EX DC UPS 24 V/20 A
• left	0 mm	0 mm
• right	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes	Yes
• S7 rail mounting	No	No
• wall mounting	No	No
housing can be lined up	Yes	Yes
net weight	0.39 kg	0.45 kg
accessories		
electrical accessories	Battery module	Battery module
further information internet links		
internet link		
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com
additional information		
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information		
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

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Overview

The intelligent UPS1600 battery management charges the BAT1600 with the optimum temperature-controlled charging characteristics and monitors the status (operating data and diagnostic information) of the connected battery modules via the energy storage link. For longer buffer times, up to six battery modules can be connected in parallel. These can be mounted onto a DIN rail or directly on the wall.

BAT1600 family for SITOP UPS1600 DC UPS modules

- Five batteries with different technologies and applications; 2.5 Ah & 7 Ah LiFePO4, 3.2 Ah to 38 Ah lead gel batteries
- The capacity can be expanded by parallel switching of the batteries. Up to six batteries are supported
- Smart communication (Energy Storage Link - ESL) is responsible for battery management to achieve optimum performance
- Three-color status LED for easier commissioning
- State of Health (SOH) calculation for batteries
- SITOP BAT1600 2.5 Ah Li, 3.2 Ah Pb, and 7.5 Ah Li mountable on DIN rail
- SITOP BAT1600 2.5 Ah Li and 3.2 Ah Pb have the same footprint as SITOP UPS1100 1.2 Ah Pb

Selection and ordering data

SITOP BAT1600 battery module 2.5 Ah, LiFePO4	
• Lithium battery for SITOP UPS1600 DC UPS module	**6EP4132-0JA00-0AY0**
• For air-freight suitable version with 30% loading	**6EP4132-0JA00-0AY0-ZA03**
SITOP BAT1600 battery module 7.5 Ah, LiFePO4	
• Lithium battery for SITOP UPS1600 DC UPS module	**6EP4134-0JA00-0AY0**
• For air-freight suitable version with 30% loading	**6EP4134-0JA00-0AY0-ZA03**
SITOP BAT1600 battery module 3.2 Ah, Pb	
Lead-acid battery for SITOP UPS1600 DC UPS module	**6EP4133-0GA00-0AY0**
SITOP BAT1600 Ex battery module 3.2 Ah, Pb	
Lead-acid battery for SITOP UPS1600 DC UPS module	**6EP4133-0GD00-0AY0**
SITOP BAT1600 battery module 12 Ah, Pb	
Lead-acid battery for SITOP UPS1600 DC UPS module	**6EP4135-0GE00-0AY0**
SITOP BAT1600 Ex battery module 12 Ah, Pb	
Lead-acid battery for SITOP UPS1600 DC UPS module	**6EP4135-0GL00-0AY0**
SITOP BAT1600 battery module 38 Ah, Pb	
Lead-acid battery for SITOP UPS1600 DC UPS module	**6EP4137-0GE00-0AY0**

Accessories

BAT1600 battery monitor	**6EP4130-0GJ00-0AY0**
BAT1600 wall mounting (2 units)	**6EP4990-0MK00-0XU0**

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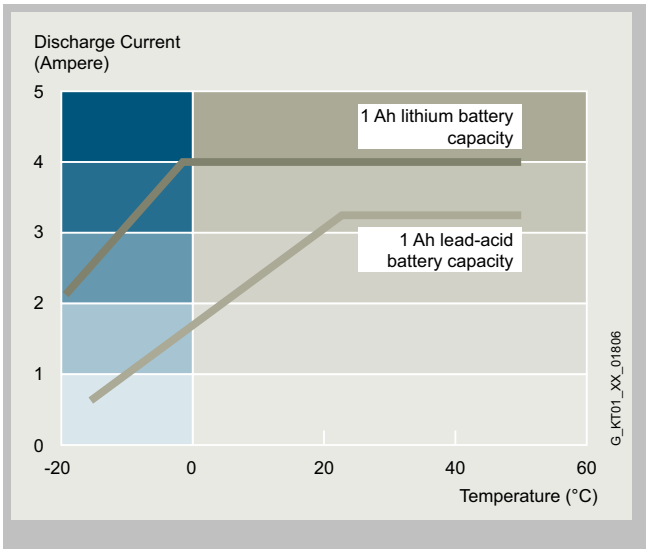
Technical specifications

The table shows the maximum buffer times for the SITOP BAT1600 battery modules for different load currents:
The SITOP Selection Tool offers detailed product selection guidance according to criteria such as the required buffer time, load current, peak current and rechargeable battery connection threshold:
http://www.siemens.com/tst

Product trade name	SITOP BAT1600	SITOP BAT1600	SITOP BAT1600	SITOP BAT1600	SITOP BAT1600
Type of power supply	24 V/2.5 Ah LiFePO4	24 V/3.2 Ah	24 V/7.5 Ah LiFePO4	24 V/12 Ah	24 V/38 Ah
Article No.	6EP4132-0JA00-0-AY0	6EP4133-0GA00-0AY0	6EP4134-0JA00-0AY-0	6EP4135-0GE00-0AY0	6EP4137-0GE00-0AY0
Load current		**Buffer times ***			
1 A	1 h 40 min	2 h 9 min	8 h 30 min	6 h 28 min	30 h
2 A	50 min	1 h 13 min	4 h 20 min	3 h 39 min	16 h 40 min
3 A	30 min	51 min	2 h 40 min	2 h 33 min	11 h 20 min
4 A	20 min	39 min	1 h 50 min	1 h 57 min	8 h
6 A	10 min	27 min	1 h 20 min	1 h 20 min	5 h
8 A	6 min	20 min	50 min	61 min	3 h 40 min
10 A	4 min	16 min	40 min	49 min	2 h 50 min
12 A	2 min	14 min	30 min	41 min	2 h 00 min
14 A	1 min	12 min	25 min	35 min	1 h 50 min
16 A	< 1 min	-	20 min	31 min	1 h 40 min
20 A	-	-	15 min	25 min	1 h 15 min
30 A	-	-	6 min	17 min	45 min
40 A	-	-	3 min	13 min	30 min

* Calculation of the buffer times is based on the discharge period of new and completely charged battery modules with a battery temperature of +25 °C until shut-down of the DC UPS (min. 20 V). Buffer times for additional values can be determined using the SITOP Selection Tool: http://www.siemens.com/tst



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Technical specifications

Article number product brand name product designation	6EP4132-0JA00-0AY0 SITOP BAT1600 2.5 Ah Li	6EP4134-0JA00-0AY0 SITOP BAT1600 7.5 Ah Li	6EP4133-0GA00-0AY0 SITOP BAT1600 3.2 Ah Pb	6EP4133-0GD00-0AY0 SITOP BAT1600 EX 3.2 Ah Pb
electrical data				
end-of-charge voltage at DC				
• at -10 °C recommended	28.8 V	28.8 V	28 V	28 V
• at 0 °C recommended	28.8 V	28.8 V	28 V	28 V
• at 10 °C recommended	28.8 V	28.8 V	27.8 V	27.8 V
• at 20 °C recommended	28.8 V	28.8 V	27.3 V	27.3 V
• at 30 °C recommended	28.8 V	28.8 V	26.8 V	26.8 V
• at 40 °C recommended	28.8 V	28.8 V	26.6 V	26.6 V
• at 50 °C recommended	28.8 V	28.8 V	26.3 V	26.3 V
output				
battery capacity	2.5 A·h	7.5 A·h	3.2 A·h	3.2 A·h
output current rated value	10 A	40 A	20 A	20 A
output current in buffering mode maximum	10 A	40 A	20 A	20 A
peak current	45 A; for 30 ms	120 A; for 30 ms	60 A; for 30 ms	60 A; for 30 ms
charging current maximum	3 A	3 A	0.8 A	0.8 A
output voltage at DC rated value	24 V	24 V	24 V	24 V
interfaces				
communication function	Yes	Yes	Yes	Yes
protection and monitoring				
design of short-circuit protection	25A / 32V Maxi flat fuse	50A / 32V Maxi flat fuse	25A / 32V Maxi flat fuse	25A / 32V Maxi flat fuse
design of the overload protection			Valve control	Valve control
display version for normal operation	Three-color: green = Buffer ready; yellow = Buffer endangered; red = Buffer not possible	Three-color: green = Buffer ready; yellow = Buffer endangered; red = Buffer not possible	Three-color: green = Buffer ready; yellow = Buffer endangered; red = Buffer not possible	Three-color: green = Buffer ready; yellow = Buffer endangered; red = Buffer not possible
safety				
operating resource protection class	Class III	Class III	Class III	Class III
protection class IP	IP20	IP20	IP20	IP20
standards, specifications, approvals				
certificate of suitability				
• CE marking	Yes	Yes	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 61010-1, UL61010-2-201 , CSA C22.2 No. 61010-1, CSA C22.2 NO 61010-2-201), File E143289; cCSAus (CSA 62368-1, UL62368-1)	Yes; cULus-Listed (UL 61010-1, UL61010-2-201 , CSA C22.2 No. 61010-1, CSA C22.2 NO 61010-2-201), File E143289; cCSAus (CSA 62368-1, UL62368-1)	Yes; cULus-Listed (UL 61010-1, UL61010-2-201 , CSA C22.2 No. 61010-1, CSA C22.2 NO 61010-2-201), File E143289; cCSAus (CSA 62368-1, UL62368-1)	Yes; cULus-Listed (UL 61010-1, UL61010-2-201 , CSA C22.2 No. 61010-1, CSA C22.2 NO 61010-2-201), File E143289; cCSAus (CSA 62368-1, UL62368-1)
• CSA approval	Yes; cULus-Listed (UL 61010-1, UL61010-2-201 , CSA C22.2 No. 61010-1, CSA C22.2 NO 61010-2-201), File E143289; cCSAus (CSA 62368-1, UL62368-1)	Yes; cULus-Listed (UL 61010-1, UL61010-2-201 , CSA C22.2 No. 61010-1, CSA C22.2 NO 61010-2-201), File E143289; cCSAus (CSA 62368-1, UL62368-1)	Yes; cULus-Listed (UL 61010-1, UL61010-2-201 , CSA C22.2 No. 61010-1, CSA C22.2 NO 61010-2-201), File E143289; cCSAus (CSA 62368-1, UL62368-1)	Yes; cULus-Listed (UL 61010-1, UL61010-2-201 , CSA C22.2 No. 61010-1, CSA C22.2 NO 61010-2-201), File E143289; cCSAus (CSA 62368-1, UL62368-1)
• UKCA marking				Yes
type of certification CB-certificate	Yes	Yes	Yes	Yes
standards, specifications, approvals hazardous environments				
certificate of suitability				
• IECEx				Yes; IECEx Ex ec IIC T4 Gc
• ATEX	No	No	No	Yes; ATEX (EX) II 3G ex ec IIC T4 Gc
• ULhazloc approval				Yes
• cCSAus, Class 1, Division 2	No	No	No	Yes

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Technical specifications (continued)

Article number product brand name product designation	6EP4132-0JA00-0AY0 SITOP BAT1600 2.5 Ah Li	6EP4134-0JA00-0AY0 SITOP BAT1600 7.5 Ah Li	6EP4133-0GA00-0AY0 SITOP BAT1600 3.2 Ah Pb	6EP4133-0GD00-0AY0 SITOP BAT1600 EX 3.2 Ah Pb
standards, specifications, approvals marine classification				
shipbuilding approval	Yes	Yes	Yes	Yes
Marine classification association				
• American Bureau of Shipping Europe Ltd. (ABS)	Yes	Yes	Yes	Yes
• Det Norske Veritas (DNV)	in preparation	in preparation	in preparation	in preparation
standards, specifications, approvals Environmental Product Declaration				
Environmental Product Declaration			Yes	Yes
Global Warming Potential [CO2 eq]				
• total			16 kg	16 kg
• during manufacturing			9.4 kg	9.4 kg
• during operation			4.9 kg	4.9 kg
• after end of life			0.59 kg	0.59 kg
ambient conditions				
ambient condition	For storage, mounting and operation of batteries, the relevant DIN/VDE regulations or country-specific regulations (e.g. VDE 0510 Part 2/EN 50272-2) must be observed.	For storage, mounting and operation of batteries, the relevant DIN/VDE regulations or country-specific regulations (e.g. VDE 0510 Part 2/EN 50272-2) must be observed.	For storage, mounting and operation of lead-acid batteries, the relevant DIN/VDE regulations or country-specific regulations (e.g. VDE 0510 Part 2/EN 50272-2) must be observed. You must ensure that the battery site is sufficiently ventilated. Possible sources of ignition must be at least 50 cm away.	For storage, mounting and operation of lead-acid batteries, the relevant DIN/VDE regulations or country-specific regulations (e.g. VDE 0510 Part 2/EN 50272-2) must be observed. You must ensure that the battery site is sufficiently ventilated. Possible sources of ignition must be at least 50 cm away.
ambient temperature				
• during operation	-10 ... +50 °C	-10 ... +50 °C	-15 ... +50 °C	-15 ... +50 °C
• during transport	-30 ... +70 °C	-30 ... +70 °C	-20 ... +50 °C	-20 ... +50 °C
• during storage	-20 ... +35 °C	-20 ... +35 °C	-20 ... +40 °C	-20 ... +40 °C
relative temporary capacity loss at 20 °C in a month typical	1 %	1 %	3 %	3 %
service life of energy storage				
• typical	capacity falls to 80 % of original capacity (according to EUROBAT)	capacity falls to 80 % of original capacity (according to EUROBAT)	capacity falls to 80 % of original capacity (according to EUROBAT)	capacity falls to 80 % of original capacity (according to EUROBAT)
• at 20 °C typical	11 a	11 a	4 a	4 a
• at 30 °C typical	11 a	11 a	2 a	2 a
• at 40 °C typical	8 a	8 a	1 a	1 a
• at 50 °C typical	6 a	6 a	0.5 a	0.5 a
• at 60 °C typical	2 a	2 a		
note	Along with the storage and operating temperature, other factors such as the duration of the storage period and the charge status during storage have a decisive influence on the possible useful life. Batteries should therefore be stored as briefly as possible, always fully charged, and within the temperature range 0 to +20 °C.	Along with the storage and operating temperature, other factors such as the duration of the storage period and the charge status during storage have a decisive influence on the possible useful life. Batteries should therefore be stored as briefly as possible, always fully charged, and within the temperature range 0 to +20 °C.	Along with the storage and operating temperature, other factors such as the duration of the storage period and the charge status during storage have a decisive influence on the possible useful life. Batteries should therefore be stored as briefly as possible, always fully charged, and within the temperature range 0 to +20 °C.	Along with the storage and operating temperature, other factors such as the duration of the storage period and the charge status during storage have a decisive influence on the possible useful life. Batteries should therefore be stored as briefly as possible, always fully charged, and within the temperature range 0 to +20 °C.
connection method				
type of electrical connection	screw terminal	screw terminal	screw terminal	screw terminal
• for power supply unit	1 screw terminal each for 0.5 ... 10 mm² for + BAT and - BAT	1 screw terminal each for 0.5 ... 16 mm² for + BAT and - BAT	1 screw terminal each for 0.5 ... 10 mm² for + BAT and - BAT	1 screw terminal each for 0.5 ... 10 mm² for + BAT and - BAT

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Technical specifications (continued)

Article number product brand name product designation	6EP4132-0JA00-0AY0 SITOP BAT1600 2.5 Ah Li	6EP4134-0JA00-0AY0 SITOP BAT1600 7.5 Ah Li	6EP4133-0GA00-0AY0 SITOP BAT1600 3.2 Ah Pb	6EP4133-0GD00-0AY0 SITOP BAT1600 EX 3.2 Ah Pb
• for control circuit and status message	1 screw terminal each for 0.2 ... 2.5 mm²	1 screw terminal each for 0.2 ... 2.5 mm²	1 screw terminal each for 0.2 ... 2.5 mm²	1 screw terminal each for 0.2 ... 2.5 mm²
mechanical data				
width × height × depth of the enclosure	89 mm × 156 mm × 129 mm	238 mm × 156 mm × 129 mm	89 mm × 156 mm × 169 mm	89 mm × 156 mm × 169 mm
installation width × mounting height	89 mm × 256 mm	238 mm × 256 mm	89 mm × 256 mm	89 mm × 256 mm
required spacing				
• top	50 mm	50 mm	50 mm	50 mm
• bottom	50 mm	50 mm	50 mm	50 mm
• left	0 mm	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm	0 mm
fastening method	snaps onto DIN rail EN 60715 35x15 or wall mounting with accessories wall mounting set 6EP4990-0MK00-0XU0	snaps onto DIN rail EN 60715 35x15 or wall mounting with accessories wall mounting set 6EP4990-0MK00-0XU0	snaps onto DIN rail EN 60715 35x15 or wall mounting with accessories wall mounting set 6EP4990-0MK00-0XU0	snaps onto DIN rail EN 60715 35x15 or wall mounting with accessories wall mounting set 6EP4990-0MK00-0XU0
• standard rail mounting	Yes	Yes	Yes	Yes
• S7 rail mounting	Yes	Yes	Yes	Yes
• wall mounting	Yes	Yes	Yes	
net weight	2 kg	4 kg	3.8 kg	3.8 kg
number of cells	1	3	2	2
accessories				
product component included	2x Maxi Fuse 25 A/32 V	2x Maxi Fuse 50 A/32 V	2x Maxi Fuse 25 A/32 V	2x Maxi Fuse 25 A/32 V
mechanical accessories	BAT1600 wall mounting kit 6EP4990-0MK00-0XU0	BAT1600 wall mounting kit 6EP4990-0MK00-0XU0	BAT1600 wall mounting kit 6EP4990-0MK00-0XU0	BAT1600 wall mounting kit 6EP4990-0MK00-0XU0
further information internet links				
internet link				
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax
additional information				
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information				
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components

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Technical specifications (continued)

Article number product brand name product designation	6EP4132-0JA00-0AY0 SITOP BAT1600 2.5 Ah Li	6EP4134-0JA00-0AY0 SITOP BAT1600 7.5 Ah Li	6EP4133-0GA00-0AY0 SITOP BAT1600 3.2 Ah Pb	6EP4133-0GD00-0AY0 SITOP BAT1600 EX 3.2 Ah Pb
	should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

Article number product brand name product designation	6EP4135-0GE00-0AY0 SITOP BAT1600 12 Ah Pb	6EP4135-0GL00-0AY0 SITOP BAT1600 EX 12 Ah Pb	6EP4137-0GE00-0AY0 SITOP BAT1600 38 Ah Pb
electrical data			
end-of-charge voltage at DC			
• at -10 °C recommended	28 V	28 V	28 V
• at 0 °C recommended	28 V	28 V	28 V
• at 10 °C recommended	27.8 V	27.8 V	27.8 V
• at 20 °C recommended	27.3 V	27.3 V	27.3 V
• at 30 °C recommended	26.8 V	26.8 V	26.8 V
• at 40 °C recommended	26.6 V	26.6 V	26.6 V
• at 50 °C recommended	26.3 V	26.3 V	26.3 V
output			
battery capacity	12 A·h	12 A·h	38 A·h
output current rated value	40 A	40 A	40 A
output current in buffering mode maximum	40 A	40 A	40 A
peak current	120 A; for 30 ms	120 A; for 30 ms	120 A; for 30 ms
charging current maximum	3 A	3 A	9 A
output voltage at DC rated value	24 V	24 V	24 V
interfaces			
communication function	Yes	Yes	Yes
protection and monitoring			
design of short-circuit protection	50A / 32V Maxi flat fuse	50A / 32V Maxi flat fuse	50A / 32V Maxi flat fuse
design of the overload protection	Valve control	Valve control	Valve control
display version for normal operation	Three-color: green = Buffer ready; yellow = Buffer endangered; red = Buffer not possible	Three-color: green = Buffer ready; yellow = Buffer endangered; red = Buffer not possible	Three-color: green = Buffer ready; yellow = Buffer endangered; red = Buffer not possible

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Technical specifications (continued)

Article number product brand name product designation	6EP4135-0GE00-0AY0 SITOP BAT1600 12 Ah Pb	6EP4135-0GL00-0AY0 SITOP BAT1600 EX 12 Ah Pb	6EP4137-0GE00-0AY0 SITOP BAT1600 38 Ah Pb
safety			
operating resource protection class	Class III	Class III	Class III
protection class IP	IP20	IP20	IP20
standards, specifications, approvals			
certificate of suitability			
• CE marking	Yes	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 61010-1, UL61010-2-201 , CSA C22.2 No. 61010-1, CSA C22.2 NO 61010-2-201), File E143289; cCSAus (CSA 62368-1, UL62368-1)	Yes; cULus-Listed (UL 61010-1, UL61010-2-201 , CSA C22.2 No. 61010-1, CSA C22.2 NO 61010-2-201), File E143289; cCSAus (CSA 62368-1, UL62368-1)	Yes; cULus-Listed (UL 61010-1, UL61010-2-201 , CSA C22.2 No. 61010-1, CSA C22.2 NO 61010-2-201), File E143289; cCSAus (CSA 62368-1, UL62368-1)
• CSA approval	Yes; cULus-Listed (UL 61010-1, UL61010-2-201 , CSA C22.2 No. 61010-1, CSA C22.2 NO 61010-2-201), File E143289; cCSAus (CSA 62368-1, UL62368-1)	Yes; cULus-Listed (UL 61010-1, UL61010-2-201 , CSA C22.2 No. 61010-1, CSA C22.2 NO 61010-2-201), File E143289; cCSAus (CSA 62368-1, UL62368-1)	Yes; cULus-Listed (UL 61010-1, UL61010-2-201 , CSA C22.2 No. 61010-1, CSA C22.2 NO 61010-2-201), File E143289; cCSAus (CSA 62368-1, UL62368-1)
• UKCA marking		Yes	
type of certification CB-certificate	Yes	Yes	Yes
standards, specifications, approvals hazardous environments			
certificate of suitability			
• IECEx		Yes; IECEx Ex ec IIC T4 Gc	
• ATEX	No	Yes; ATEX (EX) II 3G ex ec IIC T4 Gc	No
• ULhazloc approval		Yes	
• cCSAus, Class 1, Division 2	No	Yes	No
standards, specifications, approvals marine classification			
shipbuilding approval	Yes	Yes	Yes
Marine classification association			
• American Bureau of Shipping Europe Ltd. (ABS)	Yes	Yes	Yes
• Det Norske Veritas (DNV)	in preparation	in preparation	in preparation
standards, specifications, approvals Environmental Product Declaration			
Environmental Product Declaration	Yes	Yes	Yes
Global Warming Potential [CO2 eq]			
• total	44.7 kg	44.7 kg	83.7 kg
• during manufacturing	22.2 kg	22.2 kg	68.8 kg
• during operation	18.4 kg	18.4 kg	2.3 kg
• after end of life	1.4 kg	1.4 kg	4.34 kg
ambient conditions			
ambient condition	For storage, mounting and operation of lead-acid batteries, the relevant DIN/VDE regulations or country-specific regulations (e.g. VDE 0510 Part 2/EN 50272-2) must be observed. You must ensure that the battery site is sufficiently ventilated. Possible sources of ignition must be at least 50 cm away.	For storage, mounting and operation of lead-acid batteries, the relevant DIN/VDE regulations or country-specific regulations (e.g. VDE 0510 Part 2/EN 50272-2) must be observed. You must ensure that the battery site is sufficiently ventilated. Possible sources of ignition must be at least 50 cm away.	For storage, mounting and operation of batteries, the relevant DIN/VDE regulations or country-specific regulations (e.g. VDE 0510 Part 2/EN 50272-2) must be observed.
ambient temperature			
• during operation	-15 ... +50 °C	-15 ... +50 °C	-15 ... +50 °C
• during transport	-20 ... +50 °C	-20 ... +50 °C	-30 ... +70 °C
• during storage	-20 ... +40 °C	-20 ... +40 °C	-20 ... +40 °C

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Technical specifications (continued)

Article number product brand name product designation	6EP4135-0GE00-0AY0 SITOP BAT1600 12 Ah Pb	6EP4135-0GL00-0AY0 SITOP BAT1600 EX 12 Ah Pb	6EP4137-0GE00-0AY0 SITOP BAT1600 38 Ah Pb
relative temporary capacity loss at 20 °C in a month typical	3 %	3 %	3 %
service life of energy storage			
• typical	capacity falls to 80 % of original capacity (according to EUROBAT)	capacity falls to 80 % of original capacity (according to EUROBAT)	capacity falls to 80 % of original capacity (according to EUROBAT)
• at 20 °C typical	4 a	4 a	10 a
• at 30 °C typical	2 a	2 a	5 a
• at 40 °C typical	1 a	1 a	2.5 a
• at 50 °C typical	0.5 a	0.5 a	1.25 a
note	Along with the storage and operating temperature, other factors such as the duration of the storage period and the charge status during storage have a decisive influence on the possible useful life. Batteries should therefore be stored as briefly as possible, always fully charged, and within the temperature range 0 to +20 °C.	Along with the storage and operating temperature, other factors such as the duration of the storage period and the charge status during storage have a decisive influence on the possible useful life. Batteries should therefore be stored as briefly as possible, always fully charged, and within the temperature range 0 to +20 °C.	In addition to the storage temperature, additional factors, such as storage duration and charging status during storage, have a major impact on the potential service life. This means batteries should preferably be stored fully charged for short periods of time in a dry, cool and frost-proof (temperature range 0 to +20 °C) location.
connection method			
type of electrical connection	screw terminal	screw terminal	Plug-in terminals with screwed connection
• for power supply unit	1 screw terminal each for 0.5 ... 16 mm² for + BAT and - BAT	1 screw terminal each for 0.5 ... 16 mm² for + BAT and - BAT	1 screw terminal each for 0.5 ... 16 mm² for + BAT and - BAT
• for control circuit and status message	1 screw terminal each for 0.2 ... 2.5 mm²	1 screw terminal each for 0.2 ... 2.5 mm²	1 screw terminal each for 0.2 ... 2.5 mm²
mechanical data			
width × height × depth of the enclosure	225 mm × 156 mm × 138 mm	225 mm × 156 mm × 138 mm	394 mm × 212 mm × 165 mm
installation width × mounting height	225 mm × 256 mm	225 mm × 256 mm	330 mm × 262 mm
required spacing			
• top	50 mm	50 mm	50 mm
• bottom	50 mm	50 mm	50 mm
• left	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm
fastening method	Wall mounting	Wall mounting	Floor mounting
• standard rail mounting	No	No	No
• S7 rail mounting	No	No	No
• wall mounting	Yes	Yes	No
net weight	10.2 kg	10.2 kg	27.9 kg
number of cells	2	2	2
accessories			
product component included	2x Maxi Fuse 50 A/32 V	2x Maxi Fuse 50 A/32 V	2x Maxi Fuse 50 A/32 V
further information internet links			
internet link			
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax
additional information			
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)

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Technical specifications (continued)

Article number product brand name product designation	6EP4135-0GE00-0AY0 SITOP BAT1600 12 Ah Pb	6EP4135-0GL00-0AY0 SITOP BAT1600 EX 12 Ah Pb	6EP4137-0GE00-0AY0 SITOP BAT1600 38 Ah Pb
security information			
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

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Overview

SITOP UPS1100 maintenance-free battery module with 2.5 Ah and 7 Ah for SITOP UPS1600 DC UPS modules. The intelligent UPS1600 battery management charges the UPS1100 with the optimal temperature-controlled charging characteristics and monitors the status (operating data and diagnostics information) of the connected battery modules via the energy storage link. For longer buffer times, up to six battery modules can be connected in parallel. These can be mounted onto a DIN rail or directly on the wall.

Selection and ordering data

SITOP UPS1100 battery module 2.5 Ah, high temperature With maintenance-free, sealed lead-acid batteries for SITOP UPS1600 DC UPS module, 10 A and 20 A	**6EP4132-0GB00-0AY0**
SITOP UPS1100 battery module 7 Ah With maintenance-free, sealed lead-acid batteries for SITOP UPS1600 DC UPS module, 10 A, 20 A and 40 A	**6EP4134-0GB00-0AY0**

Technical specifications

The table shows the maximum buffer times for the SITOP UPS1100 battery modules for different load currents:

Product trade name	SITOP UPS1100	SITOP UPS1100
Type of power supply	24 V/2.5 Ah high temperature	24 V/7 Ah
Article No.	6EP4132-GB00-0AY0	6EP4134-0GB00-0AY-0
Load current	**Buffer times ***	
1 A	1 h 30 min	4 h 30 min
2 A	50 min	2 h 10 min
3 A	35 min	1 h 30 min
4 A	25 min	1 h 5 min
6 A	15 min	35 min
8 A	10 min	25 min
10 A	6 min	15 min
12 A	5 min	12 min
14 A	4 min	10 min
16 A	3 min	8 min
20 A	1 min	5 min
30 A	3 min, ×2	1 min
40 A	3 min, ×3	< 1 min

* The determination of the buffer times is based on the discharge period of new and completely charged battery modules with a battery temperature of not less than +25 °C until shutdown of the DC UPS (19 V). Buffer times for additional values can be determined using the SITOP Selection Tool: http://www.siemens.com/tst.

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Technical specifications

Article number product brand name product designation	6EP4132-0GB00-0AY0 SITOP UPS1100 Battery module 2.5 Ah
electrical data	
end-of-charge voltage at DC	
• at -10 °C recommended	28 V
• at 0 °C recommended	28 V
• at 10 °C recommended	27.8 V
• at 20 °C recommended	27.3 V
• at 30 °C recommended	26.8 V
• at 40 °C recommended	26.6 V
• at 50 °C recommended	26.3 V
• at 60 °C recommended	26 V
output	
battery capacity	2.5 A·h
output current rated value	20 A
output current in buffering mode maximum	20 A
peak current	60 A; for 30 ms
charging current maximum	5 A
output voltage at DC rated value	24 V
interfaces	
communication function	Yes
protection and monitoring	
design of short-circuit protection	Battery fuse 25 A/32 V (solid-state circuitry blade-type fuse + support)
design of the overload protection	Valve control
display version for normal operation	LED green: Battery OK; LED flashing green: Error or warning; OFF: No communication
safety	
operating resource protection class	Class III
protection class IP	IP20
standards, specifications, approvals	
certificate of suitability	
• CE marking	Yes
• UL approval	Yes; cURus-Recognized (UL 1778, CSA C22.2 No. 107.1), File E219627
• CSA approval	No
• EAC approval	Yes
standards, specifications, approvals hazardous environments	
certificate of suitability	
• ATEX	No
• cCSAus, Class 1, Division 2	No
standards, specifications, approvals marine classification	
shipbuilding approval	Yes
Marine classification association	
• American Bureau of Shipping Europe Ltd. (ABS)	Yes
• Det Norske Veritas (DNV)	Yes
standards, specifications, approvals Environmental Product Declaration	
Environmental Product Declaration	Yes
Global Warming Potential [CO2 eq]	
• total	14.6 kg
• during manufacturing	9.1 kg
• during operation	3.8 kg
• after end of life	0.58 kg

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Technical specifications (continued)

Article number product brand name product designation	6EP4132-0GB00-0AY0 SITOP UPS1100 Battery module 2.5 Ah
ambient conditions	
ambient condition	For storage, mounting and operation of lead-acid batteries, the relevant DIN/VDE regulations or country-specific regulations (e.g. VDE 0510 Part 2/EN 50272-2) must be observed. You must ensure that the battery site is sufficiently ventilated. Possible sources of ignition must be at least 50 cm away.
ambient temperature	
• during operation	-40 ... +60 °C
• during transport	-40 ... +60 °C
• during storage	-40 ... +60 °C
relative temporary capacity loss at 20 °C in a month typical	3 %
service life of energy storage	
• typical	capacity falls to 80 % of original capacity (according to EUROBAT)
• at 20 °C typical	10 a
• at 30 °C typical	7 a
• at 40 °C typical	3 a
• at 50 °C typical	1.5 a
• at 60 °C typical	1 a
note	Along with the storage and operating temperature, other factors such as the duration of the storage period and the charge status during storage have a decisive influence on the possible useful life. Batteries should therefore be stored as briefly as possible, always fully charged, and within the temperature range 0 to +20 °C.
connection method	
type of electrical connection	screw terminal
• for power supply unit	1 screw terminal each for 0.2 ... 6 mm² for + BAT and - BAT
• for control circuit and status message	1 screw terminal each for 0.14 ... 4 mm²
mechanical data	
width × height × depth of the enclosure	265 mm × 115 mm × 76 mm
installation width × mounting height	265 mm × 130 mm
required spacing	
• top	15 mm
• bottom	0 mm
• left	0 mm
• right	0 mm
fastening method	snaps onto DIN rail EN 60715 35x7.5/15 or keyhole mounting for hooking in to M4 screws
• standard rail mounting	Yes
• S7 rail mounting	No
• wall mounting	Yes
net weight	3.7 kg
number of cells	12
accessories	
product component included	Accessories pack with solid-state circuitry fuse 25 A
further information internet links	
internet link	
• to website: Industry Mall	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax

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Technical specifications (continued)

Article number product brand name product designation	6EP4132-0GB00-0AY0 SITOP UPS1100 Battery module 2.5 Ah
additional information	
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information	
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

Article number product brand name product designation	6EP4134-0GB00-0AY0 SITOP UPS1100 Battery module 7 Ah
electrical data	
end-of-charge voltage at DC	
• at -10 °C recommended	28 V
• at 0 °C recommended	28 V
• at 10 °C recommended	27.8 V
• at 20 °C recommended	27.3 V
• at 30 °C recommended	26.8 V
• at 40 °C recommended	26.6 V
• at 50 °C recommended	26.3 V
output	
battery capacity	7 A·h
output current rated value	40 A
output current in buffering mode maximum	40 A
peak current	120 A; for 30 ms
charging current maximum	1.75 A
output voltage at DC rated value	24 V
interfaces	
communication function	Yes
protection and monitoring	
design of short-circuit protection	Battery fuse 2x 25 A/32 V (solid-state circuitry blade-type fuse + support)
design of the overload protection	Valve control
display version for normal operation	LED green: Battery OK; LED flashing green: Error or warning; OFF: No communication
safety	
operating resource protection class	Class III
protection class IP	IP20

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Technical specifications (continued)

Article number product brand name product designation	6EP4134-0GB00-0AY0 SITOP UPS1100 Battery module 7 Ah
standards, specifications, approvals	
certificate of suitability	
• CE marking	Yes
• UL approval	Yes; cURus-Recognized (UL 1778, CSA C22.2 No. 107.1), File E219627
• CSA approval	No
• EAC approval	Yes
standards, specifications, approvals hazardous environments	
certificate of suitability	
• ATEX	No
• cCSAus, Class 1, Division 2	No
standards, specifications, approvals marine classification	
shipbuilding approval	Yes
Marine classification association	
• American Bureau of Shipping Europe Ltd. (ABS)	Yes
• Det Norske Veritas (DNV)	Yes
standards, specifications, approvals Environmental Product Declaration	
Environmental Product Declaration	Yes
Global Warming Potential [CO2 eq]	
• total	26.8 kg
• during manufacturing	13.6 kg
• during operation	10.7 kg
• after end of life	0.86 kg
ambient conditions	
ambient condition	For storage, mounting and operation of lead-acid batteries, the relevant DIN/VDE regulations or country-specific regulations (e.g. VDE 0510 Part 2/EN 50272-2) must be observed. You must ensure that the battery site is sufficiently ventilated. Possible sources of ignition must be at least 50 cm away.
ambient temperature	
• during operation	-15 ... +50 °C
• during transport	-20 ... +50 °C
• during storage	-20 ... +40 °C
relative temporary capacity loss at 20 °C in a month typical	3 %
service life of energy storage	
• typical	capacity falls to 80 % of original capacity (according to EUROBAT)
• at 20 °C typical	4 a
• at 30 °C typical	2 a
• at 40 °C typical	1 a
• at 50 °C typical	0.5 a
note	Along with the storage and operating temperature, other factors such as the duration of the storage period and the charge status during storage have a decisive influence on the possible useful life. Batteries should therefore be stored as briefly as possible, always fully charged, and within the temperature range 0 to +20 °C.
connection method	
type of electrical connection	screw terminal
• for power supply unit	1 screw terminal each for 0.5 ... 16 mm² for + BAT and - BAT
• for control circuit and status message	1 screw terminal each for 0.14 ... 4 mm²
mechanical data	
width × height × depth of the enclosure	186 mm × 186 mm × 110 mm
installation width × mounting height	186 mm × 201 mm

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Technical specifications (continued)

Article number product brand name product designation	6EP4134-0GB00-0AY0 SITOP UPS1100 Battery module 7 Ah
required spacing	
• top	15 mm
• bottom	0 mm
• left	0 mm
• right	0 mm
fastening method	can be screwed onto flat surface (keyhole mounting for hooking in to M4 screws)
• standard rail mounting	No
• S7 rail mounting	No
• wall mounting	Yes
net weight	6.1 kg
number of cells	12
accessories	
product component included	Accessories pack with solid-state circuitry fuse 25 A
further information internet links	
internet link	
• to website: Industry Mall	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax
additional information	
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information	
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

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Overview

By combining a DC UPS module with at least one 24 V battery module and a SITOP power supply unit, longer power failures can be bridged without any interruption. Even if a greater buffering current is required, the DC UPS with maintenance-free lead battery provides optimum safety. It spans power failures up to several hours long and delivers up to 40 A.

Benefits

- 24 V buffering for a few hours for the purpose of continuing processes
- Maintenance-free battery modules from 1.2 to 12 Ah
- High reliability and availability due to monitoring of the operational readiness, battery feeder, aging and charging status
- Long operating life of loads and batteries due to integrated battery management
- Settings by means of DIP switches: Battery connection threshold, end-of-charge voltage, charging current, bridging time
- Free SITOP Manager software tool for simple configuration and integration in PC-based systems

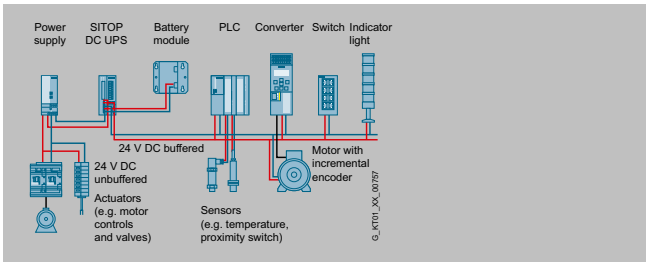
  For more information, visit: www.siemens.com/sitop-ups/mall

  Free download under: https://support.industry.siemens.com/cs/ww/en/view/109760607

Application

These battery modules that can be connected in parallel bridge power failures for a few hours. This enables processes or parts of them to be continued, measured values to be recorded without interruption and communication to be maintained. High-performance industrial PCs that have to be shut down also have somewhat higher energy demands. Especially if a large panel continues to be operated during the shutdown. The DC UPS is used, for example, in machine tool production, in the textile industry, in all types of production lines, bottling plants or also for the obstacle lights of wind power plants.

The serial or USB interface and the free SITOP Manager enable easy communication with a PC.



Configuration with SITOP DC UPS and battery module: 24 V buffering to maintain communication, signaling and sensor measured values. To relieve the load on the UPS, the actuators are supplied directly from the power supply unit.

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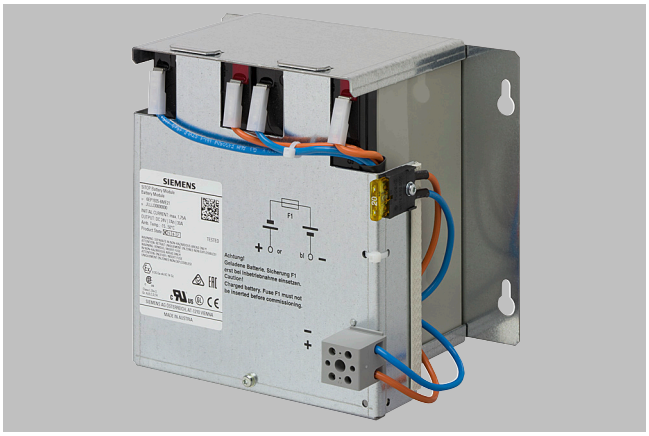
Design

- DC UPS modules 24 V/6 A, 15 A, 40 A
- Digital inputs/outputs, optionally with serial or USB interface

- Battery modules 1.2 Ah, 3.2 Ah, 7 Ah, 12 Ah with lead rechargeable batteries of corrosion-resistant lead-calcium high-performance grid plates and fiber-glass mat
- Battery module 2.5 Ah with "high-temperature battery" of pure lead



Selection and ordering data

DC UPS module 6 A	**6EP1931-2DC21**
• with serial interface	**6EP1931-2DC31**
• with USB interface	**6EP1931-2DC42**
DC UPS module 15 A	**6EP1931-2EC21**
• with serial interface	**6EP1931-2EC31**
• with USB interface	**6EP1931-2EC42**
DC UPS module 40 A	**6EP1931-2FC21**
• with USB interface	**6EP1931-2FC42**

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Technical specifications

The table shows the maximum buffer times for the battery modules for different load currents.

The TIA Selection Tool offers detailed product selection guidance according to criteria such as the required buffer time, load current, peak current and battery connection threshold:
http://www.siemens.com/tst

Load current	Battery module 1.2 Ah (6EP1935-6MC01)	Battery module 3.2 Ah (6EP1935-6MD11)	Battery module 7 Ah (6EP1935-6ME21)	Battery module 12 Ah (6EP1935-6MF01)	Battery module 2.5 Ah (6EP1935-6MD31)
1 A	34.5 min	2.6 h	5.4 h	9 h	2 h
2 A	15 min	1 h	2.6 h	4.6 h	1 h
3 A	9 min	39.3 min	1.6 h	2.9 h	37.5 min
4 A	6.5 min	27.1 min	1.2 h	2.2 h	27 min
6 A	3.5 min	17.5 min	41 min	1.2 h	17.6 min
8 A	2 min	12.1 min	28.6 min	53.3 min	12.5 min
10 A	1 min	9 min	21.8 min	43.5 min	8.8 min
12 A	-	7 min	17.3 min	33.3 min	6.8 min
14 A	-	5 min	15.1 min	27.5 min	5.1 min
16 A	-	4 min	12.5 min	23.8 min	4.3 min
20 A	-	1 min	9.1 min	20.1 min	-
25 A	-	-	-	12.6 min	-
30 A	-	-	-	9.1 min	-
35 A	-	-	-	17.1 min. (2 x 12 Ah)	-
40 A	-	-	-	13.5 min. (2 x 12 Ah)	-

Important information for selecting the battery capacity:

Determination of the mains buffering times is based on the discharge period of new or non-aged, completely charged battery modules at a battery temperature not below +25 °C to the shutdown of the DC UPS.

Battery aging reduces the still available battery capacity up until the end of the service life to typically around 80% of the original capacity value when new (1.2 Ah/3.2 Ah/7 Ah, etc.) and the internal resistance increases. When the message "Battery charge > 85%" appears, only around 80% x 85% = approx. 68% of the originally available capacity can be assumed at the end of the battery service life.

At battery temperatures below +25 °C, the available capacity drops approx. by another 30% at +5 °C battery temperature, to around 70% of the roughly remaining 68%. Only about 48% of the original capacity is then available.

A significantly larger battery capacity must therefore be selected when configuring the plant: A drop to approx. 50% is compensated for by selecting 1 / approx. 0.5 = around double the battery capacity (required as per the table for the relevant load current and the relevant buffering time). A remaining approx. 68% capacity is compensated for by selecting 1 / approx. 0.68 = approx. 1.5 times the battery capacity. A remaining approx. 48% capacity is compensated for by selecting 1 / approx. 0.48 = approx. 2.1 times the battery capacity.

Recommendation:

Instead of installing additional battery capacity, regular battery replacement halfway through the expected service life (reduction of capacity to approx. 80% according to the Eurobat definition) can be more advisable for the following reasons: Capacity does not drop below 100% until the halfway point of the expected battery life (or slightly beyond). With regular replacement after this point, only the single battery capacity (instead of double capacity) must be installed due to aging (-> neutral in price with regard to battery module costs, and only requires half the space). The UPS1600 monitors battery aging with a regular resistor load test (R test) and signals a recommendation for battery replacement (LED 2: BAT FAULT in orange).

Replacing the battery after half its service life dispenses above all with the large scatter range of the residual capacity at the end of the service life, which is not accurately defined by battery manufacturers (after the full time, many batteries are above, but many are also below the average 80% residual capacity, so even if double the capacity is installed, the influence of aging at the end of service life is not reliably compensated for, rather only typically) -> When replacing after half the expected service life, the configured buffering time is maintained with considerably greater reliability.

In the case of batteries stored in cool conditions (not above +25 °C) and for not longer than approximately 4 months, the following service life can be assumed, strongly dependent on battery temperature:

Battery temperature	Drop to approx. 50% of residual capacity	Recommendation: Replace (at 100% of residual capacity), all	Alternative recommendation
+20 °C	4 years	2 years	
+30 °C	2 years	1 year	
+40 °C	1 year	10.5 years	Install double capacity and replace 1 x per year

In normal cases (installation in the coolest location in the control cabinet at approx. +30 °C), the battery should be replaced with single installed battery capacity in accordance with the selection table after 1 year of operation!

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Technical specifications (continued)

- On the DC UPS module 40 A, at least 2 battery modules of 7 Ah or higher must be connected in parallel for output currents > 30 A. When connecting battery modules in parallel, you must ensure identical capacity and aging.
- After a power failure, the battery module is electronically disconnected from the loads at the end of the selected buffer time either automatically or by opening the on/off control circuit. As soon as the 24 V input voltage is available again, it is quickly re-charged with the charging current of the relevant DC UPS module (with I-U charge characteristic: First constant current I for fast charging, and changeover to constant voltage U to maintain the charge when the battery is almost full).

Technical specifications

Article number product brand name type of current supply	6EP1931-2DC21 SITOP DC UPS module DC UPS 24 V/6 A	6EP1931-2DC31 SITOP DC UPS module DC UPS 24 V/6 A	6EP1931-2DC42 SITOP DC UPS module DC UPS 24 V/6 A
input			
supply voltage at DC rated value	24 V	24 V	24 V
adjustable response value voltage for buffer connection preset	22.5 V	22.5 V	22.5 V
adjustable response value voltage for buffer connection	22 ... 25.5 V; Adjustable in 0.5 V increments	22 ... 25.5 V; Adjustable in 0.5 V increments	22 ... 25.5 V; Adjustable in 0.5 V increments
input current at rated input voltage 24 V rated value	6 A; + approx. 0.6 A with empty battery	6 A; + approx. 0.6 A with empty battery	6 A; + approx. 0.6 A with empty battery
memory			
type of energy storage	with batteries	with batteries	with batteries
design of the mains power cut bridging-connection	Dependent on connected battery and load current, see selection table battery module and mains buffering times as well as the relevant important information notes!	Dependent on connected battery and load current, see selection table battery module and mains buffering times as well as the relevant important information notes!	Dependent on connected battery and load current, see selection table battery module and mains buffering times as well as the relevant important information notes!
output			
output voltage			
• in normal operation at DC rated value	24 V	24 V	24 V
• in buffering mode at DC rated value	24 V	24 V	24 V
formula for output voltage	Vin - approx. 0.5 V	Vin - approx. 0.5 V	Vin - approx. 0.5 V
startup delay time typical	1 s	1 s	1 s
voltage increase time of the output voltage typical	60 ms	60 ms	60 ms
output voltage in buffering mode at DC	19 ... 28.5 V	19 ... 28.5 V	19 ... 28.5 V
output current			
• rated value	6 A	6 A	6 A
• in normal operation	0 ... 6 A	0 ... 6 A	0 ... 6 A
• in buffering mode	0 ... 6 A	0 ... 6 A	0 ... 6 A
peak current	6.3 A	6.3 A	6.3 A
property of the output short-circuit proof	Yes	Yes	Yes
charging current	0.2 A - 0.4 A	0.2 A - 0.4 A	0.2 A - 0.4 A
efficiency			
efficiency in percent			
• at rated output voltage for rated value of the output current typical	95 %	95 %	95 %
• in case of operation on rechargeable battery typical	94.5 %	94.5 %	94.5 %
power loss [W]			
• at rated output voltage for rated value of the output current typical	7 W	7 W	7 W
• in case of operation on rechargeable battery typical	8 W	8 W	8 W
supplied active power typical	144 W	144 W	144 W
protection and monitoring			
product function			
• reverse polarity protection against energy storage unit polarity reversal	Yes	Yes	Yes

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1931-2DC21 SITOP DC UPS module DC UPS 24 V/6 A	6EP1931-2DC31 SITOP DC UPS module DC UPS 24 V/6 A	6EP1931-2DC42 SITOP DC UPS module DC UPS 24 V/6 A
• reverse polarity protection against input voltage polarity reversal	Yes	Yes	Yes
display version			
• for normal operation	Normal operation: LED green (OK), floating changeover contact "Bat/OK" to setting "OK" ("OK" means: Voltage of the supplying power supply unit is greater than cut-in threshold set at the DC UPS module); Lack of buffer standby: LED red (alarm), floating changeover contact "Alarm/Bat" to setting "Alarm"; Battery replacement required: LED red (alarm) flashing with approx. 0.25 Hz, floating changeover contact "Alarm/Bat" switching with approx. 0.25 Hz; Energy storage > 85%: LED green (Bat > 85%), floating NO contact "Bat > 85" closed; Permissible contact current capacity: DC 60 V/1 A or AC 30 V /1 A	Normal operation: LED green (OK), floating changeover contact "Bat/OK" to setting "OK" ("OK" means: Voltage of the supplying power supply unit is greater than cut-in threshold set at the DC UPS module); Lack of buffer standby: LED red (alarm), floating changeover contact "Alarm/Bat" to setting "Alarm"; Battery replacement required: LED red (alarm) flashing with approx. 0.25 Hz, floating changeover contact "Alarm/Bat" switching with approx. 0.25 Hz; Energy storage > 85%: LED green (Bat > 85%), floating NO contact "Bat > 85" closed; Permissible contact current capacity: DC 60 V/1 A or AC 30 V /1 A	Normal operation: LED green (OK), floating changeover contact "Bat/OK" to setting "OK" ("OK" means: Voltage of the supplying power supply unit is greater than cut-in threshold set at the DC UPS module); Lack of buffer standby: LED red (alarm), floating changeover contact "Alarm/Bat" to setting "Alarm"; Battery replacement required: LED red (alarm) flashing with approx. 0.25 Hz, floating changeover contact "Alarm/Bat" switching with approx. 0.25 Hz; Energy storage > 85%: LED green (Bat > 85%), floating NO contact "Bat > 85" closed; Permissible contact current capacity: DC 60 V/1 A or AC 30 V /1 A
• in buffering mode	Buffered mode: LED yellow (Bat), floating changeover contact "OK/Bat" to setting "Bat"; Prewarning battery voltage < 20.4 VDC: LED red (alarm), floating changeover contact "Alarm/Bat" to setting "Alarm"; Energy storage > 85%: LED green (Bat > 85%), floating NO contact "Bat > 85" closed	Buffered mode: LED yellow (Bat), floating changeover contact "OK/Bat" to setting "Bat"; Prewarning battery voltage < 20.4 VDC: LED red (alarm), floating changeover contact "Alarm/Bat" to setting "Alarm"; Energy storage > 85%: LED green (Bat > 85%), floating NO contact "Bat > 85" closed	Buffered mode: LED yellow (Bat), floating changeover contact "OK/Bat" to setting "Bat"; Prewarning battery voltage < 20.4 VDC: LED red (alarm), floating changeover contact "Alarm/Bat" to setting "Alarm"; Energy storage > 85%: LED green (Bat > 85%), floating NO contact "Bat > 85" closed
interfaces			
product component PC interface	No	Yes	Yes
design of the interface	without	serial	USB
safety			
galvanic isolation between input and output	No	No	No
operating resource protection class	Class III	Class III	Class III
protection class IP	IP20	IP20	IP20
standard			
• for emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
• for interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals			
certificate of suitability			
• CE marking	Yes	Yes	Yes
MTBF at 40 °C	1 085 776 h	966 183 h	904 159 h
ambient conditions			
ambient temperature			
• during operation	-25 ... +60 °C; with natural convection	-25 ... +60 °C; with natural convection	-25 ... +60 °C; with natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method			
type of electrical connection	screw terminal	screw terminal	screw terminal
• at input	24 V DC: 2 screw terminals for 1 ... 4 mm^2/17 ... 11 AWG	24 V DC: 2 screw terminals for 1 ... 4 mm^2/17 ... 11 AWG	24 V DC: 2 screw terminals for 1 ... 4 mm^2/17 ... 11 AWG

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1931-2DC21 SITOP DC UPS module DC UPS 24 V/6 A	6EP1931-2DC31 SITOP DC UPS module DC UPS 24 V/6 A	6EP1931-2DC42 SITOP DC UPS module DC UPS 24 V/6 A
• at output	24 V DC: 4 screw terminals for 1 ... 4 mm²/17 ... 11 AWG	24 V DC: 4 screw terminals for 1 ... 4 mm²/17 ... 11 AWG	24 V DC: 4 screw terminals for 1 ... 4 mm²/17 ... 11 AWG
• for rechargeable battery module	24 V DC: 2 screw terminals for 1 ... 4 mm²/17 ... 11 AWG	24 V DC: 2 screw terminals for 1 ... 4 mm²/17 ... 11 AWG	24 V DC: 2 screw terminals for 1 ... 4 mm²/17 ... 11 AWG
• for control circuit and status message	10 screw terminals for 0.5 ... 2.5 mm²/20 ... 13 AWG	10 screw terminals for 0.5 ... 2.5 mm²/20 ... 13 AWG	10 screw terminals for 0.5 ... 2.5 mm²/20 ... 13 AWG
mechanical data			
width × height × depth of the enclosure	50 mm × 125 mm × 125 mm	50 mm × 125 mm × 125 mm	50 mm × 125 mm × 125 mm
required spacing			
• top	50 mm	50 mm	50 mm
• bottom	50 mm	50 mm	50 mm
• left	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15
housing can be lined up	Yes	Yes	Yes
net weight	0.4 kg	0.45 kg	0.45 kg
accessories			
electrical accessories	Battery module	Battery module	Battery module
additional information			
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)

Article number product brand name type of current supply	6EP1931-2EC21 SITOP DC UPS module DC UPS 24 V/15 A	6EP1931-2EC31 SITOP DC UPS module DC UPS 24 V/15 A	6EP1931-2EC42 SITOP DC UPS module DC UPS 24 V/15 A
input			
supply voltage at DC rated value	24 V	24 V	24 V
input voltage at DC	22 ... 29 V	22 ... 29 V	22 ... 29 V
adjustable response value voltage for buffer connection preset	22.5 V	22.5 V	22.5 V
adjustable response value voltage for buffer connection	22 ... 25.5 V; Adjustable in 0.5 V increments	22 ... 25.5 V; Adjustable in 0.5 V increments	22 ... 25.5 V; Adjustable in 0.5 V increments
input current at rated input voltage 24 V rated value	15 A; + approx. 1 A with empty battery	15 A; + approx. 1 A with empty battery	15 A; + approx. 1 A with empty battery
memory			
type of energy storage	with batteries	with batteries	with batteries
design of the mains power cut bridging-connection	Dependent on connected battery and load current, see selection table battery module and mains buffering times as well as the relevant important information notes!	Dependent on connected battery and load current, see selection table battery module and mains buffering times as well as the relevant important information notes!	Dependent on connected battery and load current, see selection table battery module and mains buffering times as well as the relevant important information notes!
output			
output voltage			
• in normal operation at DC rated value	24 V	24 V	24 V
• in buffering mode at DC rated value	24 V	24 V	24 V
formula for output voltage	Vin - approx. 0.5 V	Vin - approx. 0.5 V	Vin - approx. 0.5 V
startup delay time typical	1 s	1 s	1 s
voltage increase time of the output voltage typical	60 ms	60 ms	60 ms
output voltage in buffering mode at DC	19 ... 28.5 V	19 ... 28.5 V	19 ... 28.5 V
output current			
• rated value	15 A	15 A	15 A
• in normal operation	0 ... 15 A	0 ... 15 A	0 ... 15 A
• in buffering mode	0 ... 15 A	0 ... 15 A	0 ... 15 A

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1931-2EC21 SITOP DC UPS module DC UPS 24 V/15 A	6EP1931-2EC31 SITOP DC UPS module DC UPS 24 V/15 A	6EP1931-2EC42 SITOP DC UPS module DC UPS 24 V/15 A
peak current	15.7 A	15.7 A	15.7 A
property of the output short-circuit proof	Yes	Yes	Yes
charging current	0.35 A - 0.7 A	0.35 A - 0.7 A	0.35 A - 0.7 A
efficiency			
efficiency in percent			
• at rated output voltage for rated value of the output current typical	96.2 %	96.2 %	96.2 %
• in case of operation on rechargeable battery typical	96 %	96 %	96 %
power loss [W]			
• at rated output voltage for rated value of the output current typical	14 W	14 W	14 W
• in case of operation on rechargeable battery typical	15 W	15 W	15 W
supplied active power typical	360 W	360 W	360 W
protection and monitoring			
product function			
• reverse polarity protection against energy storage unit polarity reversal	Yes	Yes	Yes
• reverse polarity protection against input voltage polarity reversal	Yes	Yes	Yes
display version			
• for normal operation	Normal operation: LED green (OK), floating changeover contact "Bat/OK" to setting "OK" ("OK" means: Voltage of the supplying power supply unit is greater than cut-in threshold set at the DC UPS module); Lack of buffer standby: LED red (alarm), floating changeover contact "Alarm/Bat" to setting "Alarm"; Battery replacement required: LED red (alarm) flashing with approx. 0.25 Hz, floating changeover contact "Alarm/Bat" switching with approx. 0.25 Hz; Energy storage > 85%: LED green (Bat > 85%), floating NO contact "Bat > 85" closed; Permissible contact current capacity: DC 60 V/1 A or AC 30 V /1 A	Normal operation: LED green (OK), floating changeover contact "Bat/OK" to setting "OK" ("OK" means: Voltage of the supplying power supply unit is greater than cut-in threshold set at the DC UPS module); Lack of buffer standby: LED red (alarm), floating changeover contact "Alarm/Bat" to setting "Alarm"; Battery replacement required: LED red (alarm) flashing with approx. 0.25 Hz, floating changeover contact "Alarm/Bat" switching with approx. 0.25 Hz; Energy storage > 85%: LED green (Bat > 85%), floating NO contact "Bat > 85" closed; Permissible contact current capacity: DC 60 V/1 A or AC 30 V /1 A	Normal operation: LED green (OK), floating changeover contact "Bat/OK" to setting "OK" ("OK" means: Voltage of the supplying power supply unit is greater than cut-in threshold set at the DC UPS module); Lack of buffer standby: LED red (alarm), floating changeover contact "Alarm/Bat" to setting "Alarm"; Battery replacement required: LED red (alarm) flashing with approx. 0.25 Hz, floating changeover contact "Alarm/Bat" switching with approx. 0.25 Hz; Energy storage > 85%: LED green (Bat > 85%), floating NO contact "Bat > 85" closed; Permissible contact current capacity: DC 60 V/1 A or AC 30 V /1 A
• in buffering mode	Buffered mode: LED yellow (Bat), floating changeover contact "OK/Bat" to setting "Bat"; Prewarning battery voltage < 20.4 VDC: LED red (alarm), floating changeover contact "Alarm/Bat" to setting "Alarm"; Energy storage > 85%: LED green (Bat > 85%), floating NO contact "Bat > 85" closed	Buffered mode: LED yellow (Bat), floating changeover contact "OK/Bat" to setting "Bat"; Prewarning battery voltage < 20.4 VDC: LED red (alarm), floating changeover contact "Alarm/Bat" to setting "Alarm"; Energy storage > 85%: LED green (Bat > 85%), floating NO contact "Bat > 85" closed	Buffered mode: LED yellow (Bat), floating changeover contact "OK/Bat" to setting "Bat"; Prewarning battery voltage < 20.4 VDC: LED red (alarm), floating changeover contact "Alarm/Bat" to setting "Alarm"; Energy storage > 85%: LED green (Bat > 85%), floating NO contact "Bat > 85" closed
interfaces			
product component PC interface	No	Yes	Yes
product function communication function	No	No	No
design of the interface	without	serial	USB
safety			
galvanic isolation between input and output	No	No	No
operating resource protection class	Class III	Class III	Class III
protection class IP	IP20	IP20	IP20
standard			
• for emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
• for interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1931-2EC21 SITOP DC UPS module DC UPS 24 V/15 A	6EP1931-2EC31 SITOP DC UPS module DC UPS 24 V/15 A	6EP1931-2EC42 SITOP DC UPS module DC UPS 24 V/15 A
standards, specifications, approvals			
certificate of suitability			
• CE marking	Yes	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• EAC approval	Yes	Yes	Yes
MTBF at 40 °C	791 139 h	725 689 h	690 131 h
standards, specifications, approvals marine classification			
shipbuilding approval	Yes	Yes	Yes
Marine classification association			
• American Bureau of Shipping Europe Ltd. (ABS)	Yes	Yes	Yes
• Det Norske Veritas (DNV)	Yes	Yes	Yes
standards, specifications, approvals Environmental Product Declaration			
Environmental Product Declaration	Yes	Yes	Yes
Global Warming Potential [CO2 eq]			
• total	488.3 kg	490.6 kg	490.6 kg
• during manufacturing	18.6 kg	20.9 kg	20.9 kg
• during operation	469.4 kg	469.4 kg	469.4 kg
• after end of life	0.3 kg	0.33 kg	0.33 kg
ambient conditions			
ambient temperature			
• during operation	-25 ... +60 °C; with natural convection	-25 ... +60 °C; with natural convection	-25 ... +60 °C; with natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method			
type of electrical connection	screw terminal	screw terminal	screw terminal
• at input	24 V DC: 2 screw terminals for 1 ... 4 mm²/17 ... 11 AWG	24 V DC: 2 screw terminals for 1 ... 4 mm²/17 ... 11 AWG	24 V DC: 2 screw terminals for 1 ... 4 mm²/17 ... 11 AWG
• at output	24 V DC: 4 screw terminals for 1 ... 4 mm²/17 ... 11 AWG	24 V DC: 4 screw terminals for 1 ... 4 mm²/17 ... 11 AWG	24 V DC: 4 screw terminals for 1 ... 4 mm²/17 ... 11 AWG
• for rechargeable battery module	24 V DC: 2 screw terminals for 1 ... 4 mm²/17 ... 11 AWG	24 V DC: 2 screw terminals for 1 ... 4 mm²/17 ... 11 AWG	24 V DC: 2 screw terminals for 1 ... 4 mm²/17 ... 11 AWG
• for control circuit and status message	10 screw terminals for 0.5 ... 2.5 mm²/20 ... 13 AWG	10 screw terminals for 0.5 ... 2.5 mm²/20 ... 13 AWG	10 screw terminals for 0.5 ... 2.5 mm²/20 ... 13 AWG
mechanical data			
width × height × depth of the enclosure	50 mm × 125 mm × 125 mm	50 mm × 125 mm × 125 mm	50 mm × 125 mm × 125 mm
installation width × mounting height	50 mm × 225 mm	50 mm × 225 mm	50 mm × 225 mm
required spacing			
• top	50 mm	50 mm	50 mm
• bottom	50 mm	50 mm	50 mm
• left	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes	Yes	Yes
• S7 rail mounting	No	No	No
• wall mounting	No	No	No
housing can be lined up	Yes	Yes	Yes
net weight	0.4 kg	0.45 kg	0.45 kg

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1931-2EC21 SITOP DC UPS module DC UPS 24 V/15 A	6EP1931-2EC31 SITOP DC UPS module DC UPS 24 V/15 A	6EP1931-2EC42 SITOP DC UPS module DC UPS 24 V/15 A
accessories			
electrical accessories	Battery module	Battery module	Battery module
further information internet links			
internet link			
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com
additional information			
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information			
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

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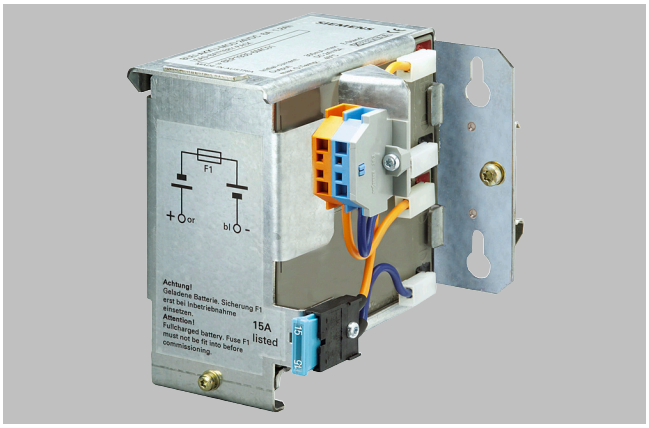
Overview



Maintenance-free battery modules with 1.2 Ah up to 12 Ah (lead-gel accumulator) for ambient temperatures from -15 to +40 °C as well as high-temperature battery module with 2.5 Ah (pure-lead accumulator) for ambient temperatures of -40 °C to +60 °C. The battery modules are completely prewired with battery retainer and terminals. For longer buffer times, the battery modules can be connected in parallel. Mounting onto standard mounting rail or directly to the wall.

Selection and ordering data

Battery module 1.2 Ah for DC UPS module 6 A	**6EP1935-6MC01**
Battery module 2.5 Ah for DC UPS modules 6 A and 15 A	**6EP1935-6MD31**
Battery module 3.2 Ah for DC UPS modules 6 A and 15 A	**6EP1935-6MD11**
Battery module 7 Ah for DC UPS modules 6 A, 15 A and 40 A (>30 A at least 2 × 7 Ah required)	**6EP1935-6ME21**
Battery module 12 Ah for DC UPS modules 6 A, 15 A and 40 A (>30 A at least 2 × 12 Ah required)	**6EP1935-6MF01**

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Technical specifications

Article number	6EP1935-6MC01	6EP1935-6MD31	6EP1935-6MD11	6EP1935-6ME21	6EP1935-6MF01
product brand name	SITOP Battery module	SITOP Battery module	SITOP Battery module	SITOP Battery module	SITOP Battery module
product designation	Battery module 1.2 Ah	Battery module 2.5 Ah	Battery module 3.2 Ah	Battery module 7 Ah	Battery module 12 Ah
electrical data					
end-of-charge voltage at DC					
• at -10 °C recommended	29 V	29 V	29 V	29 V	29 V
• at 0 °C recommended	28.4 V	28.6 V	28.4 V	28.4 V	28.4 V
• at 10 °C recommended	27.8 V	28.3 V	27.8 V	27.8 V	27.8 V
• at 20 °C recommended	27.3 V	27.9 V	27.3 V	27.3 V	27.3 V
• at 30 °C recommended	26.8 V	27.5 V	26.8 V	26.8 V	26.8 V
• at 40 °C recommended	26.6 V	27.2 V	26.6 V	26.6 V	26.6 V
• at 50 °C recommended	26.3 V	26.8 V	26.3 V	26.3 V	26.3 V
• at 60 °C recommended		26.4 V			
output					
battery capacity	1.2 A·h	2.5 A·h	3.2 A·h	7 A·h	12 A·h
output current in buffering mode maximum	3.6 A	15 A	9.6 A	30 A	30 A
peak current	7.5 A	15 A	15 A	30 A	30 A
charging current maximum	0.3 A	5 A	0.8 A	1.75 A	3 A
output voltage at DC rated value	24 V	24 V	24 V	24 V	24 V
interfaces					
communication function	No	No	No	No	No
protection and monitoring					
design of short-circuit protection	Battery fuse 7.5 A/32 V (solid-state circuitry blade-type fuse + support)	Battery fuse 15 A/32 V (solid-state circuitry blade-type fuse + support)	Battery fuse 15 A/32 V (solid-state circuitry blade-type fuse + support)	Battery fuse 20 A/32 V (solid-state circuitry blade-type fuse + support)	Battery fuse 20 A/32 V (solid-state circuitry blade-type fuse + support)
design of the overload protection	Valve control	Valve control	Valve control	Valve control	Valve control
safety					
operating resource protection class	Class III	Class III	Class III	Class III	Class III
protection class IP	IP00	IP00	IP00	IP00	IP00
standards, specifications, approvals					
certificate of suitability					
• CE marking	Yes	Yes	Yes	Yes	Yes
• UL approval	Yes; cURus-Recognized (UL 1778, CSA C22.2 No. 107.1), File E219627	Yes; cURus-Recognized (UL 1778, CSA C22.2 No. 107.1), File E219627	Yes; cURus-Recognized (UL 1778, CSA C22.2 No. 107.1), File E219627	Yes; cURus-Recognized (UL 1778, CSA C22.2 No. 107.1), File E219627	Yes; cURus-Recognized (UL 1778, CSA C22.2 No. 107.1), File E219627
• EAC approval	Yes	Yes	Yes	Yes	Yes
standards, specifications, approvals hazardous environments					
certificate of suitability					
• ATEX	No	No	No	No	No
• cCSAus, Class 1, Division 2	No	No	No	No	No
standards, specifications, approvals marine classification					
shipbuilding approval	Yes	Yes	Yes	Yes	Yes
Marine classification association					
• American Bureau of Shipping Europe Ltd. (ABS)	Yes	Yes	Yes	Yes	Yes
• Det Norske Veritas (DNV)	Yes	Yes	Yes	Yes	Yes

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Technical specifications (continued)

Article number	6EP1935-6MC01	6EP1935-6MD31	6EP1935-6MD11	6EP1935-6ME21	6EP1935-6MF01
product brand name	SITOP Battery module	SITOP Battery module	SITOP Battery module	SITOP Battery module	SITOP Battery module
product designation	Battery module 1.2 Ah	Battery module 2.5 Ah	Battery module 3.2 Ah	Battery module 7 Ah	Battery module 12 Ah
standards, specifications, approvals Environmental Product Declaration					
Environmental Product Declaration	Yes	Yes	Yes	Yes	Yes
Global Warming Potential [CO2 eq]					
• total	6.7 kg	14.9 kg	14.2 kg	25.9 kg	42.3 kg
• during manufacturing	4.1 kg	9.4 kg	7.9 kg	12.8 kg	20.2 kg
• during operation	1.8 kg	3.8 kg	4.9 kg	10.7 kg	18.4 kg
• after end of life	0.26 kg	0.59 kg	0.5 kg	0.81 kg	1.28 kg
ambient conditions					
ambient condition	For storage, mounting and operation of lead-acid batteries, the relevant DIN/VDE regulations or country-specific regulations (e.g. VDE 0510 Part 2/EN 50272-2) must be observed. You must ensure that the battery site is sufficiently ventilated. Possible sources of ignition must be at least 50 cm away.	For storage, mounting and operation of lead-acid batteries, the relevant DIN/VDE regulations or country-specific regulations (e.g. VDE 0510 Part 2/EN 50272-2) must be observed. You must ensure that the battery site is sufficiently ventilated. Possible sources of ignition must be at least 50 cm away.	For storage, mounting and operation of lead-acid batteries, the relevant DIN/VDE regulations or country-specific regulations (e.g. VDE 0510 Part 2/EN 50272-2) must be observed. You must ensure that the battery site is sufficiently ventilated. Possible sources of ignition must be at least 50 cm away.	For storage, mounting and operation of lead-acid batteries, the relevant DIN/VDE regulations or country-specific regulations (e.g. VDE 0510 Part 2/EN 50272-2) must be observed. You must ensure that the battery site is sufficiently ventilated. Possible sources of ignition must be at least 50 cm away.	For storage, mounting and operation of lead-acid batteries, the relevant DIN/VDE regulations or country-specific regulations (e.g. VDE 0510 Part 2/EN 50272-2) must be observed. You must ensure that the battery site is sufficiently ventilated. Possible sources of ignition must be at least 50 cm away.
ambient temperature					
• during operation	-15 ... +50 °C	-40 ... +60 °C	-15 ... +50 °C	-15 ... +50 °C	-15 ... +50 °C
• during transport	-20 ... +50 °C	-40 ... +60 °C	-20 ... +50 °C	-20 ... +50 °C	-20 ... +50 °C
• during storage	-20 ... +50 °C	-40 ... +60 °C	-20 ... +50 °C	-20 ... +50 °C	-20 ... +50 °C
relative temporary capacity loss at 20 °C in a month typical	3 %	3 %	3 %	3 %	3 %
service life of energy storage					
• typical	capacity falls to 80 % of original capacity (according to EUROBAT)	capacity falls to 80 % of original capacity (according to EUROBAT)	capacity falls to 80 % of original capacity (according to EUROBAT)	capacity falls to 80 % of original capacity (according to EUROBAT)	capacity falls to 80 % of original capacity (according to EUROBAT)
• at 20 °C typical	4 a	10 a	4 a	4 a	4 a
• at 30 °C typical	2 a	7 a	2 a	2 a	2 a
• at 40 °C typical	1 a	3 a	1 a	1 a	1 a
• at 50 °C typical	0.5 a	1.5 a	0.5 a	0.5 a	0.5 a
• at 60 °C typical		1 a			
note	Along with the storage and operating temperature, other factors such as the duration of the storage period and the charge status during storage have a decisive influence on the possible useful life. Batteries should therefore be stored as briefly as possible, always fully charged, and within the temperature range 0 to +20 °C.	Along with the storage and operating temperature, other factors such as the duration of the storage period and the charge status during storage have a decisive influence on the possible useful life. Batteries should therefore be stored as briefly as possible, always fully charged, and within the temperature range 0 to +20 °C.	Along with the storage and operating temperature, other factors such as the duration of the storage period and the charge status during storage have a decisive influence on the possible useful life. Batteries should therefore be stored as briefly as possible, always fully charged, and within the temperature range 0 to +20 °C.	Along with the storage and operating temperature, other factors such as the duration of the storage period and the charge status during storage have a decisive influence on the possible useful life. Batteries should therefore be stored as briefly as possible, always fully charged, and within the temperature range 0 to +20 °C.	Along with the storage and operating temperature, other factors such as the duration of the storage period and the charge status during storage have a decisive influence on the possible useful life. Batteries should therefore be stored as briefly as possible, always fully charged, and within the temperature range 0 to +20 °C.
connection method					
type of electrical connection	spring-loaded terminals	spring-loaded terminals	spring-loaded terminals	spring-loaded terminals	spring-loaded terminals
• for power supply unit	1 screw terminal each for 0.08 ... 2.5 mm² for + BAT and - BAT	1 screw terminal each for 0.08 ... 2.5 mm² for + BAT and - BAT	1 screw terminal each for 0.08 ... 2.5 mm² for + BAT and - BAT	1 screw terminal each for 0.08 ... 4 mm² for + BAT and - BAT	1 screw terminal each for 0.08 ... 4 mm² for + BAT and - BAT

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Technical specifications (continued)

Article number	6EP1935-6MC01	6EP1935-6MD31	6EP1935-6MD11	6EP1935-6ME21	6EP1935-6MF01
product brand name	SITOP Battery module	SITOP Battery module	SITOP Battery module	SITOP Battery module	SITOP Battery module
product designation	Battery module 1.2 Ah	Battery module 2.5 Ah	Battery module 3.2 Ah	Battery module 7 Ah	Battery module 12 Ah
mechanical data					
width × height × depth of the enclosure	96 mm × 106 mm × 108 mm	265 mm × 151 mm × 91 mm	190 mm × 151 mm × 82 mm	186 mm × 168 mm × 121 mm	253 mm × 168 mm × 121 mm
installation width × mounting height	116 mm × 126 mm	285 mm × 171 mm	210 mm × 171 mm	206 mm × 188 mm	273 mm × 188 mm
fastening method	snaps onto DIN rail EN 60715 35x7.5/15 or keyhole mounting for hooking in to M4 screws	snaps onto DIN rail EN 60715 35x15 or keyhole mounting for hooking in to M4 screws	snaps onto DIN rail EN 60715 35x7.5/15 or keyhole mounting for hooking in to M4 screws	can be screwed onto flat surface (keyhole mounting for hooking in to M4 screws)	can be screwed onto flat surface (keyhole mounting for hooking in to M4 screws)
• standard rail mounting	Yes	Yes	Yes	No	No
• S7 rail mounting	No	No	No	No	No
• wall mounting	Yes	Yes	Yes	Yes	Yes
net weight	1.8 kg	3.8 kg	3.2 kg	6 kg	9 kg
number of cells	12	12	12	12	12
accessories					
product component included	Accessories pack with solid-state circuitry fuse 7.5 A	Accessories pack with solid-state circuitry fuse 15 A	Accessories pack with solid-state circuitry fuse 15 A	Accessories pack with solid-state circuitry fuse 20 A and 30 A	Accessories pack with solid-state circuitry fuse 20 A and 30 A
further information internet links					
internet link					
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax
additional information					
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information					
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enter-	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enter-	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or

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Technical specifications (continued)

Article number	6EP1935-6MC01	6EP1935-6MD31	6EP1935-6MD11	6EP1935-6ME21	6EP1935-6MF01
product brand name	SITOP Battery module	SITOP Battery module	SITOP Battery module	SITOP Battery module	SITOP Battery module
product designation	Battery module 1.2 Ah	Battery module 2.5 Ah	Battery module 3.2 Ah	Battery module 7 Ah	Battery module 12 Ah
	the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	prise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	prise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

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Add-on modules

9/2	Introduction
9/3	Redundancy module
9/10	Selectivity module
9/29	Buffer module
9/33	Inrush current limiter
9/37	SENTRON Overvoltage Protection Devices

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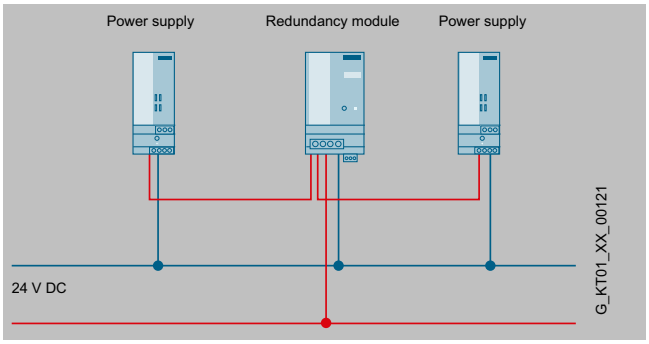
Overview

Add-on modules for increasing system availability

A power supply unit on its own cannot guarantee fault-free 24 V supply. Power failures, extreme line voltage fluctuations, or a faulty load can disrupt plant operation and result in high costs. The add-on modules offer everything from extensive protection against interference on the primary and secondary side right up to complete all-round protection.

Redundancy modules – for doubling system availability



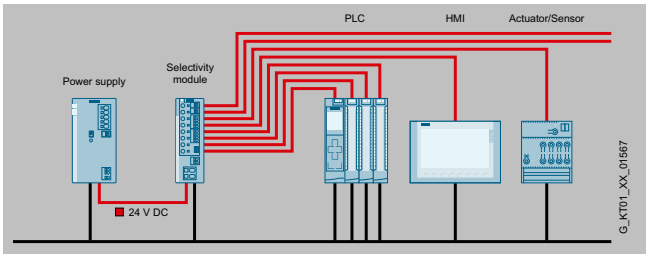
SITOP redundancy modules

The redundancy module decouples two power supplies of the same type so that the loads are still supplied by the second power supply (1 + 1 redundancy) in case one of the two power supplies fails.

Redundancy modules support parallel connected power supplies of the same type to increase power while offering redundancy at the same time (N + 1 redundancy).

You can use the redundancy module NEC Class 2 to implement a redundant 24 V supply limited to an output power of 100 VA.

Selectivity modules – for protection of 24 V and 48 V feeders

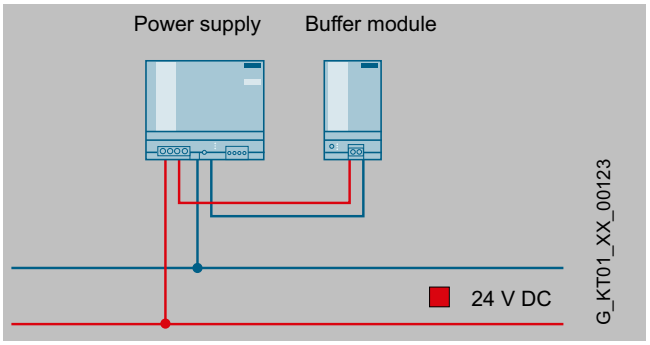


SITOP selectivity modules

The selectivity module is used in conjunction with 24 V and 48 V power supplies to distribute the load current over multiple feeders and to monitor the individual partial currents. Faults caused by overload or short-circuits in individual branches are detected and selectively switched off so that the remaining load current paths remain unaffected. This achieves fast fault diagnostics and minimizes downtimes.

Overview (continued)

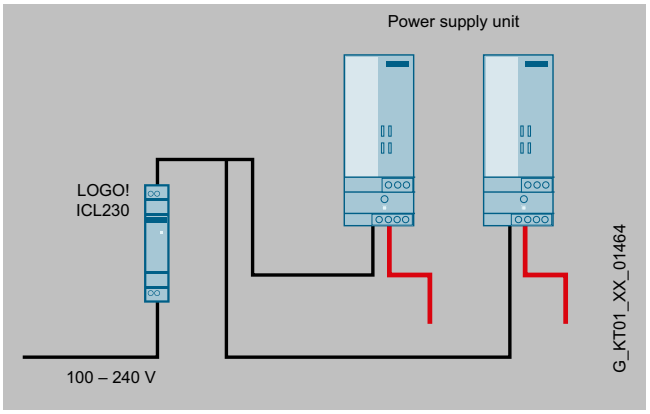
Buffer module – bridging power failures for as long as seconds



SITOP buffer modules

Power failures normally only last for fractions of a second, but they can still cause costly and time-consuming damage in sensitive production areas. In combination with SITOP 24 V power supply units, the buffer module bridges short voltage dips of this type with its electrolytic capacitors and ensures uninterrupted operation.

Inrush current limiter – for protection of downstream power supplies against excessively high inrush currents



SITOP inrush current limiters are used to reliably reduce the starting currents that are caused, for example, by transformers or with pulse-controlled power supplies by the rectifier circuit on the input side with capacitor charging.

However, they can also be used as a fuse for relay outputs downstream from the power supply in order to ensure the functionality of these relay modules when high inrush currents are connected to these loads.

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Overview

The SITOP redundancy modules are the optimal extension for all power supplies to ensure additional protection from failure of the control voltage. The redundancy module decouples the feeding power supply units and, in case of failure of one unit, the other one automatically takes over the DC supply. SITOP RED1200 redundancy modules compensate for the missing signal function when power supplies with diagnostic signals are used. If a fault occurs, the signal from the defective power supply remains off. The error message is still generated. The rugged RED1200 add-on modules decouple power supply units with output voltages from 10 to 58 V.

Benefits

- High safety of the control voltage due to redundant design
- Power is reliably supplied even when a power supply fails
- Compact redundancy modules for power supplies up to 40 A
- Redundancy module 24 V/NEC Class 2 with limiting to 100 VA
- SITOP PSE202U 24 V: Diagnostic message via LED and signaling contacts with adjustable switching thresholds
- SITOP RED1200 12 V, 24 V, 48 V: Compact and high dielectric strength

Design

For redundant design, the redundancy module decouples two SITOP power supplies of the same type from each other in parallel mode via diodes. Depending on the output current of the power supplies, 1 to 2 redundancy modules may be required.

Function

Monitoring by SITOP PSE202U redundancy modules

The PSE202U redundancy module continuously monitors the output voltage of connected power supply units. The switching threshold can be set from 20 to 25 V on the device. If the output voltage of one of the two power supply units sinks to the set value or below, this is signaled by an LED on the device and a changeover contact.

The signal evaluation of the PSE202U is also represented in our library for SIMATIC PCS 7. Download:
https://support.industry.siemens.com/cs/ww/en/view/109476154

Selection and ordering data

SITOP RED1200 redundancy module Input/output: 12 V DC, 24 V, 48 V/20 A Suitable for decoupling two SITOP power supplies with a maximum of 10 A output current each	**6EP4346-7RB00-0AX0**
SITOP RED1200 redundancy module Input/output: 12 V DC, 24 V, 48 V/40 A Suitable for decoupling two SITOP power supplies with a maximum of 20 A output current each	**6EP4347-7RB00-0AX0**
SITOP RED1200 Ex redundancy module Input/output: 24 V DC, 48 V/40 A Suitable for decoupling two SITOP power supplies with a maximum of 20 A output current each	**6EP4347-7RC00-0AX0**
SITOP RED1200 redundancy module Input/output: 24 V DC, 48 V/80 A Suitable for decoupling two SITOP power supplies with a maximum of 40 A output current each	**6EP4348-7RB00-0AX0**
SITOP PSE202U redundancy module Input/output: 24 V DC/40 A Suitable for decoupling two SITOP power supplies with a maximum of 20 A output current	**6EP1961-3BA21**
SITOP PSE202U redundancy module Input/output: 24 V DC/NEC Class 2 Suitable for decoupling two SITOP power supplies output power limited < 100 VA	**6EP1962-2BA00**
SITOP PSE202U redundancy module Input/output: 24 V DC/10 A Suitable for decoupling two SITOP power supplies with a maximum of 5 A output current	**6EP1964-2BA00**

Accessories

Device identification labels For SITOP RED1200:	**3RT2900-1SB20**
SIMATIC ET 200SP labels 160 equipment labeling plates, 10 sheets (160 plates)	**6ES7193-6LF30-0AW0**

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Technical specifications

Article number product brand name	6EP4346-7RB00-0AX0 RED1200 2x10A	6EP4347-7RB00-0AX0 RED1200 2x20A	6EP4347-7RC00-0AX0 RED1200 2x20A EX	6EP4348-7RB00-0AX0 RED1200 2x40A
input				
type of the power supply network	DC voltage	DC voltage	DC voltage	DC voltage
supply voltage at DC	12 ... 48 V	12 ... 48 V	12 ... 48 V	12 ... 48 V
input voltage at DC	10 ... 58 V	10 ... 58 V	10 ... 58 V	10 ... 58 V
output				
voltage curve at output	Controlled DC voltage	Controlled DC voltage	Controlled DC voltage	Controlled DC voltage
number of outputs	1	1	1	1
output voltage at DC rated value	24 V	24 V	24 V	24 V
formula for output voltage	Vin - approx. 0.6 V	Vin - approx. 0.6 V	Vin - approx. 0.6 V	Vin - approx. 0.6 V
output voltage				
• at output 1 at DC rated value	24 V	24 V	24 V	24 V
output voltage adjustable	No	No	No	No
output current				
• rated value	20 A	40 A	40 A	80 A
bridging of equipment	No	No	No	No
efficiency				
efficiency in percent	97.5 %	97.5 %	97.5 %	97.5 %
power loss [W]				
• at rated output voltage for rated value of the output current typical	12 W	25 W	25 W	46 W
• during no-load operation maximum	0.1 W	0.1 W	0.1 W	0.1 W
safety				
galvanic isolation between input and output	No	No	No	No
operating resource protection class	Class III	Class III	Class III	Class III
protection class IP	IP20	IP20	IP20	IP20
standard				
• for emitted interference	EN 61000-6-3	EN 61000-6-3	EN 61000-6-3	EN 61000-6-3
• for interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals				
certificate of suitability				
• CE marking	Yes	Yes	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• CSA approval	Yes; CSA C22.2 No. 62368-1	Yes; CSA C22.2 No. 62368-1	Yes; CSA C22.2 No. 62368-1	Yes; CSA C22.2 No. 62368-1
• UKCA marking			Yes	
• NEC Class 2	No	No	No	No
type of certification				
• CB-certificate			Yes	
MTBF at 40 °C	8 100 000 h	6 100 000 h	6 100 000 h	4 900 000 h
standards, specifications, approvals hazardous environments				
certificate of suitability				
• IECEx	No	No	Yes; IECEx Ex ec IIC T4 Gc	No
• ATEX	No	No	Yes; ATEX (EX) II 3G Ex ec IIC T4 Gc	No
• ULhazloc approval	No	No	Yes	No
• cCSAus, Class 1, Division 2	No	No	Yes	No
• FM registration	No	No	No	No
standards, specifications, approvals marine classification				
shipbuilding approval	No	No	No	No
Marine classification association				

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Technical specifications (continued)

Article number product brand name	6EP4346-7RB00-0AX0 RED1200 2x10A	6EP4347-7RB00-0AX0 RED1200 2x20A	6EP4347-7RC00-0AX0 RED1200 2x20A EX	6EP4348-7RB00-0AX0 RED1200 2x40A
• American Bureau of Shipping Europe Ltd. (ABS)	No	No	No	No
• French marine classification society (BV)	No	No	No	No
• Det Norske Veritas (DNV)	No	No	No; in preparation	No
• Lloyds Register of Shipping (LRS)	No	No	No	No
standards, specifications, approvals Environmental Product Declaration				
Environmental Product Declaration	Yes	Yes	Yes	Yes
Global Warming Potential [CO2 eq]				
• total	396.8 kg	805.5 kg	805.5 kg	1 485.3 kg
• during manufacturing	51.1 kg	51.1 kg	46.4 kg	46.4 kg
• during operation	1 051.5 kg	1 051.5 kg	281.6 kg	281.6 kg
• after end of life	0.81 kg	0.81 kg	0.74 kg	0.74 kg
ambient conditions				
ambient temperature				
• during operation	-40 ... +70 °C; with natural convection	-40 ... +70 °C; with natural convection	-40 ... +70 °C; with natural convection	-40 ... +70 °C; with natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method				
type of electrical connection	push-in terminals	push-in terminals	push-in terminals	push-in terminals
• at input	In1, In2: each for 0.2 ... 10 mm²	In1, In2: each for 0.75 ... 16 mm²	In1, In2: each for 0.75 ... 16 mm²	In1, In2: each for 0.75 ... 16 mm²
• at output	Out1: 0.2 ... 10 mm²	Out1: 0.75 ... 16 mm²	Out1: 0.75 ... 16 mm²	Out1, Out2: 0.75 ... 16 mm²
mechanical data				
width × height × depth of the enclosure	35 mm × 125 mm	45 mm × 125 mm	45 mm × 125 mm	45 mm × 125 mm
installation width × mounting height	35 mm	45 mm	45 mm	45 mm
required spacing				
• top	45 mm	45 mm	45 mm	45 mm
• bottom	45 mm	45 mm	45 mm	45 mm
• left	0 mm	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes	Yes	Yes	Yes
• S7 rail mounting	No	No	No	No
• wall mounting	No	No	No	No
housing can be lined up	Yes	Yes	Yes	Yes
net weight	0.47 kg	0.51 kg	0.51 kg	1.01 kg
further information internet links				
internet link				
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com

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Technical specifications (continued)

Article number product brand name	6EP4346-7RB00-0AX0 RED1200 2x10A	6EP4347-7RB00-0AX0 RED1200 2x20A	6EP4347-7RC00-0AX0 RED1200 2x20A EX	6EP4348-7RB00-0AX0 RED1200 2x40A
additional information				
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information				
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. 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Article number product brand name	6EP1962-2BA00 SITOP PSE202U	6EP1964-2BA00 SITOP PSE202U	6EP1961-3BA21 SITOP PSE202U
input			
type of the power supply network	DC voltage	DC voltage	DC voltage
supply voltage at DC	24 ... 24 V	24 ... 24 V	24 ... 24 V
input voltage at DC	19 ... 29 V	19 ... 29 V	24 ... 28.8 V

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Technical specifications (continued)

Article number product brand name	6EP1962-2BA00 SITOP PSE202U	6EP1964-2BA00 SITOP PSE202U	6EP1961-3BA21 SITOP PSE202U
output			
voltage curve at output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
output voltage at DC rated value	24 V	24 V	24 V
formula for output voltage	Vin - approx. 0.5 V	Vin - approx. 0.5 V	Vin - approx. 0.5 V
output voltage			
• at output 1 at DC rated value	24 V	24 V	24 V
output voltage adjustable	No	No	No
display version for normal operation	Green LED for "both input voltages > switching threshold"; red LED for "at least one input voltage < switching threshold" or "output switched off"	Green LED for "both Input voltages > switching threshold"; red LED: for "at least one input voltage < switching threshold"	Green LED for "both Input voltages > switching threshold"; red LED: for "at least one input voltage < switching threshold"
type of signal at output	Isolated relay contact (contact rating 6 A/42 V AC, 30 V DC, but max. 100 VA): Contact closed if one or both input voltages < switching threshold or output is switched off. Setting range of switching threshold 20 V ±0.5 V to 25 V ±0.5 V	Isolated relay contact (contact rating 6 A/42 V AC, 30 V DC): Contact closed if both input voltages > switching threshold, setting range of switching threshold 20 V ± 0.5V to 25 V ± 0.5V	Isolated relay contact (changeover contacts, rating 8 A/240 V AC, 24 V DC): Signals OK if both input voltages > switching threshold, setting range of threshold 20 ... 25 V
output current			
• rated value	3.8 A	10 A	40 A
• rated range	3.5 A; 4.3 A at 19 V, 2.8 A at 28.5 V; maximum aggregate current in the event of an error according to NEC class 2 limit 8 A	10 A; max. aggregate current 10 A	40 A; max. aggregate current 40 A; +60 ... +70 °C: derating 3%/K
efficiency			
efficiency in percent	94.8 %	97.1 %	96.6 %
power loss [W]			
• at rated output voltage for rated value of the output current typical	5 W	3.6 W	34 W
• during no-load operation maximum	2 W	1 W	1.5 W
safety			
galvanic isolation	yes, SELV acc. to EN 60950-1 (relay contact)	yes, SELV acc. to EN 60950-1 (relay contact)	yes, SELV acc. to EN 60950-1 (relay contact)
operating resource protection class	Class III	Class III	Class III
protection class IP	IP20	IP20	IP20
standard			
• for emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
• for interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals			
certificate of suitability			
• CE marking	Yes	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; UL-Recognized (UL 60950-1, NEC class 2), File E151273	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; UL-Recognized (UL 60950-1, NEC class 2), File E151273	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• EAC approval	Yes	Yes	Yes
• NEC Class 2	Yes; according to UL1310, File E151273	No	No
type of certification			
• CB-certificate	No	No	No
MTBF at 40 °C	678 210 h	3 273 000 h	6 471 654 h

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Technical specifications (continued)

Article number product brand name	6EP1962-2BA00 SITOP PSE202U	6EP1964-2BA00 SITOP PSE202U	6EP1961-3BA21 SITOP PSE202U
standards, specifications, approvals hazardous environments			
certificate of suitability			
• IECEx	No	No	No
• ATEX	No	No	No
• ULhazloc approval	No	No	No
• cCSAus, Class 1, Division 2	No	No	No
• FM registration	No	No	No
standards, specifications, approvals marine classification			
shipbuilding approval	No	No	Yes
Marine classification association			
• American Bureau of Shipping Europe Ltd. (ABS)	No	No	Yes
• French marine classification society (BV)	No	No	No
• Det Norske Veritas (DNV)	No	No	Yes
• Lloyds Register of Shipping (LRS)	No	No	No
ambient conditions			
ambient temperature			
• during operation	-20 ... +70 °C; with natural convection	-20 ... +70 °C; with natural convection	-25 ... +60 °C; with natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method			
type of electrical connection	screw terminal	screw terminal	screw terminal
• at input	Input, output and ground: removable screw terminal, each 1 x 0.5 ... 2.5 mm² single-core/finely stranded	Input, output and ground: removable screw terminal, each 1 x 0.5 ... 2.5 mm² single-core/finely stranded	Input, output and ground: 1 screw terminal each for 0.33 ... 10 mm² single-core/finely stranded
• for auxiliary contacts	Relay contact: 2 screw terminals for 0.5 ... 2.5 mm² single-core/finely stranded	Relay contact: 2 screw terminals for 0.5 ... 2.5 mm² single-core/finely stranded	Relay contact: 3 screw terminals for 0.5 ... 2.5 mm² single-core/finely stranded
mechanical data			
width × height × depth of the enclosure	30 mm × 100 mm	30 mm × 100 mm	70 mm × 120 mm
installation width × mounting height	30 mm	30 mm	70 mm
required spacing			
• top	50 mm	50 mm	50 mm
• bottom	50 mm	50 mm	50 mm
• left	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes	Yes	Yes
• S7 rail mounting	No	No	No
• wall mounting	No	No	No
housing can be lined up	Yes	Yes	Yes
net weight	0.125 kg	0.125 kg	0.5 kg
accessories			
electrical accessories	Removable spring-type terminal 6EP1971-5BA00	Removable spring-type terminal 6EP1971-5BA00	
further information internet links			
internet link			
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com

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Technical specifications (continued)

Article number product brand name	6EP1962-2BA00 SITOP PSE202U	6EP1964-2BA00 SITOP PSE202U	6EP1961-3BA21 SITOP PSE202U
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com
additional information			
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information			
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

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Overview

SITOP selectivity modules

Selectivity and fast fault location in 24 V and 48 V feeders

The SITOP PSE200U and SITOP SEL1200/SEL1400 selectivity modules are the optimal expansion for all 24 V power supplies in order to distribute the load current across multiple feeders and monitor it. The SITOP SEL1200 is also available for 48 V applications. Overload and short-circuit in one or more feeders is reliably detected and signaled.

The electronics permit brief current peaks caused, for example, by high inrush currents, but disconnect feeders in the event of an extended overload. This is ensured even on high-resistance lines and in the case of "creeping" short-circuits. In such cases, miniature circuit breakers fail to trip, or trip too late, even if the power supply unit could deliver the required tripping current. The SITOP add-on module continues to supply the intact feeders with 24 V or 48 V, without any interruption and totally reaction-free – features which avoid a potential total system failure.

Benefits

- Reliable detection of overload or short-circuit in the 24 V and 48 V circuit
- Safe tripping regardless of line resistance
- Switching characteristic for standard protection and high inrush currents (SEL1200)
- Current-limiting characteristic for increased fuse protection requirements (SEL1400, PSE200U)
- Either 4 or 8 load feeders per module with individually adjustable response threshold
  - 4 outputs 24 V, adjustable, 0.5 – 3 A or 3 – 10 A (PSE200U)
  - 4 outputs 24 V, adjustable, 2 – 10 A (SEL1200, SEL1400)
  - 8 outputs 24 V, adjustable, 1 – 5 A or 2 – 10 A (SEL1200, SEL1400)
  - 4 outputs 48 V, adjustable, 1 - 10 A (SEL1200 48 V)
- Common signaling contact or single-channel diagnostics for voltage, current, set threshold value, and if applicable reason for switch off (SEL1200, SEL1400)
- Common signaling contact or single-channel signaling for output state (PSE200U)
- Voltage measuring points for output currents (1 V = 1 A), disconnection of load circuit is not required (PSE200U)
- Variants with power limitation of the outputs to 100 VA according to NEC Class 2 (PSE200U)
- Ex variants for use in hazardous environments (SEL1200, SEL1400)
- Evaluation via free SIMATIC S7 function blocks (S7-1500/1200/400/300) and faceplates for SIMATIC Comfort Panels for SITOP SEL1200 and SITOP SEL1400
- Evaluation via free SIMATIC S7 function blocks (S7-1500/1200/400/300) or SIMOTION function blocks for SITOP PSE200U modules with single-channel message
- Simple configuration thanks to individual setting of maximum current for every output using potentiometers
- 3-color LEDs for fast on-site fault localization
- Remote reset possible from a central location
- Simple commissioning thanks to manual switch on/off of outputs
- Sequential connection of feeders to reduce total inrush current
- Sealable transparent cover over adjusters for currents and times protects against maladjustment
- Library for visualization in SIMATIC PCS 7

Design

The selectivity modules are specially designed for the response of switched-mode power supply units and the 24 V DC feeders to be supplied. Individual setting of the response threshold allows optimum adaptation to the respective feeder.

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Function

Monitoring

The current per output is monitored by the selectivity modules; if the set threshold of the output is exceeded, the output is switched off according to a predefined time-current characteristic curve. All other feeders continue to be supplied without interruption. The supplying 24 V input voltage is also continuously monitored for the selectivity modules with current-limiting characteristic (PSE200U, SEL1400). As soon as this voltage threatens to fail, the path with a higher current than the set threshold is disconnected immediately.

SITOP PSE200U signaling

Signaling of the faulty feeder takes place by the LEDs on the device as well as via common signaling contact or single-channel signaling. The selectivity modules with single-channel signaling output the status (connected, disconnected due to overload) of the individual outputs cyclically by means of a serial code which can be read in by a digital PLC input.

Free function blocks for SIMATIC S7-300/400/1200/1500 for STEP 7 and TIA Portal as well as SIMOTION CPUs with SIMOTION SCOUT are available for evaluation. This enables simple integration into the S7 diagnostics and host control or HMI systems. Integration into LOGO! logic modules is also described as an application example.

More information, as well as the function blocks for download, can be found at:

SIMATIC S7:
http://support.automation.siemens.com/WW/view/en/61450284

SIMOTION:
http://support.automation.siemens.com/WW/view/en/82555461

LOGO!:
http://www.siemens.com/logo-application-examples

Easy visualization in the SIMATIC PCS 7 process control system is made possible by the SITOP library, which contains function blocks and faceplates for single-channel and common signaling: http://support.industry.siemens.com/cs/ww/en/view/109476154

SITOP SEL1200 and SEL1400 signaling

Signaling of the faulty feeder takes place by the LEDs on the device as well as via common signaling contact or diagnostic interface. When the switch is set to "Diagnostic interface", the device parameters and the status of the individual outputs are cyclically output via a serial code (Manchester code), which can be read in by a digital PLC input.

Free function blocks for SIMATIC S7-300/400/1200/1500 and faceplates for SIMATIC Comfort Panels are available for evaluation.

The output current of each of the 4 or 8 outputs, the set current threshold, the reason for the automatic disconnection and the type, date of manufacture and article number of the selectivity module are evaluated.

More information as well as the function blocks for downloading can be found at:

https://support.industry.siemens.com/cs/ww/en/view/109763709

Connection and disconnection of the outputs

To reduce the inrush current and relieve the power supply, the individual outputs can be switched on sequentially with a pre-defined delay time or load-dependent when the device starts up.

Each output can be manually connected and disconnected on the device (for example, for commissioning or service). Disconnected outputs can also be connected by means of remote reset (24 V input). The prerequisite is that the outputs were not disconnected manually on the device.

Switch-off characteristic

The SITOP PSE200U, SITOP select und SITOP SEL1400 selectivity modules feature a limiting characteristic, whereas the SITOP SEL1200 selectivity module has a switching one. The SITOP SEL1200

Function (continued)

is adequate for all load components which correspond to the PLC standard. With this module, the voltage can briefly drop below 20 V. The SITOP SEL1400 prevents voltage drops below 20 V in the loads and therefore also protects those components which do not correspond to the PLC standard.

Selection and ordering data

SITOP SEL1200 Selectivity module, 4-channel, switching Input: 24 V DC Output: 24 V DC/10 A per output Adjustable response threshold 2 ... 10 A	**6EP4437-7FB00-3CX0**
SITOP SEL1200 Selectivity module, 8-channel, switching Input: 24 V DC Output: 24 V DC/5 A per output Adjustable response threshold 1 ... 5 A	**6EP4437-7FB00-3DX0**
SITOP SEL1200 Selectivity module, 8-channel, switching Input: 24 V DC Output: 24 V DC/10 A per output Adjustable response threshold 2 ... 10 A	**6EP4438-7FB00-3DX0**
SITOP SEL1200 Selectivity module, 4-channel, switching Input: 48 V DC Output: 48 V DC/10 A per output Adjustable response threshold 1 ... 10 A	**6EP4448-7FB00-3CX0**
SITOP SEL1200 Ex Selectivity module, 8-channel, switching Input: 24 V DC Output: 24 V DC/10 A per output Adjustable response threshold 2 ... 10 A	**6EP4438-7FC00-3DX0**
SITOP SEL1400 Selectivity module, 4-channel, limiting Input: 24 V DC Output: 24 V DC/10 A per output Adjustable response threshold 2 ... 10 A	**6EP4437-7EB00-3CX0**
SITOP SEL1400 Selectivity module, 8-channel, limiting Input: 24 V DC Output: 24 V DC/5 A per output Adjustable response threshold 1 ... 5 A	**6EP4437-7EB00-3DX0**
SITOP SEL1400 Selectivity module, 8-channel, limiting Input: 24 V DC Output: 24 V DC/10 A per output Adjustable response threshold 2 ... 10 A	**6EP4438-7EB00-3DX0**
SITOP SEL1400 Ex Selectivity module, 8-channel, limiting Input: 24 V DC Output: 24 V DC/10 A per output Adjustable response threshold 2 ... 10 A	**6EP4438-7EC00-3DX0**

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Selection and ordering data (continued)

SITOP PSE200U 3 A	
Selectivity module, 4-channel Input: 24 V DC Output: 24 V DC/3 A per output Adjustable response threshold 0.5 ... 3 A	
• With common alarm signal	**6EP1961-2BA11**
• With single-channel signaling	**6EP1961-2BA31**
SITOP PSE200U 3 A NEC Class 2	
Selectivity module, 4-channel Input: 24 V DC Output: 24 V DC/3 A per output Adjustable response threshold 0.5 ... 3 A	
• With common alarm signal	**6EP1961-2BA51**
• With single-channel signaling	**6EP1961-2BA61**
SITOP PSE200U 10 A	
Selectivity module, 4-channel Input: 24 V DC Output: 24 V DC/10 A per output Adjustable response threshold 3 ... 10 A	
• With common alarm signal	**6EP1961-2BA21**
• With single-channel signaling	**6EP1961-2BA41**
SITOP select Selectivity module, 4-channel Input: 24 V DC Output: 24 V DC/10 A per output Adjustable response threshold 2 ... 10 A	**6EP1961-2BA00**

Accessories

Device identification labels For SITOP SEL1200/1400:	**3RT2900-1SB20**
SIMATIC ET 200SP labels 160 equipment labeling plates, 10 sheets (160 plates)	**6ES7193-6LF30-0AW0**

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Technical specifications

Article number	6EP4437-7FB00-3C-X0	6EP4437-7FB00-3D-X0	6EP4438-7FB00-3D-X0	6EP4438-7FC00-3D-X0	6EP4448-7FB00-3C-X0
product brand name	SITOP SEL1200	SITOP SEL1200	SITOP SEL1200	SITOP SEL1200 EX	SITOP SEL1200
type of current supply	Selectivity module, 4 x 2 ... 10 A group signal contact or diagnostics monitor	Selectivity module, 8 x 1 ... 5 A group signal contact or diagnostics monitor	Selectivity module, 8 x 2 ... 10 A group signal contact or diagnostics monitor	Selectivity module, 8 x 2 ... 10 A group signal contact or diagnostics monitor	Selectivity module, 4 x 1 ... 10 A group signal contact or diagnostics monitor
input					
type of the power supply network	Controlled DC voltage	Controlled DC voltage	Controlled DC voltage	Controlled DC voltage	Controlled DC voltage
supply voltage at DC rated value	24 V	24 V	24 V	24 V	48 V
input voltage at DC	20.4 ... 30 V	20.4 ... 30 V	20.4 ... 30 V	20.4 ... 30 V	40 ... 56 V
overvoltage overload capability	35 V	35 V	35 V	35 V	60 V
input current at rated input voltage 24 V rated value	40 A	40 A	60 A	60 A	40 A
output					
voltage curve at output	controlled DC voltage	controlled DC voltage	controlled DC voltage	controlled DC voltage	controlled DC voltage
formula for output voltage	Vin - approx. 0.2 V	Vin - approx. 0.2 V	Vin - approx. 0.2 V	Vin - approx. 0.2 V	Vin - approx. 0.2 V
relative overall tolerance of the voltage note	In accordance with the supplying input voltage	In accordance with the supplying input voltage	In accordance with the supplying input voltage	In accordance with the supplying input voltage	In accordance with the supplying input voltage
number of outputs	4	8	8	8	4
output current up to 60 °C per output rated value	10 A; +60 ... +70 °C: Derating 2%/K	5 A; +60 ... +70 °C: Derating 2%/K	10 A; +60 ... +70 °C: Derating 2%/K	10 A; +60 ... +70 °C: Derating 2%/K	10 A; +60 ... +70 °C: Derating 3%/K
Adjustable output current	2 ... 10 A	1 ... 5 A	2 ... 10 A	2 ... 10 A	1 ... 10 A
type of response value setting	via potentiometer	via potentiometer	via potentiometer	via potentiometer	via potentiometer
response delay maximum	5 s; with load-optimized switch-on of all 4 channels	5 s; with load-optimized switch-on of all 8 channels	5 s; with load-optimized switch-on of all 8 channels	5 s; with load-optimized switch-on of all 8 channels	5 s; with load-optimized switch-on of all 4 channels
product feature parallel switching of outputs	Yes	Yes	Yes	Yes	Yes
type of outputs connection	Connection of all outputs after ramp-up of the supply voltage > 20 V; delay time of 25 ms, 200 ms, 500 ms or "load-optimized" can be set via DIP switch for sequential connection	Connection of all outputs after ramp-up of the supply voltage > 20 V; delay time of 25 ms, 200 ms, 500 ms or "load-optimized" can be set via DIP switch for sequential connection	Connection of all outputs after ramp-up of the supply voltage > 20 V; delay time of 25 ms, 200 ms, 500 ms or "load-optimized" can be set via DIP switch for sequential connection	Connection of all outputs after ramp-up of the supply voltage > 20 V; delay time of 25 ms, 200 ms, 500 ms or "load-optimized" can be set via DIP switch for sequential connection	Connection of all outputs after ramp-up of the supply voltage > 31 V; delay time of 25 ms, 200 ms, 500 ms or "load-optimized" can be set via DIP switch for sequential connection
power loss					
efficiency in percent	98 %	98 %	98 %	98 %	99 %
power loss [W] at rated output voltage for rated value of the output current typical	10 W	10 W	18 W	18 W	10 W
switch-off characteristic					
switching characteristic					
• of the excess current	Iout > 2.0 x set value, switch-off after approx. 30 ms, Iout > 1.8 x set value, switch-off after approx. 0.1 s, Iout > 1.5 x set value, switch-off after approx. 1 s, Iout > 1.0 x set value, switch-off after approx. 5 s	Iout > 2.0 x set value, switch-off after approx. 30 ms, Iout > 1.8 x set value, switch-off after approx. 0.1 s, Iout > 1.5 x set value, switch-off after approx. 1 s, Iout > 1.0 x set value, switch-off after approx. 5 s	Iout > 2.0 x set value, switch-off after approx. 30 ms, Iout > 1.8 x set value, switch-off after approx. 0.1 s, Iout > 1.5 x set value, switch-off after approx. 1 s, Iout > 1.0 x set value, switch-off after approx. 5 s	Iout > 2.0 x set value, switch-off after approx. 30 ms, Iout > 1.8 x set value, switch-off after approx. 0.1 s, Iout > 1.5 x set value, switch-off after approx. 1 s, Iout > 1.0 x set value, switch-off after approx. 5 s	Iout = 1.0 ...1.5 x set value, switch-off after approx. 5 s
• of the current limitation					Iout = 1.5 x set value, switch-off after typ. 100 ms
• of the immediate switch-off	Iout > set value and Vin < 20 V, switch-off after approx. 8 ms	Iout > set value and Vin < 20 V, switch-off after approx. 8 ms	Iout > set value and Vin < 20 V, switch-off after approx. 8 ms	Iout > set value and Vin < 20 V, switch-off after approx. 8 ms	Iout > set value and Vin < 38 V, switch-off after approx. 0.5 ms
design of the reset device/resetting mechanism	via sensor per output	via sensor per output	via sensor per output	via sensor per output	via sensor per output
remote reset function	Non-electrically isolated 24 V input (signal level "high" at > 15 V)	Non-electrically isolated 24 V input (signal level "high" at > 15 V)	Non-electrically isolated 24 V input (signal level "high" at > 15 V)	Non-electrically isolated 24 V input (signal level "high" at > 15 V)	Non-electrically isolated 24/48 V input (signal level "high" at > 15 V)

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Technical specifications (continued)

Article number	6EP4437-7FB00-3C-X0	6EP4437-7FB00-3D-X0	6EP4438-7FB00-3D-X0	6EP4438-7FC00-3D-X0	6EP4448-7FB00-3C-X0
product brand name	SITOP SEL1200	SITOP SEL1200	SITOP SEL1200	SITOP SEL1200 EX	SITOP SEL1200
type of current supply	Selectivity module, 4 x 2 ... 10 A group signal contact or diagnostics monitor	Selectivity module, 8 x 1 ... 5 A group signal contact or diagnostics monitor	Selectivity module, 8 x 2 ... 10 A group signal contact or diagnostics monitor	Selectivity module, 8 x 2 ... 10 A group signal contact or diagnostics monitor	Selectivity module, 4 x 1 ... 10 A group signal contact or diagnostics monitor
protection and monitoring					
fuse protection type at input	16 A per output (not accessible)	10 A per output (not accessible)	16 A per output (not accessible)	16 A per output (not accessible)	15 A per output (not accessible)
display version for normal operation	Three-color LED per output: green LED for "Output switched through"; yellow LED for "Output switched off manually"; red LED for "Output switched off due to overcurrent"	Three-color LED per output: green LED for "Output switched through"; yellow LED for "Output switched off manually"; red LED for "Output switched off due to overcurrent"	Three-color LED per output: green LED for "Output switched through"; yellow LED for "Output switched off manually"; red LED for "Output switched off due to overcurrent"	Three-color LED per output: green LED for "Output switched through"; yellow LED for "Output switched off manually"; red LED for "Output switched off due to overcurrent"	Three-color LED per output: green LED for "Output switched through"; yellow LED for "Output switched off manually"; red LED for "Output switched off due to overcurrent"
design of the switching contact for signaling function	Floating common signal contact or status signal output (pulse/pause signal that can be evaluated via SIMATIC function block)	Floating common signal contact or status signal output (pulse/pause signal that can be evaluated via SIMATIC function block)	Floating common signal contact or status signal output (pulse/pause signal that can be evaluated via SIMATIC function block)	Floating common signal contact or status signal output (pulse/pause signal that can be evaluated via SIMATIC function block)	Floating common signal contact or status signal output (pulse/pause signal that can be evaluated via SIMATIC function block)
safety					
galvanic isolation between input and output at switch-off	No	No	No	No	No
standard for safety	according to EN 60950-1 and EN 50178	according to EN 60950-1 and EN 50178	according to EN 60950-1 and EN 50178	according to EN 60950-1 and EN 50178	according to EN 62368-1
operating resource protection class	Class III	Class III	Class III	Class III	Class III
protection class IP	IP20	IP20	IP20	IP20	IP20
standard					
• for emitted interference	EN 61000-6-3	EN 61000-6-3	EN 61000-6-3	EN 61000-6-3	EN 61000-6-3
• for interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals					
certificate of suitability					
• CE marking	Yes	Yes	Yes	Yes	Yes
• UL approval	Yes; UL-Recognized (UL 2367) File E328600; cULus-Listed (UL 508, CSA C22.2 No. 107.1) File E197259	Yes; UL-Recognized (UL 2367) File E328600; cULus-Listed (UL 508, CSA C22.2 No. 107.1) File E197259	Yes; UL-Recognized (UL 2367) File E328600; cULus-Listed (UL 508, CSA C22.2 No. 107.1) File E197259	Yes; UR (UL 2367) File E328600; cULus-listed (UL 508, CSA C22.2 No. 107.1) File E197259	Yes; UL-Recognized (UL 2367) File E328600; cULus-Listed (UL 508, CSA C22.2 No. 107.1) File E197259
• CSA approval	Yes; CSA C22.2 60950-1	Yes; CSA C22.2 60950-1	Yes; CSA C22.2 60950-1	Yes; CSA C22.2 62368-1	Yes; CSA C22.2 62368-1
• UKCA marking				Yes	
• EAC approval	Yes	Yes	Yes	Yes	Yes
type of certification					
• CB-certificate	Yes	Yes	Yes	Yes	Yes
MTBF at 40 °C			925 000 h	925 000 h	595 000 h
standards, specifications, approvals hazardous environments					
certificate of suitability					
• IECEx	No	No	No	Yes; IECEx Ex ec IIC T4 Gc	No
• ATEX	No	No	No	Yes; ATEX (Ex) II 3G Ex ec IIC T4 Gc	No
• ULhazloc approval				Yes	
• cCSAus, Class 1, Division 2				Yes	
standards, specifications, approvals marine classification					
shipbuilding approval	No	No	No	No	No

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Technical specifications (continued)

Article number	6EP4437-7FB00-3C-X0	6EP4437-7FB00-3D-X0	6EP4438-7FB00-3D-X0	6EP4438-7FC00-3D-X0	6EP4448-7FB00-3C-X0
product brand name	SITOP SEL1200	SITOP SEL1200	SITOP SEL1200	SITOP SEL1200 EX	SITOP SEL1200
type of current supply	Selectivity module, 4 x 2 ... 10 A group signal contact or diagnostics monitor	Selectivity module, 8 x 1 ... 5 A group signal contact or diagnostics monitor	Selectivity module, 8 x 2 ... 10 A group signal contact or diagnostics monitor	Selectivity module, 8 x 2 ... 10 A group signal contact or diagnostics monitor	Selectivity module, 4 x 1 ... 10 A group signal contact or diagnostics monitor
standards, specifications, approvals Environmental Product Declaration					
Environmental Product Declaration	Yes	Yes	Yes	Yes	Yes
Global Warming Potential [CO2 eq]					
• total	326.5 kg	326.5 kg	576.9 kg	576.9 kg	326.5 kg
• during manufacturing	17.6 kg	18.6 kg	20.9 kg	18.1 kg	20.9 kg
• during operation	187.8 kg	187.8 kg	344.2 kg	312.9 kg	344.2 kg
• after end of life	0.28 kg	0.3 kg	0.33 kg	0.29 kg	0.33 kg
ambient conditions					
ambient temperature					
• during operation	-40 ... +70 °C; with natural convection	-40 ... +70 °C; with natural convection	-40 ... +70 °C; with natural convection	-40 ... +70 °C; with natural convection	-40 ... +70 °C; with natural convection; +60 ... +70 °C: Derating 3%/K
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method					
type of electrical connection	Push-in	Push-in	Push-in	Push-in	Push-in
• at input	24V1, 24V2: push-in for 0.5 ... 16 mm²; 0V1, 0V2: push-in for 0.5 ... 4 mm²	24V1, 24V2: push-in for 0.5 ... 16 mm²; 0V1, 0V2: push-in for 0.5 ... 4 mm²	24V1, 24V2: push-in for 0.5 ... 16 mm²; 0V1, 0V2: push-in for 0.5 ... 4 mm²	24V1, 24V2: push-in for 0.5 ... 16 mm²; 0V1, 0V2: push-in for 0.5 ... 4 mm²	24V1, 24V2: push-in for 0.5 ... 16 mm²; 0V1, 0V2: push-in for 0.5 ... 4 mm²
• at output	Output 1 ... 4: push-in for 0.5 ... 4 mm²	Output 1 ... 8: push-in for 0.5 ... 4 mm²	Output 1 ... 8: push-in for 0.5 ... 4 mm²	Output 1 ... 8: push-in for 0.5 ... 4 mm²	Output 1 ... 4: push-in for 0.5 ... 4 mm²
• for auxiliary contacts	RST: push-in for 0.2 ... 1.5 mm²	RST: push-in for 0.2 ... 1.5 mm²	RST: push-in for 0.2 ... 1.5 mm²	RST: push-in for 0.2 ... 1.5 mm²	RST: push-in for 0.2 ... 1.5 mm²
• for signaling contact	13, 14: push-in for 0.2 ... 1.5 mm²	13, 14: push-in for 0.2 ... 1.5 mm²	13, 14: push-in for 0.2 ... 1.5 mm²	13, 14: push-in for 0.2 ... 1.5 mm²	13, 14: push-in for 0.2 ... 1.5 mm²
mechanical data					
width × height × depth of the enclosure	45 mm × 135 mm × 125 mm	45 mm × 135 mm × 125 mm	45 mm × 135 mm × 125 mm	45 mm × 135 mm × 125 mm	45 mm × 135 mm × 125 mm
installation width × mounting height	45 mm × 225 mm	45 mm × 225 mm	45 mm × 225 mm	45 mm × 225 mm	45 mm × 225 mm
required spacing					
• top	45 mm	45 mm	45 mm	45 mm	45 mm
• bottom	45 mm	45 mm	45 mm	45 mm	45 mm
• left	0 mm	0 mm	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes	Yes	Yes	Yes	Yes
• S7 rail mounting	No	No	No	No	No
• wall mounting	No	No	No	No	No
housing can be lined up	Yes	Yes	Yes	Yes	Yes
net weight	0.3 kg	0.3 kg	0.3 kg	0.3 kg	0.3 kg
further information internet links					
internet link					
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com

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Technical specifications (continued)

Article number	6EP4437-7FB00-3C-X0	6EP4437-7FB00-3D-X0	6EP4438-7FB00-3D-X0	6EP4438-7FC00-3D-X0	6EP4448-7FB00-3C-X0
product brand name	SITOP SEL1200	SITOP SEL1200	SITOP SEL1200	SITOP SEL1200 EX	SITOP SEL1200
type of current supply	Selectivity module, 4 x 2 ... 10 A group signal contact or diagnostics monitor	Selectivity module, 8 x 1 ... 5 A group signal contact or diagnostics monitor	Selectivity module, 8 x 2 ... 10 A group signal contact or diagnostics monitor	Selectivity module, 8 x 2 ... 10 A group signal contact or diagnostics monitor	Selectivity module, 4 x 1 ... 10 A group signal contact or diagnostics monitor
• to web page: selection aid TIA Selection Tool	https://www.siemens.com/tstcloud	https://www.siemens.com/tstcloud	https://www.siemens.com/tstcloud	https://www.siemens.com/tstcloud	https://www.siemens.com/tstcloud
• to website: Industrial communication	https://siemens.com/industrial-communication	https://siemens.com/industrial-communication	https://siemens.com/industrial-communication	https://siemens.com/industrial-communication	https://siemens.com/industrial-communication
• to website: CAx-Download-Manager	https://siemens.com/cax	https://siemens.com/cax	https://siemens.com/cax	https://siemens.com/cax	https://siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com
additional information					
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information					
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. 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Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are

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Technical specifications (continued)

Article number	6EP4437-7FB00-3C-X0	6EP4437-7FB00-3D-X0	6EP4438-7FB00-3D-X0	6EP4438-7FC00-3D-X0	6EP4448-7FB00-3C-X0
product brand name	SITOP SEL1200	SITOP SEL1200	SITOP SEL1200	SITOP SEL1200 EX	SITOP SEL1200
type of current supply	Selectivity module, 4 x 2 ... 10 A group signal contact or diagnostics monitor	Selectivity module, 8 x 1 ... 5 A group signal contact or diagnostics monitor	Selectivity module, 8 x 2 ... 10 A group signal contact or diagnostics monitor	Selectivity module, 8 x 2 ... 10 A group signal contact or diagnostics monitor	Selectivity module, 4 x 1 ... 10 A group signal contact or diagnostics monitor
	applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

Article number	6EP4437-7EB00-3CX0	6EP4437-7EB00-3DX0	6EP4438-7EB00-3DX0	6EP4438-7EC00-3DX0
product brand name	SITOP SEL1400	SITOP SEL1400	SITOP SEL1400	SITOP SEL1400 EX
type of current supply	Selectivity module, 4 x 2 ... 10 A group signal contact or diagnostics monitor	Selectivity module, 8 x 1 ... 5 A group signal contact or diagnostics monitor	Selectivity module, 8 x 2 ... 10 A group signal contact or diagnostics monitor	Selectivity module, 8 x 2 ... 10 A group signal contact or diagnostics monitor
input				
type of the power supply network	Controlled DC voltage	Controlled DC voltage	Controlled DC voltage	Controlled DC voltage
supply voltage at DC rated value	24 V	24 V	24 V	24 V
input voltage at DC	20.4 ... 30 V	20.4 ... 30 V	20.4 ... 30 V	20.4 ... 30 V
overvoltage overload capability	35 V	35 V	35 V	35 V
input current at rated input voltage 24 V rated value	40 A	40 A	60 A	60 A
output				
voltage curve at output	controlled DC voltage	controlled DC voltage	controlled DC voltage	controlled DC voltage
formula for output voltage	Vin - approx. 0.2 V	Vin - approx. 0.2 V	Vin - approx. 0.2 V	Vin - approx. 0.2 V
relative overall tolerance of the voltage note	In accordance with the supplying input voltage	In accordance with the supplying input voltage	In accordance with the supplying input voltage	In accordance with the supplying input voltage
number of outputs	4	8	8	8
output current up to 60 °C per output rated value	10 A; +60 ... +70 °C: Derating 2%/K	5 A; +60 ... +70 °C: Derating 2%/K	10 A; +60 ... +70 °C: Derating 2%/K	10 A; +60 ... +70 °C: Derating 2%/K
Adjustable output current	2 ... 10 A	1 ... 5 A	2 ... 10 A	2 ... 10 A
type of response value setting	via potentiometer	via potentiometer	via potentiometer	via potentiometer
response delay maximum	5 s; with load-optimized switch-on of all 4 channels	5 s; with load-optimized switch-on of all 8 channels	5 s; with load-optimized switch-on of all 8 channels	5 s; with load-optimized switch-on of all 8 channels
product feature parallel switching of outputs	Yes	Yes	Yes	Yes
type of outputs connection	Connection of all outputs after ramp-up of the supply voltage > 20 V; delay time of 25 ms, 200 ms, 500 ms or "load-optimized" can be set via DIP switch for sequential connection	Connection of all outputs after ramp-up of the supply voltage > 20 V; delay time of 25 ms, 200 ms, 500 ms or "load-optimized" can be set via DIP switch for sequential connection	Connection of all outputs after ramp-up of the supply voltage > 20 V; delay time of 25 ms, 200 ms, 500 ms or "load-optimized" can be set via DIP switch for sequential connection	Connection of all outputs after ramp-up of the supply voltage > 20 V; delay time of 25 ms, 200 ms, 500 ms or "load-optimized" can be set via DIP switch for sequential connection
power loss				
efficiency in percent	98 %	98 %	98 %	98 %
power loss [W] at rated output voltage for rated value of the output current typical	10 W	10 W	18 W	18 W

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Technical specifications (continued)

Article number product brand name type of current supply	6EP4437-7EB00-3CX0 SITOP SEL1400 Selectivity module, 4 x 2 ... 10 A group signal contact or diagnostics monitor	6EP4437-7EB00-3DX0 SITOP SEL1400 Selectivity module, 8 x 1 ... 5 A group signal contact or diagnostics monitor	6EP4438-7EB00-3DX0 SITOP SEL1400 Selectivity module, 8 x 2 ... 10 A group signal contact or diagnostics monitor	6EP4438-7EC00-3DX0 SITOP SEL1400 EX Selectivity module, 8 x 2 ... 10 A group signal contact or diagnostics monitor
switch-off characteristic				
switching characteristic				
• of the excess current	Iout = 1.0 ...1.5 x set value, switch-off after approx. 5 s	Iout = 1.0 ...1.5 x set value, switch-off after approx. 5 s	Iout = 1.0 ...1.5 x set value, switch-off after approx. 5 s	Iout = 1.0 ...1.5 x set value, switch-off after approx. 5 s
• of the current limitation	Iout = 1.5 x set value, switch-off after typ. 100 ms	Iout = 1.5 x set value, switch-off after typ. 100 ms	Iout = 1.5 x set value, switch-off after typ. 100 ms	Iout = 1.5 x set value, switch-off after typ. 100 ms
• of the immediate switch-off	Iout > set value and Vin < 20 V, switch-off after approx. 0.5 ms	Iout > set value and Vin < 20 V, switch-off after approx. 0.5 ms	Iout > set value and Vin < 20 V, switch-off after approx. 0.5 ms	Iout > set value and Vin < 20 V, switch-off after approx. 0.5 ms
design of the reset device/resetting mechanism	via sensor per output	via sensor per output	via sensor per output	via sensor per output
remote reset function	Non-electrically isolated 24 V input (signal level "high" at > 15 V)	Non-electrically isolated 24 V input (signal level "high" at > 15 V)	Non-electrically isolated 24 V input (signal level "high" at > 15 V)	Non-electrically isolated 24 V input (signal level "high" at > 15 V)
protection and monitoring				
fuse protection type at input	15 A per output (not accessible)	8 A per output (not accessible)	15 A per output (not accessible)	15 A per output (not accessible)
display version for normal operation	Three-color LED per output: green LED for "Output switched through"; yellow LED for "Output switched off manually"; red LED for "Output switched off due to overcurrent"	Three-color LED per output: green LED for "Output switched through"; yellow LED for "Output switched off manually"; red LED for "Output switched off due to overcurrent"	Three-color LED per output: green LED for "Output switched through"; yellow LED for "Output switched off manually"; red LED for "Output switched off due to overcurrent"	Three-color LED per output: green LED for "Output switched through"; yellow LED for "Output switched off manually"; red LED for "Output switched off due to overcurrent"
design of the switching contact for signaling function	Floating common signal contact or status signal output (pulse/pause signal that can be evaluated via SIMATIC function block)	Floating common signal contact or status signal output (pulse/pause signal that can be evaluated via SIMATIC function block)	Floating common signal contact or status signal output (pulse/pause signal that can be evaluated via SIMATIC function block)	Floating common signal contact or status signal output (pulse/pause signal that can be evaluated via SIMATIC function block)
safety				
galvanic isolation between input and output at switch-off	No	No	No	No
standard for safety	according to EN 60950-1 and EN 50178	according to EN 60950-1 and EN 50178	according to EN 60950-1 and EN 50178	according to EN 60950-1 and EN 50178
operating resource protection class	Class III	Class III	Class III	Class III
protection class IP	IP20	IP20	IP20	IP20
standard				
• for emitted interference	EN 61000-6-3	EN 61000-6-3	EN 61000-6-3	EN 61000-6-3
• for interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals				
certificate of suitability				
• CE marking	Yes	Yes	Yes	Yes
• UL approval	Yes; UL-Recognized (UL 2367) File E328600; cULus-Listed (UL 508, CSA C22.2 No. 107.1) File E197259	Yes; UL-Recognized (UL 2367) File E328600; cULus-Listed (UL 508, CSA C22.2 No. 107.1) File E197259	Yes; UL-Recognized (UL 2367) File E328600; cULus-Listed (UL 508, CSA C22.2 No. 107.1) File E197259	Yes; UR (UL 2367) File E328600; cULus-listed (UL 508, CSA C22.2 No. 107.1) File E197259
• CSA approval	Yes; CSA C22.2 60950-1	Yes; CSA C22.2 60950-1	Yes; CSA C22.2 60950-1	Yes; CSA C22.2 62368-1
• UKCA marking				Yes
• EAC approval	Yes	Yes	Yes	Yes
type of certification				
• CB-certificate	Yes	Yes	Yes	Yes
MTBF at 40 °C			363 000 h	363 000 h
standards, specifications, approvals hazardous environments				
certificate of suitability				
• IECEx	No	No	No	Yes; IECEx Ex ec IIC T4 Gc

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Technical specifications (continued)

Article number product brand name type of current supply	6EP4437-7EB00-3CX0 SITOP SEL1400 Selectivity module, 4 x 2 ... 10 A group signal contact or diagnostics monitor	6EP4437-7EB00-3DX0 SITOP SEL1400 Selectivity module, 8 x 1 ... 5 A group signal contact or diagnostics monitor	6EP4438-7EB00-3DX0 SITOP SEL1400 Selectivity module, 8 x 2 ... 10 A group signal contact or diagnostics monitor	6EP4438-7EC00-3DX0 SITOP SEL1400 EX Selectivity module, 8 x 2 ... 10 A group signal contact or diagnostics monitor
• ATEX	No	No	No	Yes; ATEX (Ex) II 3G Ex ec IIC T4 Gc
• ULhazloc approval				Yes
• cCSAus, Class 1, Division 2				Yes
standards, specifications, approvals marine classification				
shipbuilding approval	No	No	No	No
standards, specifications, approvals Environmental Product Declaration				
Environmental Product Declaration	Yes	Yes	Yes	Yes
Global Warming Potential [CO2 eq]				
• total	565 kg	326.5 kg	576.9 kg	576.9 kg
• during manufacturing	32.5 kg	32.5 kg	18.1 kg	18.1 kg
• during operation	532 kg	0 kg	312.9 kg	312.9 kg
• after end of life	0.52 kg	0.52 kg	0.29 kg	0.29 kg
ambient conditions				
ambient temperature				
• during operation	-40 ... +70 °C; with natural convection	-40 ... +70 °C; with natural convection	-40 ... +70 °C; with natural convection	-40 ... +70 °C; with natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method				
type of electrical connection	Push-in	Push-in	Push-in	Push-in
• at input	24V1, 24V2: push-in for 0.5 ... 16 mm²; 0V1, 0V2: push-in for 0.5 ... 4 mm²	24V1, 24V2: push-in for 0.5 ... 16 mm²; 0V1, 0V2: push-in for 0.5 ... 4 mm²	24V1, 24V2: push-in for 0.5 ... 16 mm²; 0V1, 0V2: push-in for 0.5 ... 4 mm²	24V1, 24V2: push-in for 0.5 ... 16 mm²; 0V1, 0V2: push-in for 0.5 ... 4 mm²
• at output	Output 1 ... 4: push-in for 0.5 ... 4 mm²	Output 1 ... 8: push-in for 0.5 ... 4 mm²	Output 1 ... 8: push-in for 0.5 ... 4 mm²	Output 1 ... 8: push-in for 0.5 ... 4 mm²
• for auxiliary contacts	RST: push-in for 0.2 ... 1.5 mm²	RST: push-in for 0.2 ... 1.5 mm²	RST: push-in for 0.2 ... 1.5 mm²	RST: push-in for 0.2 ... 1.5 mm²
• for signaling contact	13, 14: push-in for 0.2 ... 1.5 mm²	13, 14: push-in for 0.2 ... 1.5 mm²	13, 14: push-in for 0.2 ... 1.5 mm²	13, 14: push-in for 0.2 ... 1.5 mm²
mechanical data				
width × height × depth of the enclosure	45 mm × 135 mm × 125 mm	45 mm × 135 mm × 125 mm	45 mm × 135 mm × 125 mm	45 mm × 135 mm × 125 mm
installation width × mounting height	45 mm × 225 mm	45 mm × 225 mm	45 mm × 225 mm	45 mm × 225 mm
required spacing				
• top	45 mm	45 mm	45 mm	45 mm
• bottom	45 mm	45 mm	45 mm	45 mm
• left	0 mm	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes	Yes	Yes	Yes
• S7 rail mounting	No	No	No	No
• wall mounting	No	No	No	No
housing can be lined up	Yes	Yes	Yes	Yes
net weight	0.3 kg	0.3 kg	0.3 kg	0.3 kg

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Technical specifications (continued)

Article number product brand name type of current supply	6EP4437-7EB00-3CX0 SITOP SEL1400 Selectivity module, 4 x 2 ... 10 A group signal contact or diagnostics monitor	6EP4437-7EB00-3DX0 SITOP SEL1400 Selectivity module, 8 x 1 ... 5 A group signal contact or diagnostics monitor	6EP4438-7EB00-3DX0 SITOP SEL1400 Selectivity module, 8 x 2 ... 10 A group signal contact or diagnostics monitor	6EP4438-7EC00-3DX0 SITOP SEL1400 EX Selectivity module, 8 x 2 ... 10 A group signal contact or diagnostics monitor
further information internet links				
internet link				
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://www.siemens.com/tstcloud	https://www.siemens.com/tstcloud	https://www.siemens.com/tstcloud	https://www.siemens.com/tstcloud
• to website: Industrial communication	https://siemens.com/industrial-communication	https://siemens.com/industrial-communication	https://siemens.com/industrial-communication	https://siemens.com/industrial-communication
• to website: CAx-Download-Manager	https://siemens.com/cax	https://siemens.com/cax	https://siemens.com/cax	https://siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com
additional information				
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information				
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. 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Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. 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Technical specifications (continued)

Article number	6EP4437-7EB00-3CX0	6EP4437-7EB00-3DX0	6EP4438-7EB00-3DX0	6EP4438-7EC00-3DX0
product brand name	SITOP SEL1400	SITOP SEL1400	SITOP SEL1400	SITOP SEL1400 EX
type of current supply	Selectivity module, 4 x 2 ... 10 A group signal contact or diagnostics monitor	Selectivity module, 8 x 1 ... 5 A group signal contact or diagnostics monitor	Selectivity module, 8 x 2 ... 10 A group signal contact or diagnostics monitor	Selectivity module, 8 x 2 ... 10 A group signal contact or diagnostics monitor
	informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

Article number	6EP1961-2BA11	6EP1961-2BA21	6EP1961-2BA31
product brand name	SITOP PSE200U	SITOP PSE200U	SITOP PSE200U
type of current supply	Selectivity module, 4 x 3 A Common signal contact	Selectivity module, 4 x 10 A Common signal contact	Selectivity module, 4 x 3 A Single-channel signaling
input			
type of the power supply network	Controlled DC voltage	Controlled DC voltage	Controlled DC voltage
supply voltage at DC rated value	24 V	24 V	24 V
input voltage at DC	22 ... 30 V	22 ... 30 V	22 ... 30 V
overvoltage overload capability	35 V	35 V	35 V
input current at rated input voltage 24 V rated value	12 A	40 A	12 A
output			
voltage curve at output	controlled DC voltage	controlled DC voltage	controlled DC voltage
formula for output voltage	Vin - approx. 0.2 V	Vin - approx. 0.2 V	Vin - approx. 0.2 V
relative overall tolerance of the voltage note	In accordance with the supplying input voltage	In accordance with the supplying input voltage	In accordance with the supplying input voltage
number of outputs	4	4	4
output current up to 60 °C per output rated value	3 A	10 A	3 A
Adjustable output current	0.5 ... 3 A	3 ... 10 A	0.5 ... 3 A
type of response value setting	via potentiometer	via potentiometer	via potentiometer
response delay maximum	5 s	5 s	5 s
product feature parallel switching of outputs	No	No	No
type of outputs connection	Simultaneous connection of all outputs after power up of the supply voltage > 20 V, delay time of 25 ms, 100 ms or adjustable "load optimised" via DIP switch for sequential connection	Simultaneous connection of all outputs after power up of the supply voltage > 20 V, delay time of 25 ms, 100 ms or adjustable "load optimised" via DIP switch for sequential connection	Simultaneous connection of all outputs after power up of the supply voltage > 20 V, delay time of 25 ms, 100 ms or adjustable "load optimised" via DIP switch for sequential connection
power loss			
efficiency in percent	97 %	99 %	97 %
power loss [W] at rated output voltage for rated value of the output current typical	9 W	10 W	9 W
switch-off characteristic			
switching characteristic			
• of the excess current	Iout = 1.0 ...1.5 x set value, switch-off after approx. 5 s	Iout = 1.0 ...1.5 x set value, switch-off after approx. 5 s	Iout = 1.0 ...1.5 x set value, switch-off after approx. 5 s
• of the current limitation	Iout = 1.5 x set value, switch-off after typ. 100 ms	Iout = 1.5 x set value, switch-off after typ. 100 ms	Iout = 1.5 x set value, switch-off after typ. 100 ms
• of the immediate switch-off	Iout > set value and Vin < 20 V, switch-off after approx. 0.5 ms	Iout > set value and Vin < 20 V, switch-off after approx. 0.5 ms	Iout > set value and Vin < 20 V, switch-off after approx. 0.5 ms
residual current at switch-off typical	1 mA	1 mA	1 mA
design of the reset device/resetting mechanism	via sensor per output	via sensor per output	via sensor per output
remote reset function	Non-electrically isolated 24 V input (signal level "high" at > 15 V)	Non-electrically isolated 24 V input (signal level "high" at > 15 V)	Non-electrically isolated 24 V input (signal level "high" at > 15 V)
protection and monitoring			
fuse protection type at input	5 A per output (not accessible)	15 A per output (not accessible)	5 A per output (not accessible)
display version for normal operation	Three-color LED per output: green LED for "Output switched through"; yellow LED for "Output switched off manually"; red LED for "Output switched off due to overcurrent"	Three-color LED per output: green LED for "Output switched through"; yellow LED for "Output switched off manually"; red LED for "Output switched off due to overcurrent"	Three-color LED per output: green LED for "Output switched through"; yellow LED for "Output switched off manually"; red LED for "Output switched off due to overcurrent"

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1961-2BA11 SITOP PSE200U Selectivity module, 4 x 3 A Common signal contact	6EP1961-2BA21 SITOP PSE200U Selectivity module, 4 x 10 A Common signal contact	6EP1961-2BA31 SITOP PSE200U Selectivity module, 4 x 3 A Single-channel signaling
design of the switching contact for signaling function	Common signal contact (changeover contact, rating 0.1 A/24 V DC)	Common signal contact (changeover contact, rating 0.1 A/24 V DC)	Status signal output (pulse/pause signal, can be evaluated via Simatic function block)
safety			
galvanic isolation between input and output at switch-off	No	No	No
standard for safety	according to EN 60950-1 and EN 50178	according to EN 60950-1 and EN 50178	according to EN 60950-1 and EN 50178
operating resource protection class	Class III	Class III	Class III
protection class IP	IP20	IP20	IP20
standard			
• for emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
• for interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals			
certificate of suitability			
• CE marking	Yes	Yes	Yes
• UL approval	Yes; UL-Recognized (UL 2367) File E328600; cULus-Listed (UL 508, CSA C22.2 No. 107.1) File E197259	Yes; UL-Recognized (UL 2367) File E328600; cULus-Listed (UL 508, CSA C22.2 No. 107.1) File E197259	Yes; UL-Recognized (UL 2367) File E328600; cULus-Listed (UL 508, CSA C22.2 No. 107.1) File E197259
• EAC approval	Yes	Yes	Yes
type of certification			
• CB-certificate	Yes	Yes	Yes
MTBF at 40 °C	755 915 h	540 979 h	755 915 h
standards, specifications, approvals hazardous environments			
certificate of suitability			
• IECEx	No	No	No
• ATEX	No	No	No
standards, specifications, approvals marine classification			
shipbuilding approval	Yes	Yes	Yes
Marine classification association			
• American Bureau of Shipping Europe Ltd. (ABS)	Yes	Yes	Yes
• Det Norske Veritas (DNV)	Yes	Yes	Yes
standards, specifications, approvals Environmental Product Declaration			
Environmental Product Declaration	Yes	Yes	Yes
Global Warming Potential [CO2 eq]			
• total	290.7 kg	322 kg	290.7 kg
• during manufacturing	18.6 kg	20.9 kg	20.9 kg
• during operation	250.4 kg	250.4 kg	250.4 kg
• after end of life	0.3 kg	0.33 kg	0.33 kg
ambient conditions			
ambient temperature			
• during operation	-25 ... +60 °C; with natural convection	-25 ... +60 °C; with natural convection	-25 ... +60 °C; with natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1961-2BA11 SITOP PSE200U Selectivity module, 4 x 3 A Common signal contact	6EP1961-2BA21 SITOP PSE200U Selectivity module, 4 x 10 A Common signal contact	6EP1961-2BA31 SITOP PSE200U Selectivity module, 4 x 3 A Single-channel signaling
connection method			
type of electrical connection	screw terminal	screw terminal	screw terminal
• at input	+24 V: 2 screw terminals for 0.5 ... 16 mm²; 0 V: 2 screw terminals for 0.5 ... 4 mm²	+24 V: 2 screw terminals for 0.5 ... 16 mm²; 0 V: 2 screw terminals for 0.5 ... 4 mm²	+24 V: 2 screw terminals for 0.5 ... 16 mm²; 0 V: 2 screw terminals for 0.5 ... 4 mm²
• at output	Output 1 ... 4: 1 screw terminal each for 0.5 ... 4 mm²	Output 1 ... 4: 1 screw terminal each for 0.5 ... 4 mm²	Output 1 ... 4: 1 screw terminal each for 0.5 ... 4 mm²
• for auxiliary contacts	Remote reset: 1 screw terminal for 0.5 ... 4 mm²	Remote reset: 1 screw terminal for 0.5 ... 4 mm²	Remote reset: 1 screw terminal for 0.5 ... 4 mm²
• for signaling contact	3 screw terminals for 0.5 ... 4 mm²	3 screw terminals for 0.5 ... 4 mm²	1 screw terminal for 0.5 ... 4 mm²
mechanical data			
width × height × depth of the enclosure	72 mm × 80 mm × 72 mm	72 mm × 80 mm × 72 mm	72 mm × 80 mm × 72 mm
installation width × mounting height	72 mm × 180 mm	72 mm × 180 mm	72 mm × 180 mm
required spacing			
• top	50 mm	50 mm	50 mm
• bottom	50 mm	50 mm	50 mm
• left	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes	Yes	Yes
• S7 rail mounting	No	No	No
• wall mounting	No	No	No
housing can be lined up	Yes	Yes	Yes
net weight	0.2 kg	0.2 kg	0.2 kg
accessories			
mechanical accessories	Device identification label 20 mm × 7 mm, TI-grey 3RT2900-1SB20	Device identification label 20 mm × 7 mm, TI-grey 3RT2900-1SB20	Device identification label 20 mm × 7 mm, TI-grey 3RT2900-1SB20
further information internet links			
internet link			
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://www.siemens.com/tstcloud	https://www.siemens.com/tstcloud	https://www.siemens.com/tstcloud
• to website: Industrial communication	https://siemens.com/industrial-communication	https://siemens.com/industrial-communication	https://siemens.com/industrial-communication
• to website: CAx-Download-Manager	https://siemens.com/cax	https://siemens.com/cax	https://siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com
additional information			
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)

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Technical specifications (continued)

Article number	6EP1961-2BA11	6EP1961-2BA21	6EP1961-2BA31
product brand name	SITOP PSE200U	SITOP PSE200U	SITOP PSE200U
type of current supply	Selectivity module, 4 x 3 A Common signal contact	Selectivity module, 4 x 10 A Common signal contact	Selectivity module, 4 x 3 A Single-channel signaling
security information			
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

Article number	6EP1961-2BA41	6EP1961-2BA51	6EP1961-2BA61
product brand name	SITOP PSE200U	SITOP PSE200U	SITOP PSE200U
type of current supply	Selectivity module, 4 x 10 A Single-channel signaling	Selectivity module, 4 x 3 A NEC Class 2, Common signal contact	Selectivity module, 4 x 3 A NEC Class 2, Single-channel signaling
input			
type of the power supply network	Controlled DC voltage	Controlled DC voltage	Controlled DC voltage
supply voltage at DC rated value	24 V	24 V	24 V
input voltage at DC	22 ... 30 V	22 ... 30 V	22 ... 30 V
overvoltage overload capability	35 V	35 V	35 V
input current at rated input voltage 24 V rated value	40 A	12 A	12 A
output			
voltage curve at output	controlled DC voltage	controlled DC voltage	controlled DC voltage
formula for output voltage	Vin - approx. 0.2 V	Vin - approx. 0.2 V	Vin - approx. 0.2 V
relative overall tolerance of the voltage note	In accordance with the supplying input voltage	In accordance with the supplying input voltage	In accordance with the supplying input voltage
number of outputs	4	4	4
output current up to 60 °C per output rated value	10 A	3 A	3 A

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Technical specifications (continued)

Article number	6EP1961-2BA41	6EP1961-2BA51	6EP1961-2BA61
product brand name	SITOP PSE200U	SITOP PSE200U	SITOP PSE200U
type of current supply	Selectivity module, 4 x 10 A Single-channel signaling	Selectivity module, 4 x 3 A NEC Class 2, Common signal contact	Selectivity module, 4 x 3 A NEC Class 2, Single-channel signaling
Adjustable output current	3 ... 10 A	0.5 ... 3 A	0.5 ... 3 A
type of response value setting	via potentiometer	via potentiometer	via potentiometer
response delay maximum	5 s	5 s	5 s
product feature parallel switching of outputs	No	No	No
type of outputs connection	Simultaneous connection of all outputs after power up of the supply voltage > 20 V, delay time of 25 ms, 100 ms or adjustable "load optimised" via DIP switch for sequential connection	Simultaneous connection of all outputs after power up of the supply voltage > 20 V, delay time of 25 ms, 100 ms or adjustable "load optimised" via DIP switch for sequential connection	Simultaneous connection of all outputs after power up of the supply voltage > 20 V, delay time of 25 ms, 100 ms or adjustable "load optimised" via DIP switch for sequential connection
power loss			
efficiency in percent	99 %	97 %	97 %
power loss [W] at rated output voltage for rated value of the output current typical	10 W	9 W	9 W
switch-off characteristic			
switching characteristic			
• of the excess current	Iout = 1.0 ...1.5 x set value, switch-off after approx. 5 s	Iout = 1.0 ...1.1 x set value, switch-off after approx. 5 s	Iout = 1.0 ...1.1 x set value, switch-off after approx. 5 s
• of the current limitation	Iout = 1.5 x set value, switch-off after typ. 100 ms	Iout = 1.1 x set value, switch-off after typ. 100 ms	Iout = 1.1 x set value, switch-off after typ. 100 ms
• of the immediate switch-off	Iout > set value and Vin < 20 V, switch-off after approx. 0.5 ms	Iout > set value and Vin < 20 V, switch-off after approx. 0.5 ms	Iout > set value and Vin < 20 V, switch-off after approx. 0.5 ms
residual current at switch-off typical	1 mA	1 mA	1 mA
design of the reset device/resetting mechanism	via sensor per output	via sensor per output	via sensor per output
remote reset function	Non-electrically isolated 24 V input (signal level "high" at > 15 V)	Non-electrically isolated 24 V input (signal level "high" at > 15 V)	Non-electrically isolated 24 V input (signal level "high" at > 15 V)
protection and monitoring			
fuse protection type at input	15 A per output (not accessible)	5 A per output (not accessible)	5 A per output (not accessible)
display version for normal operation	Three-color LED per output: green LED for "Output switched through"; yellow LED for "Output switched off manually"; red LED for "Output switched off due to overcurrent"	Three-color LED per output: green LED for "Output switched through"; yellow LED for "Output switched off manually"; red LED for "Output switched off due to overcurrent"	Three-color LED per output: green LED for "Output switched through"; yellow LED for "Output switched off manually"; red LED for "Output switched off due to overcurrent"
design of the switching contact for signaling function	Status signal output (pulse/pause signal, can be evaluated via Simatic function block)	Common signal contact (changeover contact, rating 0.1 A/24 V DC)	Status signal output (pulse/pause signal, can be evaluated via Simatic function block)
safety			
galvanic isolation between input and output at switch-off	No	No	No
standard for safety	according to EN 60950-1 and EN 50178	according to EN 60950-1 and EN 50178	according to EN 60950-1 and EN 50178
operating resource protection class	Class III	Class III	Class III
protection class IP	IP20	IP20	IP20
standard			
• for emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
• for interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals			
certificate of suitability			
• CE marking	Yes	Yes	Yes
• UL approval	Yes; UL-Recognized (UL 2367) File E328600; cULus-Listed (UL 508, CSA C22.2 No. 107.1) File E197259	Yes; UL-Recognized (UL 2367) File E328600; cULus-Listed (UL 508, CSA C22.2 No. 107.1) File E197259	Yes; UL-Recognized (UL 2367) File E328600; cULus-Listed (UL 508, CSA C22.2 No. 107.1) File E197259
• EAC approval	Yes	Yes	Yes
• NEC Class 2		Yes; according to UL1310	Yes; according to UL1310

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1961-2BA41 SITOP PSE200U Selectivity module, 4 x 10 A Single-channel signaling	6EP1961-2BA51 SITOP PSE200U Selectivity module, 4 x 3 A NEC Class 2, Common signal contact	6EP1961-2BA61 SITOP PSE200U Selectivity module, 4 x 3 A NEC Class 2, Single-channel signaling
type of certification			
• CB-certificate	Yes	Yes	Yes
MTBF at 40 °C	540 979 h	755 915 h	755 915 h
standards, specifications, approvals hazardous environments			
certificate of suitability			
• IECEx	No	No	No
• ATEX	No	No	No
standards, specifications, approvals marine classification			
shipbuilding approval	Yes	Yes	Yes
Marine classification association			
• American Bureau of Shipping Europe Ltd. (ABS)	Yes	Yes	Yes
• Det Norske Veritas (DNV)	Yes	Yes	Yes
standards, specifications, approvals Environmental Product Declaration			
Environmental Product Declaration	Yes	Yes	Yes
Global Warming Potential [CO2 eq]			
• total	322 kg	290.7 kg	289.4 kg
• during manufacturing	18.6 kg	20.9 kg	20.9 kg
• during operation	469.4 kg	469.4 kg	469.4 kg
• after end of life	0.3 kg	0.33 kg	0.33 kg
ambient conditions			
ambient temperature			
• during operation	-25 ... +60 °C; with natural convection	-25 ... +60 °C; with natural convection	-25 ... +60 °C; with natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method			
type of electrical connection	screw terminal	screw terminal	screw terminal
• at input	+24 V: 2 screw terminals for 0.5 ... 16 mm²; 0 V: 2 screw terminals for 0.5 ... 4 mm²	+24 V: 2 screw terminals for 0.5 ... 16 mm²; 0 V: 2 screw terminals for 0.5 ... 4 mm²	+24 V: 2 screw terminals for 0.5 ... 16 mm²; 0 V: 2 screw terminals for 0.5 ... 4 mm²
• at output	Output 1 ... 4: 1 screw terminal each for 0.5 ... 4 mm²	Output 1 ... 4: 1 screw terminal each for 0.5 ... 4 mm²	Output 1 ... 4: 1 screw terminal each for 0.5 ... 4 mm²
• for auxiliary contacts	Remote reset: 1 screw terminal for 0.5 ... 4 mm²	Remote reset: 1 screw terminal for 0.5 ... 4 mm²	Remote reset: 1 screw terminal for 0.5 ... 4 mm²
• for signaling contact	1 screw terminal for 0.5 ... 4 mm²	3 screw terminals for 0.5 ... 4 mm²	1 screw terminal for 0.5 ... 4 mm²
mechanical data			
width × height × depth of the enclosure	72 mm × 80 mm × 72 mm	72 mm × 80 mm × 72 mm	72 mm × 80 mm × 72 mm
installation width × mounting height	72 mm × 180 mm	72 mm × 180 mm	72 mm × 180 mm
required spacing			
• top	50 mm	50 mm	50 mm
• bottom	50 mm	50 mm	50 mm
• left	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1961-2BA41 SITOP PSE200U Selectivity module, 4 x 10 A Single-channel signaling	6EP1961-2BA51 SITOP PSE200U Selectivity module, 4 x 3 A NEC Class 2, Common signal contact	6EP1961-2BA61 SITOP PSE200U Selectivity module, 4 x 3 A NEC Class 2, Single-channel signaling
• standard rail mounting	Yes	Yes	Yes
• S7 rail mounting	No	No	No
• wall mounting	No	No	No
housing can be lined up	Yes	Yes	Yes
net weight	0.2 kg	0.2 kg	0.2 kg
accessories			
mechanical accessories	Device identification label 20 mm × 7 mm, TI-grey 3RT2900-1SB20	Device identification label 20 mm × 7 mm, TI-grey 3RT2900-1SB20	Device identification label 20 mm × 7 mm, TI-grey 3RT2900-1SB20
further information internet links			
internet link			
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://www.siemens.com/tstcloud	https://www.siemens.com/tstcloud	https://www.siemens.com/tstcloud
• to website: Industrial communication	https://siemens.com/industrial-communication	https://siemens.com/industrial-communication	https://siemens.com/industrial-communication
• to website: CAx-Download-Manager	https://siemens.com/cax	https://siemens.com/cax	https://siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com
additional information			
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information			
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial

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Technical specifications (continued)

Article number	6EP1961-2BA41	6EP1961-2BA51	6EP1961-2BA61
product brand name	SITOP PSE200U	SITOP PSE200U	SITOP PSE200U
type of current supply	Selectivity module, 4 x 10 A Single-channel signaling	Selectivity module, 4 x 3 A NEC Class 2, Common signal contact	Selectivity module, 4 x 3 A NEC Class 2, Single-channel signaling
	Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

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Overview

The SITOP PSE201U and SITOP BUF1200 buffer modules bridge short-term power failures in a range of seconds. The PSE201U buffer module can be used with 24 V power supply units of the SITOP PSU8200, PSU6200 and SITOP smart product lines, the BUF1200 buffer module with the 24 V power supply units of all SITOP product lines. The buffers modules are equipped with maintenance-free capacitors as energy storage units and automatically take over the 24 V power supply in case of a line voltage failure.

The SITOP DC UPS modules offer protection in the event of extended power failures. The maintenance-free **DC UPS with capacitors** supplies reliable 24 V up to the minute range and the **DC UPS with battery modules** supplies reliable 24 V up to the hour range.

Benefits

- About 80% of the power system faults in Germany last less than 100 ms; these 80% can be bridged with a buffer module without disturbance
- Inexpensive protection against power failure up to seconds
- Support of the power supply unit in case of short-term increased power demand
- High load current up to 40 A
- Connection to the power supply unit only via two lines
- Short charging times
- Long service life
- Parallel connection of multiple buffer modules possible
- Fast mounting onto top hat DIN rail and simple wiring

Design

The buffer module is connected in parallel to the output of the power supply. The connection to the power supply takes place via only 2 cables.

Function

Buffering

In case of a power failure, the buffer module supplies the load current for the 24 V power supply by means of its energy storage units. Maintenance-free capacitors are used as energy storage units.

In the case of brief interruptions in the power supply, the load current can be buffered without interruption via the buffer module in combination with a stabilized 24 V power supply.

SITOP BUF1200 buffer times:

- with 10 A load current: 1 200 ms
- with 20 A load current: 600 ms
- with 40 A load current: 300 ms

The buffer time can be increased by connecting a maximum of 5 SITOP BUF1200 buffer modules in parallel (max. 240 s).

SITOP PSE201U buffer times:

- with 10 A load current: 800 ms
- with 20 A load current: 400 ms
- with 40 A load current: 200 ms

The buffer time can be increased (max. 10 s) by connecting a maximum of 8 buffer modules in parallel.

Signaling

SITOP BUF1200

LED display for buffer readiness:

- LED ⇒ lights up continuously ⇒ Ready for buffering and fully charged
- LED flashes slowly (at 1 Hz) ⇒ Ready for buffering but still charging
- LED flashes rapidly (at 2 Hz) ⇒ Not ready for buffering (empty or internal error)

SITOP PSE201U

Signaling of supply voltage > 20.5 V via LED on device.

- The buffer mode is activated as soon as the voltage falls 1.0 V +/- 0.2 V below the previously applied voltage.

Selection and ordering data

SITOP BUF1200 buffer module Buffer time 300 ms at 40 A Buffer time depends on load current	**6EP4231-7HB00-0AX0**
SITOP BUF1200 Ex buffer module Buffer time 300 ms at 40 A Buffer time depends on load current	**6EP4231-7HC00-0AX0**
SITOP PSE201U buffer module For SITOP smart and SITOP modular Buffer time 100 ms to 10 s dependent on load current	**6EP1961-3BA01**

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Technical specifications

Article number product brand name type of current supply	6EP4231-7HB00-0AX0 SITOP BUF1200 300 ms/40 A	6EP4231-7HC00-0AX0 SITOP BUF1200 EX 300 ms/40 A	6EP1961-3BA01 Mains buffering Buffer module
input			
supply voltage at DC rated value	24 V	24 V	24 V
supply voltage at DC	24 ... 28 V	24 ... 28 V	
input voltage at DC	20 ... 30 V	20 ... 30 V	24 ... 28.8 V
memory			
design of the mains power cut bridging-connection	Module for buffering during short power interruptions; parallel connection at the output of 24 V power supplies. Buffer time of 300 ms at 40 A up to 2.4 s at 5 A load current; multiplication possible by parallel connection	Module for buffering during short power interruptions; parallel connection at the output of 24 V power supplies. Buffer time of 300 ms at 40 A up to 2.4 s at 5 A load current; multiplication possible by parallel connection	Backup time: with 40 A load current: 200 ms; with 20 A load current: 400 ms; with 10 A load current: 800 ms; with 5 A load current: 1.6 s. Reduces the backup time by 100 ms in combination with 6EP1 437-3BA10. Maximum backup time 100 ms in combination with 6EP1 336-2BA10 (load current 20 A).
buffering time in the event of power failure	0.3 min	0.3 min	0.16 min
output			
formula for output voltage			Vin - approx. 1 V
output current			
• rated value	40 A	40 A	40 A
protection and monitoring			
display version			
• for normal operation	LED green for "buffer standby exist"	LED green for "buffer standby exist"	Green LED for "supply voltage > 20.5 V"
interfaces			
product component PC interface	No	No	No
product function communication function	No	No	No
design of the interface	without	without	without
safety			
galvanic isolation between input and output	Yes	Yes	Yes
operating resource protection class	Class III	Class III	Class III
protection class IP	IP20	IP20	IP20
standard			
• for emitted interference			EN 55022 Class B
• for interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals			
certificate of suitability			
• CE marking	Yes	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; UL-Listed (UL 508), File E197259; CSA (CSA C22.2 No. 14, CSA C22.2 No. 107.1)
• CSA approval		Yes; CSA C22.2 No. 62368-1	
• UKCA marking		Yes	
• EAC approval	Yes		Yes
• SEMI F47	Yes		Yes
type of certification CB-certificate		Yes	
MTBF at 40 °C			2 538 071 h
standards, specifications, approvals hazardous environments			
certificate of suitability			
• IECEx		Yes; IECEx Ex ec IIC T4 Gc	
• ATEX	No	Yes; ATEX (Ex) II 3G Ex ec IIC T4 Gc	No
• ULhazloc approval		Yes	
• cCSAus, Class 1, Division 2	No	Yes	No

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Technical specifications (continued)

Article number product brand name type of current supply	6EP4231-7HB00-0AX0 SITOP BUF1200 300 ms/40 A	6EP4231-7HC00-0AX0 SITOP BUF1200 EX 300 ms/40 A	6EP1961-3BA01 Mains buffering Buffer module
standards, specifications, approvals marine classification			
shipbuilding approval	Yes	No	Yes
Marine classification association			
• American Bureau of Shipping Europe Ltd. (ABS)	Yes; in preparation	No	Yes
• Det Norske Veritas (DNV)	Yes; in preparation	No; in preparation	Yes
ambient conditions			
ambient temperature			
• during operation	-40 ... +70 °C; with natural convection	-40 ... +70 °C; with natural convection	-25 ... +70 °C; with natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method			
type of electrical connection	push-in terminals	push-in terminals	screw terminal
• at input	+: push-in for 0.75 ... 16 mm²	+: push-in for 0.75 ... 16 mm²	+: 1 screw terminal for 0.5 ... 10 mm²
• at output	-: push-in for 0.5 ... 6 mm²	-: push-in for 0.5 ... 6 mm²	-: 1 screw terminal for 0.5 ... 10 mm²
mechanical data			
width × height × depth of the enclosure	70 mm × 135 mm × 155 mm	70 mm × 135 mm × 155 mm	70 mm × 125 mm × 121 mm
installation width × mounting height	70 mm × 225 mm	70 mm × 225 mm	70 mm × 225 mm
required spacing			
• top	45 mm	45 mm	50 mm
• bottom	45 mm	45 mm	50 mm
• left	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes	Yes	Yes
• S7 rail mounting	No	No	No
• wall mounting	No	No	No
housing can be lined up	Yes	Yes	Yes
net weight	1.2 kg	1.2 kg	1.2 kg
further information internet links			
internet link			
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com
• to web page: selection aid TIA Selection Tool	https://siemens.com/tst	https://siemens.com/tst	https://siemens.com/tst
• to website: Industrial communication	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net	http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager	http://www.siemens.com/cax	http://www.siemens.com/cax	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com	https://support.industry.siemens.com	https://support.industry.siemens.com
additional information			
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)

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Technical specifications (continued)

Article number	6EP4231-7HB00-0AX0	6EP4231-7HC00-0AX0	6EP1961-3BA01
product brand name	SITOP BUF1200	SITOP BUF1200 EX	Mains buffering
type of current supply	300 ms/40 A	300 ms/40 A	Buffer module
security information			
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

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Overview

Advantages of inrush current limiters:

- Maximum service life of current sensitive components (e.g. relays) by reducing inrush currents
- Space savings thanks to narrow width of 18 mm
- Matching LOGO! modules and sub-distribution boards through staggered profile
- Flexible installation on top hat DIN rail, as wall mounting or in various other mounting positions
- Maximum plant configuration enables flexible application possibilities at temperatures from -40 °C to +70 °C

Selection and ordering data

SITOP making current limiter Ballast for SITOP power supplies Input: 100 ... 480 V AC, 10 A max Output: 100 ... 480 V AC, 10 A max	**6EP1967-2AA00**
LOGO! ICL230 inrush current limiter Ballast for SITOP power supplies Input: 100 ... 240 V AC, 5 A max Output: 100 ... 240 V AC, 5 A max	**6EP4683-6LB00-0AY0**

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Technical specifications

Article number product brand name type of current supply	6EP4683-6LB00-0AY0 LOGO! ICL230 100-240 V/5 A	6EP1967-2AA00 SITOP Switch-on current limitation 100-480 V/10 A
input		
type of the power supply network	1-phase AC	1-phase, 2-phase and 3-phase AC
supply voltage at AC		
• minimum rated value	100 V	100 V
• maximum rated value	240 V	480 V
• initial value	85 V	85 V
• full-scale value	264 V	575 V
wide range input	Yes	Yes
line frequency		50 Hz/60 Hz
line frequency		47 ... 63 Hz
current limitation of inrush current at 25 °C maximum	10 A	10 A
duration of inrush current limiting at 25 °C		
• typical	60 ms	120 ms
fuse protection type	Overload protection in case of error through non-reversible thermal fuse	Overload protection in case of error through non-reversible thermal fuse
fuse protection type in the feeder		Circuit breaker max. 10 A
output		
voltage curve at output	according to the supply voltage	according to the supply voltage
number of outputs		1
output voltage		
• at AC rated value	100 - 240 V	100 - 480 V
• at AC	85 ... 264	85 ... 575
output voltage adjustable	No	No
display version for normal operation	Green LED	Green LED
output current		
• rated range	0 ... 5 A; Active current limitation for 60 ms to 10 A during switch-on.	0 ... 10 A
bridging of equipment	No	No
efficiency		
power loss [W]		
• at rated output voltage for rated value of the output current typical	1.5 W	1.5 W
protection and monitoring		
property of the output short-circuit proof		No
design of short-circuit protection	must be ensured by primary protection element	must be ensured by primary miniature circuit breaker
overcurrent overload capability		
• when switching on	Switching frequency max. 2 events per minute. Time-limited increased switching frequency once per hour for one minute (typ. 30 events per minute).	Switching frequency max. 1 event per minute
safety		
standard for safety	EN 60950-1	EN 60950-1
galvanic isolation between input and output	No	No
operating resource protection class	Class II	Class II
protection class IP	IP20	IP20
standard		
• for emitted interference	EN 61000-6-3	EN 61000-6-3
• for mains harmonics limitation	-	-
• for interference immunity	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals		
certificate of suitability		
• CE marking	Yes	Yes

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Technical specifications (continued)

Article number product brand name type of current supply	6EP4683-6LB00-0AY0 LOGO! ICL230 100-240 V/5 A	6EP1967-2AA00 SITOP Switch-on current limitation 100-480 V/10 A
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• EAC approval	Yes	Yes
• NEC Class 2	No	No
type of certification		
• CB-certificate	Yes	No
standards, specifications, approvals hazardous environments		
certificate of suitability		
• IECEx	No	No
• ATEX	No	No
• ULhazloc approval	No	No
• cCSAus, Class 1, Division 2	No	No
• FM registration	No	No
standards, specifications, approvals marine classification		
shipbuilding approval	No	No
Marine classification association		
• American Bureau of Shipping Europe Ltd. (ABS)	No	No
• French marine classification society (BV)	No	No
• Det Norske Veritas (DNV)	No	No
• Lloyds Register of Shipping (LRS)	No	No
ambient conditions		
ambient temperature		
• during operation	-40 ... +70 °C; with natural convection	-25 ... +60 °C; with natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method		
type of electrical connection	screw terminal	screw terminal
• at input	L1, N: 1 screw terminal each for 0.5 ... 2.5 mm²	L, N: 1 screw terminal each for 0.5 ... 2.5 mm²
• at output	L1, N: 1 screw terminal each for 0.5 ... 2.5 mm²	L, N: 1 screw terminal each for 0.5 ... 2.5 mm²
mechanical data		
width × height × depth of the enclosure	18 mm × 53 mm	22.5 mm × 91 mm
installation width × mounting height	18 mm	22.5 mm
required spacing		
• top	20 mm	50 mm
• bottom	20 mm	50 mm
• left	0 mm	0 mm
• right	0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15
• standard rail mounting	Yes	Yes
• S7 rail mounting	No	No
• wall mounting	Yes	No
housing can be lined up	Yes	Yes
net weight	0.14 kg	0.12 kg
further information internet links		
internet link		
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com

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Technical specifications (continued)

Article number product brand name type of current supply	6EP4683-6LB00-0AY0 LOGO! ICL230 100-240 V/5 A	6EP1967-2AA00 SITOP Switch-on current limitation 100-480 V/10 A
• to web page: selection aid TIA Selection Tool		https://siemens.com/tst
• to website: Industrial communication		http://www.siemens.com/simatic-net
• to website: CAx-Download-Manager		http://www.siemens.com/cax
• to website: Industry Online Support		https://support.industry.siemens.com
additional information		
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information		
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

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Overview

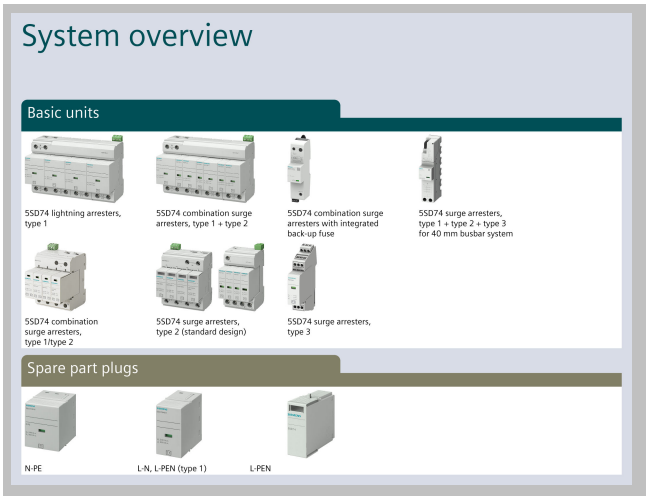
Overvoltage protection devices

The more than one million lightning strikes in Germany every year pose a considerable risk for buildings and systems that can be damaged due to the unhindered effect of lightning currents, overvoltage and power surges. In many cases however, it is not apparent that such damage has been caused by lightning currents, overvoltage and power surges.

Overvoltage results in considerable damage to electrical and electronic equipment. Even brief transients in power supply lines or between electrical lines and other conductive parts (e.g. grounded metallic parts, ground) are sufficient to cause such damage. The damage patterns of destroyed lines, circuit boards or switchgear demonstrate this. Such damage can be prevented employing suitable overvoltage protection means.
Reliably protected by Siemens lightning and surge arresters!

- Topic page

System overview



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10/1 Introduction

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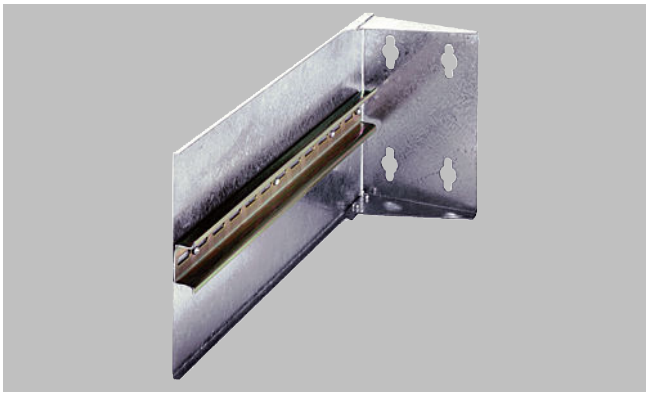
Overview



Mounting bracket

The combination of a SITOP power supply and a 90° mounting bracket results in a minimum surface area requirement on the rear panel of the control cabinet (the width of the power supply becomes the depth, and the depth becomes the width). The mounting bracket is suitable for control cabinets with a depth of 320 mm or more.

Mounting adapter for DIN rail

The single-phase 24 V/2 A (6ES7305-1BA80-0AA0) and 24 V/5 A (6ES7307-1EA80-0AA0) power supplies are special mechanical versions for SIMATIC S7-300 and can be mounted on S7 rails.

A mounting adapter (6ES7390-6BA00-0AA0) for mounting on DIN rail EN 60715 35x15 is separately available as an accessory.

The 24 V/ 2 A (6ES7307-1BA01-0AA0), 24 V/ 5 A (6ES7307-1EA01-0AA0) and 10 A (6ES7307-1KA02-0AA0) power supplies are variants for SIMATIC S7-300 and can be mounted on S7 rails.

A mounting adapter (6EP1971-1BA00) for installation on DIN rail EN 60715 35×15/7.5 is available separately as an accessory.

Device identification labels

20 mm x 7 mm blank device identification labels, Article No. 3RT2900-1SB20 (TI-grey) are available for identification of the power supplies. The package unit comprises 340 labels on frames, 20 labels per frame. For usability, refer to "Accessories" in the technical data of the respective power supplies.

Article No. 6ES7193-6LF30-0AW0 is available for the SITOP PSU6200 product line, as well as SITOP SEL1200/-1400 and SITOP RED1200. The package unit comprises 160 equipment labeling plates, 10 sheets (160 plates).

Selection and ordering data

SITOP modular signaling module For 6EP1XXX-3BA00 signaling contacts: Output voltage ok, operational availability ok, remote ON/OFF	**6EP1961-3BA10**
SITOP power mounting bracket 90 degrees, with 35x15 mm standard mounting rail, for power supplies with width of up to 280 mm	**6EP1971-2BA00**
SIMATIC S7-300 mounting adapter For snapping the PS 307 onto standard mounting rail 35x15/7.5 mm suitable for 6ES7307-1BA01*, -1EA01*, -1KA02* and higher	**6EP1971-1BA00**
SIMATIC S7-300 mounting adapter For snapping the PS307 onto 35 mm standard rails	**6ES7390-6BA00-0AA0**
Device identification labels 20 mm x 7 mm	
• Ti gray	**3RT2900-1SB20**
SIMATIC ET 200SP identification labels 160 equipment identification labels, 10 sheets (160 plates)	**6ES7193-6LF30-0AW0**

Technical specifications

Mounting bracket 90° for SITOP power Standard 24 V

Mounting bracket	For a depth of 320 mm
Article number	**6EP1971-2BA00**
Dimensions (W x H x D) in mm	100 x 150 x 320
Sheet thickness	1.5 mm
Mounting rail, attached	Standard mounting rail EN 60715 35x15
Weight, approx.	0.9 kg
Mounting	Can be screwed onto a flat surface (keyhole mounting for hooking onto M6 screws, drill hole distance 90 mm height, 50 mm side)
Accessories, included	4 M6 combi screws
Suitable for	Power supplies with width of up to 280 mm

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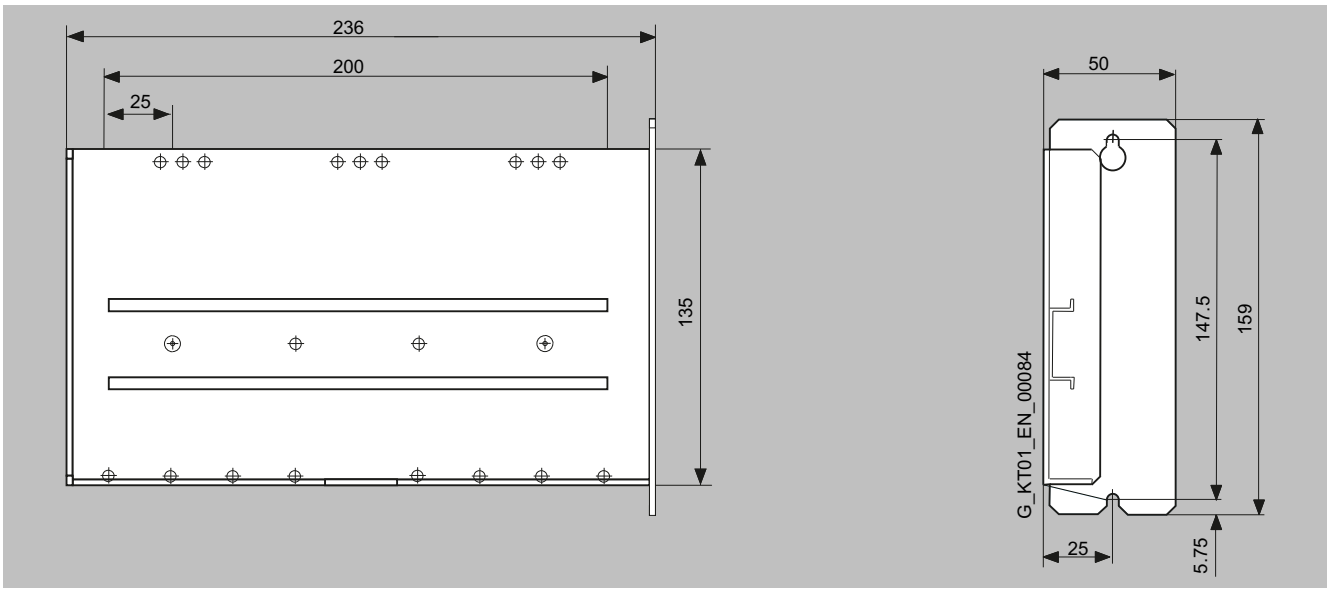
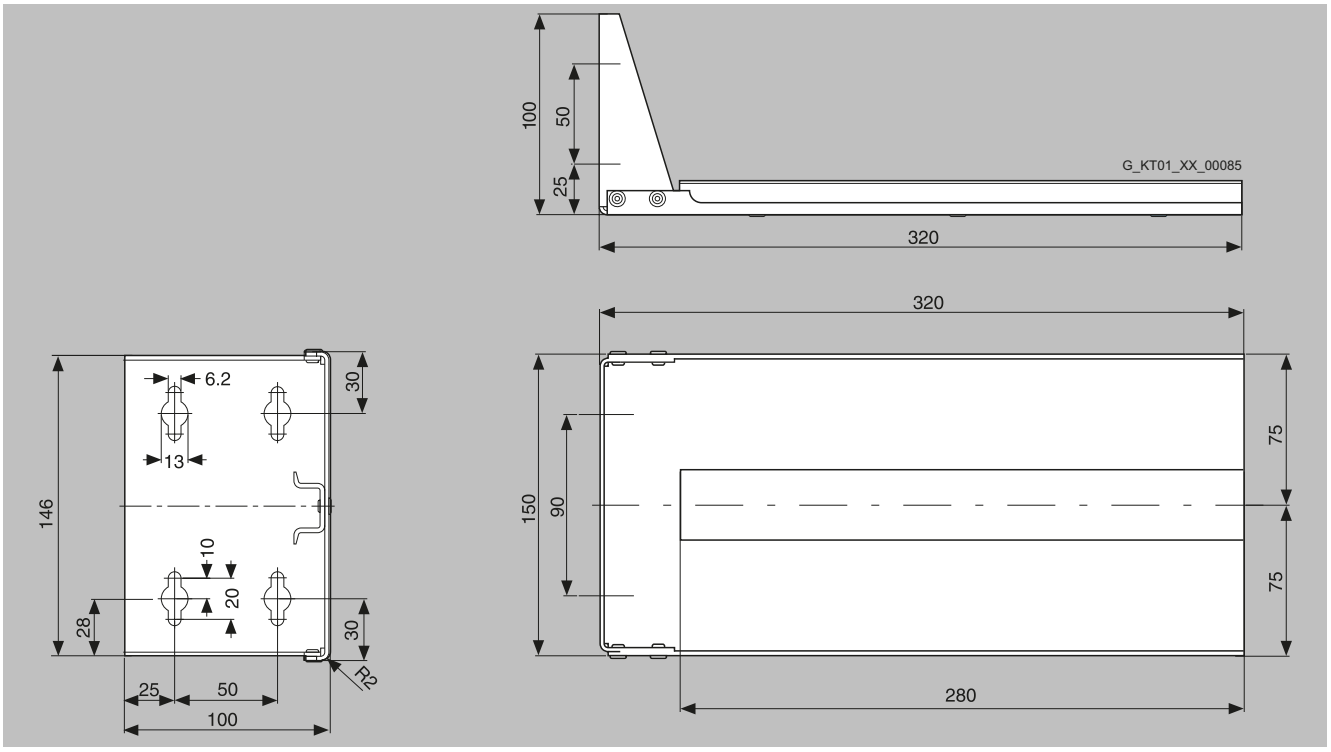
Dimensional drawings



Order No.
6EP1 971-1AA01



Order No.
6EP1 971-2BA00

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11/2	Power supplies general
11/3	Non-stabilized DC power supplies
11/4	Stabilized DC power supplies
11/7	Supply systems data, line-side connection
11/10	Possible mains disturbances and their causes
11/11	Installation guidelines, mounting areas and fixing options
11/12	Parallel connection
11/13	Series connection to increase the voltage
11/14	Battery charging with SITOP
11/15	Power supplies with NEC Class 2
11/17	Right power supply and DC UPS for SIMATIC IPC series
11/18	Right power supply for SCALANCE
11/23	Fusing of the output circuit 24 V DC, selectivity
11/27	Standards and approvals
11/28	Certificates

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Overview

Power supplies

In plant building or mechanical equipment manufacture, or in any other situations in which electrical controls are used, a safe and reliable power supply is needed to supply the process with power.

The operational reliability of electronic controls and associated reliable operation of automated plants is extremely closely linked to the resistance of the load current supply to failure. Final control elements as well as input and output modules will only respond to command signals if the power supply is operating reliably.

In addition to requirements such as safety, particular demands are placed on the electromagnetic compatibility (EMC) of the power supply with reference to the tolerance range of the output voltage, as well as its ripple.

Important factors that determine problem-free implementation are, in particular:

- An input current with a low harmonic content
- Low emitted interference
- Adequate immunity (noise immunity) to interference

EMC	Interference phenomena
Emission (emitted interference)	Interference caused by television and radio reception Interference coupling on data lines or power supply cables
Noise immunity (immunity to interference)	Faults on the power cable due to switching non-resistive loads such as motors or contactors Static discharge due to lightning strikes Electrostatic discharge through the human body Conducted interference induced by radio frequencies

Selected interference phenomena

General notes on DC power supplies

The DC power supply is a static device with one or more inputs and one or more outputs that converts a system of AC voltage and AC current and/or DC voltage and DC current to a system with different DC voltage and DC current values by means of electromagnetic induction for the purpose of transmitting electrical energy.

The type of construction of a DC power supply is primarily decided by its intended use.

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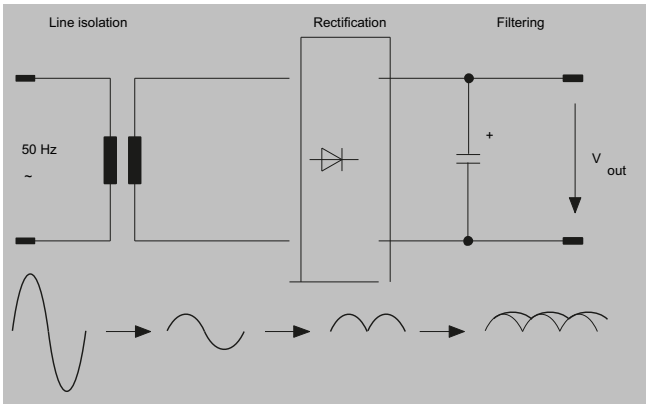
Overview

Non-stabilized DC power supplies

The AC mains voltage is transformed using 50 Hz/60 Hz safety transformers to a protective extra-low voltage and smoothed with down-circuit rectification and capacitor filtering.

In the case of non-stabilized DC power supplies, the DC output voltage is not stabilized at a specific value, but the value is varied in accordance with the variation in (mains) input voltage and the loading.

The ripple is in the Volt range and is dependent on the loading. The value for the ripple is usually specified as a percentage of the DC output voltage level. Non-stabilized DC power supplies are characterized by their rugged, uncomplicated design that is limited to the important factors and focused on a long service life.



Block diagram of a non-stabilized power supply

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Overview

Stabilized DC power supplies have electronic control circuits that maintain the DC voltage at the output at a specific value with as little variation as possible. Effects such as variation in input voltage or changes in load at the output are electrically compensated in the specified function area.

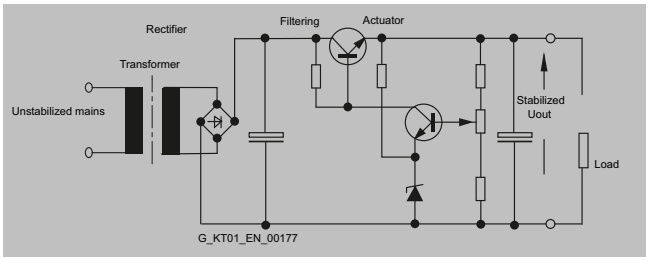
The ripple in the output voltage for stabilized DC power supplies lies in the millivolt range and is mainly dependent on the loading at the outputs.

Stabilized DC power supplies can be implemented on different functional principles. The most common types of circuit are:

- Linear stabilized power supplies
- Magnetic voltage stabilizers
- Secondary pulsed switched-mode power supplies
- Primary pulsed switched-mode power supplies

The most suitable principle for a particular application case will depend mainly on the application. The objective is to generate a DC voltage to supply the specific load as inexpensively and as accurately as possible.

Power supplies with in-phase regulation



Block diagram: Transformer with in-phase regulation

The transformer with in-phase regulation operates according to a conventional principle. The supply is provided from an AC supply system (one, two or three conductor supply).

A transformer is used to adapt it to the required secondary voltage.

The rectified and filtered secondary voltage is converted to a stabilized voltage at the output in a regulation section. The regulation section comprises a final controlling element and a control amplifier. The difference between the stabilized output voltage and the non-stabilized voltage at the filter capacitor is converted into a thermal loss in the final controlling element. The final controlling element functions in this case like a rapidly changeable ohmic impedance. The thermal loss that arises in each case is the product of output current and voltage drop over the final controlling element.

This system is extremely adaptable. Even without further modifications, several output voltages are possible. In the case of multiple outputs, the individual secondary circuits are usually generated from separate secondary windings of the input transformer. Some applications can only be resolved in accordance with this circuit principle. Especially when highly accurate regulation, minimal residual ripple and fast compensation times are required.

The efficiency is, however, poor and the weight and volume are considerable. The transformer with in-phase regulation is therefore only an economical alternative at low power ratings.

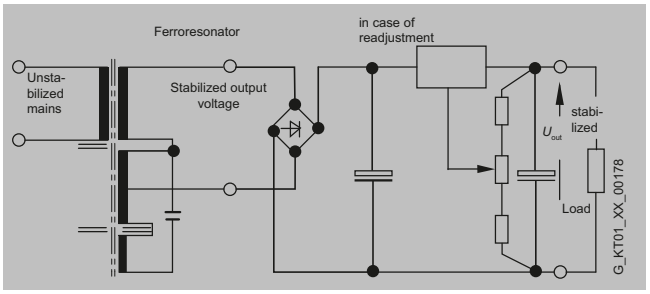
Advantages:

- Simple, well-proven circuit principle
- Good to excellent control characteristics
- Fast compensation time

Disadvantages:

- Relatively high weight and large construction volume due to the 50 Hz transformer
- Poor efficiency, heat dissipation problems
- Low hold time

Magnetic stabilizer



Block diagram: Magnetic stabilizer

The complete transformer comprises two components. The "ferro resonator" and a series-connected auxiliary regulator. The input winding and the resonance winding of the magnetic stabilizer are decoupled to a large extent by means of the air gap. The magnetic stabilizer supplies a well-stabilized AC voltage. This is rectified and filtered. The transformer itself is operated in the saturation range.

The ferro resonator frequently has a transformer with in-phase regulation connected downstream to improve the control accuracy. Secondary pulsed switched-mode regulators are frequently also connected downstream.

The magnetic stabilizer technique is reliable and rugged but is also large-volume, heavy and relatively expensive.

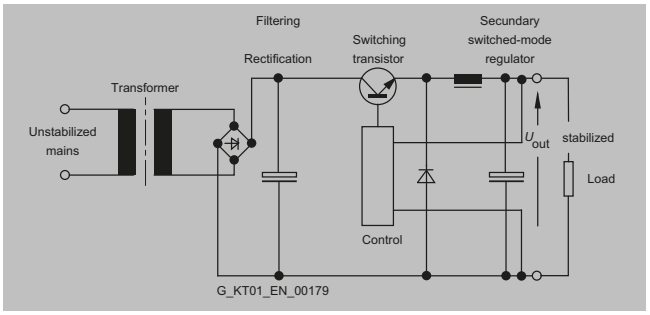
Advantages:

- Good to excellent control characteristics in combination with transformer with in-phase regulation connected downstream
- Significantly better efficiency than a transformer with in-phase regulation alone

Disadvantages:

- The ferro resonator is frequency dependent
- The power supplies are large and heavy due to the magnetic components

Secondary pulsed switched-mode power supplies (SGS)



Block diagram: Secondary pulsed switched-mode power supplies

Isolation from the supply system is implemented in this case with a 50 Hz transformer. Following rectification and filtering, the energy is switched at the output by means of pulsing through a switching

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Overview (continued)

transistor in the filtering and storage circuit. Thanks to the transformer at the input that acts as an excellent filter, the mains pollution is low.
The efficiency of this circuit is extremely high.

This concept offers many advantages for power supplies with numerous different output voltages.

To protect the connected loads, however, care must be taken; in the event of the switching transistor breaking down, the full, non-stabilized DC voltage of the filter capacitor will be applied to the output. However, this danger also exists in the case of linear stabilized power supplies.

Advantages:

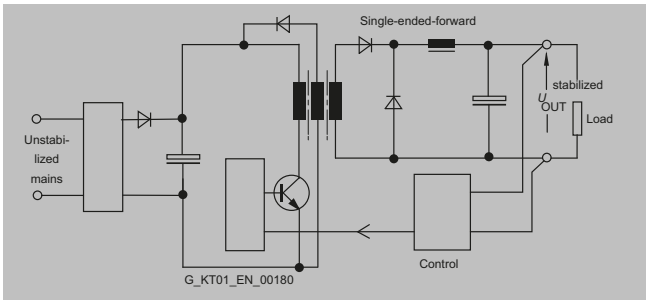
- Simple design and high efficiency
- Multiple outputs, also galvanically isolated from one another, are easily implemented by means of several secondary windings
- Fewer problems with interference than with primary pulsed switched-mode power supplies

Disadvantages:

- The 50 Hz transformer makes the power supplies relatively large and heavy
- The output ripple (spikes) correspond to those of a primary pulsed switched-mode power supply

Primary pulsed switched-mode power supplies (PGS)

The term SMPS (Switch Mode Power Supply) or primary switched-mode regulator is often used in the literature.



Block diagram: Single-ended forward converter

The primary switched-mode regulators are available in many different circuit versions. The most important basic circuits are single-ended forward converters, flyback converters, half-bridge converters, full-bridge converters, push-pull converters and resonance converters.

The general principle of operation of the primary switched-mode regulator is shown in the block diagram of the single-ended forward converter:

The non-stabilized supply voltage is first rectified and filtered. The capacitance of the capacitor in the DC link determines the hold time of the power supply on failure of the input voltage. The voltage at the DC link is approximately 320 V DC for a 230 V supply. A single-ended converter is then supplied with this DC voltage and transfers the primary energy through a transformer to the secondary side with the help of a pulse width regulator at a high switching frequency. The switching transistor has low power losses when functioning as a switch so that the power balance lies between > 70% and at least 90%, depending on the output voltage and current.

The volume of the transformer is small in comparison with a 50 Hz transformer due to the high switching frequency because the transformer size, taking into account the higher switching frequency, is smaller. Using modern semiconductors, clock frequencies of 100 kHz and above can be achieved. However, switching losses increase at excessively high clock frequencies so that in each case a compromise has to be made between high efficiency and the largest possible clock frequency. In most applications, the switching frequencies lie between approximately 20 kHz to 250 kHz depending on the output power.

The voltage from the secondary winding is rectified and filtered. The system deviation at the output is fed back to the primary circuit through an optocoupler. By controlling the pulse width (conducting phase of the switching transistor in the primary circuit), the necessary energy is transferred to the secondary circuit and the output voltage is regulated. During the non-conducting phase of the switching transistor, the transformer is demagnetized through an auxiliary winding. Exactly the same amount of energy is transferred as is removed at the output. The maximum pulse width for the pulse duty factor for these circuits is < 50%.

Advantages:

- Small magnetic components (transformer, storage reactor, filter) thanks to the high operating frequency
- High efficiency thanks to pulse width regulation
- Compact equipment units
- Forced-air cooling is not necessary up to the kW range
- High hold times are possible in case of power failure by increasing the capacitance in the DC link
- Large input voltage range possible

Disadvantages:

- High circuit costs, many active components
- High costs for interference suppression
- The mechanical design must be in accordance with HF criteria

Primary switched-mode power supplies have taken over from the other switching modes in recent years. This is due, in particular, to their compact size, minimal weight, high efficiency and excellent price/performance ratio.

Summary

The most important characteristics of the circuit types described above are summarized in the table.

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Overview (continued)

Comparison criteria	Connection methods			
	Primary-switched mode	**Secondary-switched mode**	**Transformer with in-phase regulation**	**Magnetic stabilizer**
Input voltage range	Very large	Average	Very small	Large
Regulation speed	Average	Average	Very fast	Slow
Hold time after power failure	Very long	Long	Very short	Long
Residual ripple	Average	Average	Very low	Average
Power loss	Very small	Small	Large	Very small
Size	Very small	Average	Very large	Large
Weight	Very light	Average	Heavy	Very heavy
Interference suppression overhead	Very large	Average	Low	Average

Comparison criteria for basic circuit versions

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Overview

Power grid data

When dimensioning and selecting plant components, the power grid data, power grid conditions and operating modes must be taken into account for these components.

The most important data for the power grid include the rated voltage and rated frequency. These data for the power grid are designated as rated values in accordance with international agreements.

Generally used rated voltages and rated frequencies

In Europe, the EN 60038 standard "CENELEC standard voltages" applies.

This standard includes most of the international standard IEC 60038, 7. Edition, 2009, "IEC standard voltages".

The IEC 60038 standard is the result of an international agreement to reduce the diverse rated voltage values that are in use for electrical supply networks and traction power supplies, load installations and equipment.

As concerns the low-voltage range, note that in the EN 60038 the 220 V/380 V voltage values (previously applicable in continental Europe) and 240 V/415 V values (previously applicable in the United Kingdom) for three-phase systems have been replaced by a single standardized value of 230 V/400 V. The line frequency in Europe is 50 Hz.

The tolerances for the operating voltages of the supply systems that were specified for the transition period up to 2003 were intended to ensure that equipment rated for the existing voltages could be operated safely until the end of its service life.

Year	Rated voltage	Tolerance range
Up to 1987	220 V/380 V	-10% to +10%
1988 to 2003	230 V/400 V	-10% to + 6%
Since 2003	230 V/400 V	-10% to +10%

Conversion of low-voltage systems

Supply voltages over 400 V (e.g. 500 V, 690 V) are occasionally used in Europe in large industrial plants.

The IEC recommendation of 230 V/400 V has been implemented as national regulation in the most important countries, as far as the conditions in these countries allow.

In North America, Central America and some northern South American countries the rated value for AC supply voltage is 120 V; but twice the supply voltage, i.e. 240 V, is common for larger loads. The low-voltage systems are normally implemented in these countries as single-phase three-wire systems. Three-phase AC current is often unavailable to small consumers, if it exists at all, so the voltage is 208 V or 415 V. Three-phase networks are available for larger consumers at 480 V. The line frequency is 60 Hz.

In Asia, AC supply voltages of 100 V or 110 V (50 Hz or 60 Hz) are also common.

Worldwide, numerous country-specific and regional characteristics prevail about which the local plant operators must be directly consulted.

International supply voltages and frequencies in low-voltage systems

Europe	Line voltage
Western Europe	
Belgium	50 Hz 230/400 – 127-220 V
Denmark	50 Hz 230/400 V
Germany	50 Hz 230/400 V
Finland	50 Hz 230/400-500[1] – 660[1] V
France	50 Hz 127/220 – 230/400 – 500[1] – 380/660[1] – 525/910[1] V

Overview (continued)

Europe	Line voltage
Greece	50 Hz 230/400 – 127/220[2] V
Great Britain	50 Hz 230/400 V
Ireland	50 Hz 230/400 V
Iceland	50 Hz 127/220[2] – 230/400 V
Italy	50 Hz 127/220 – 230/400 V
Luxembourg	50 Hz 230/400 V
The Netherlands	50 Hz 230/400 – 660[1] V
Northern Ireland	50 Hz 230/400 – Belfast 220/380 V
Norway	50 Hz 230-230/400-500[1] – 690[1] V
Austria	50 Hz 230/400 – 500[1] – 690[1] V
Portugal	50 Hz 230/400 V
Sweden	50 Hz 230/400 V
Switzerland	50 Hz 230/400 – 500[2] V
Spain	50 Hz 230/400 V
Eastern Europe	
Albania	50 Hz 230/400 V
Bulgaria	50 Hz 230/400 V
Russian Federation	50 Hz 230/400 – 690[1] V
Croatia	50 Hz 230/400 V
Poland	50 Hz 230/400 V
Romania	50 Hz 230/400 V
Serbia	50 Hz 230/400 V
Slovakia	50 Hz 230/400 – 500[1] – 690[1] V
Slovenia	50 Hz 230/400 V
Czech Republic	50 Hz 230/400 – 500[1] – 690[1] V
Hungary	50 Hz 230/400 V

Country	Line voltage
Middle East	
Afghanistan	50 Hz 220/380 V
Bahrain	50 Hz 230/400 V
Cyprus	50 Hz 240/415 V
Iraq	50 Hz 220/380 V
Israel	50 Hz 230/400 V
Jordan	50 Hz 220/380 V
Kuwait	50 Hz 240/415 V
Lebanon	50 Hz 110/190 – 220/380 V
Oman	50 Hz 220/380 – 240/415 V
Qatar	50 Hz 240/415 V
Saudi Arabia	60 Hz 127/220 – 220/380 – 480[1] V (220/380 – 240/415 V 50 Hz: a few remaining areas only)
Syria	50 Hz 115/200 – 220-380 – 400[1] V
Turkey	50 Hz 220/380 V (parts of Istanbul: 110/190 V)
United Arab Emirates (Abu Dhabi; Ajman; Dubai; Fujairah; Ras al Khaymah; Sharjah; Umm Al Quwain)	50 Hz 220/380 – 240/415 V
Yemen (North)	50 Hz 220/380 V
Yemen (South)	50 Hz 230/400 V
Far East	
Bangladesh	50 Hz 230/400 V
Burma	50 Hz 230/400 V
People's Republic of China	50 Hz 127/220 – 220/380 V (in mining: 1140 V)
Hong Kong	50 Hz 200/346 V
India	50 Hz 220/380 – 230/400 – 240/415 V
Indonesia	50 Hz 127/220 – 220/380 – 400[1] V
Japan	50 Hz 100/200 – 400[1] V
Japan (South Honshu, Shikoku, Kyushu, Hokkaido, North Honshu)	60 Hz 110/220 – 440[1] V

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Overview (continued)

Country	Line voltage
Cambodia	50 Hz 120/208 V – Phnom Penh 220/238 V
Korea (North)	60 Hz 220/380 V
Korea (South)	60 Hz 100/200[2] – 220/380 – 440[1] V
Malaysia	50 Hz 240/415 V
People's Republic of Mongolia	50 Hz 220/380 V
Pakistan	50 Hz 230/400 V
Philippines	60 Hz 110/220 – 440 V
Singapore	50 Hz 240/415 V
Sri Lanka	50 Hz 230/400 V
Taiwan	60 Hz 110/220 – 220 – 440 V
Thailand	50 Hz 220/380 V
Vietnam	50 Hz 220/380 V

Country	Line voltage
North America	
Canada	60 Hz 600 – 120/240 – 460 – 575 V
USA	60 Hz 120/208 – 120/240 – 277/480 – 600[1] V
Central America	
Bahamas	60 Hz 115/200 – 120/208 V
Barbados	50 Hz 110/190 – 120/208 V
Belize	60 Hz 110/220 – 220/440 V
Costa Rica	60 Hz 120/208[2] – 120/240 – 127/220 – 254/440[2] – 227/480[1] V
Dominican Republic	60 Hz 120/208 – 120/240 – 480[1] V
Guatemala	60 Hz 120/208 – 120/240 – 127/220 – 277/480[1] – 480[1] – 550[1] V
Haiti	50 Hz 220/380 V (Jacmel), 60 Hz 110/220 V
Honduras	60 Hz 110/220 – 127/220 – 277/480 V
Jamaica	50 Hz 110/220 – 440[1] V
Cuba	60 Hz 120/240 – 220/380 – 277/480[1] – 440[1] V
Mexico	60 Hz 127/220 – 440[1] V
Nicaragua	60 Hz 110/220 – 120/240 – 127/220 – 220/440 – 254/40[1] V
Panama	60 Hz 120/208[1] – 120/240 – 254/4401) – 277/480[1] V
Puerto Rico	60 Hz 120/208 – 480 V
El Salvador	60 Hz 110/220 – 120/208 – 127/220 – 220/440 – 240/480[1] – 254/440[1] V
Trinidad	60 Hz 110/220 – 120/240 – 230/400 V
South America	
Argentina	50 Hz 220/380 V
Bolivia	60 Hz 220/380 – 480 V, 50 Hz 110/220 – 220/380 V (exception)
Brazil	60 Hz 110/220 – 220/440 – 127/220 – 220/380 V
Chile	50 Hz 220/380 V
Ecuador	60 Hz 120/208 – 127/220 V
Guyana	50 Hz 110/220 V (Georgetown), 60 Hz 110/220 – 240/480 V
Columbia	60 Hz 110/220 – 150/260 – 440 V
Paraguay	60 Hz 220/380 – 220/440 V
Peru	60 Hz 220 – 220/380/440 V
Surinam	60 Hz 115/230 – 127/220 V
Uruguay	50 Hz 220 V
Venezuela	60 Hz 120/208 – 120/240 – 208/416 – 240/480 V

Country	Line voltage
Africa	
Egypt	50 Hz 110/220 – 220/380 V
Ethiopia	50 Hz 220/380 V

Overview (continued)

Country	Line voltage
Algeria	50 Hz 127/220 – 220/380 V
Angola	50 Hz 220/380 V
Benin	50 Hz 220/380 V
Ivory Coast	50 Hz 220/380 V
Gabon	50 Hz 220/380 V
Ghana	50 Hz 127/220 – 220/380 V
Guinea	50 Hz 220/380 V
Kenya	50 Hz 220/380 V
Cameroon	50 Hz 127/220 – 220/380 V
Congo	50 Hz 220/380 V
Liberia	60 Hz 120/208 – 120/240 V
Libya	50 Hz 127/220[2] – 220/380 V
Madagascar	50 Hz 127/220 – 220/380 V
Malawi	50 Hz 220/380 V
Mali	50 Hz 220/380 V
Morocco	50 Hz 115/200 – 127/220 – 220/380 – 500[1] V
Mauritius	50 Hz 240/415 V
Mozambique	50 Hz 220/380 V
Namibia	50 Hz 220/380 V
Niger	50 Hz 220/380 V
Nigeria	50 Hz 220/415 V
Rwanda	50 Hz 220/380 V
Zambia	50 Hz 220/380 V – 415 – 550[1] V
Senegal	50 Hz 127/220 – 220/380 V
Sierra Leone	50 Hz 220/380 V
Somalia	50 Hz 220-220/440 V
Sudan	50 Hz 240/415 V
South Africa	50 Hz 220/380 – 500[1] – 550/950[1] V
Swaziland	50 Hz 220/380 V
Tanzania	50 Hz 230/400 V
Togo	50 Hz 127/220 – 220/380 V
Tunisia	50 Hz 115/200 – 220/380 V
Uganda	50 Hz 240/415 V
Zaire	50 Hz 220/380 V
Zimbabwe	50 Hz 220/380 V

[1] Industry only
[2] No further expansion

Connection and fusing on the line side

All SITOP and LOGO!Power power supplies are built-in devices. Compliance with the pertinent country-specific regulations is essential for installation and electrical connection of the devices. During installation, protective gear and isolating gear must be provided for activating the power supply.

Power supplies cause a current inrush immediately after connection of the input voltage due to charging of the load capacitor, however, it falls back to the rated input current level after a few milliseconds. Aside from the internal impedances of the power supply, the inrush current is dependent on the size of the input voltage applied as well as the source impedance of the supply network and the line impedance of the supply line. The maximum inrush current for the power supplies is specified in the applicable technical data. It is important for dimensioning upstream protective devices.

Single-phase SITOP and LOGO!Power power supplies are equipped with internal device protection (fuses). For the line connection, only one protective device (fuse or MCB) must be provided for line protection in accordance with the rated current of the installed cable. The miniature circuit breakers recommended in the data sheets and operating instructions have been selected such that even during the maximum current inrush that can occur under worst-case conditions on switching on the supply voltage, the miniature circuit breaker will

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Overview (continued)

not trip. A 2-pole connected miniature circuit breaker is required for the connection of certain device types.

3-phase SITOP power supplies do not have internal device protection. The up-circuit protective device (3-phase coupled miniature circuit breaker or motor protection switch) protects the cables and devices. The protective devices specified in the data sheets and operating instructions are optimized to the characteristics of the relevant power supplies.

FAQ: How do you secure SITOP power supplies on the input side?
https://support.industry.siemens.com/cs/ww/en/view/109779477

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Overview

The quality of the mains voltage has become a decisive factor in the functioning, reliability, maintenance costs and service life of highly sensitive electronic installations and devices (computers, industrial controls, instrumentation, etc.).

Mains disturbances cause system failures and affect the function of plants as well as electronic loads. They can also result in total failure of the installation or equipment.

The most frequent types of disturbance are:

- Long-term overvoltages
- Long-term undervoltages
- Interference pulses and transients
- Voltage dips and surges
- Electrical noise
- Momentary network failure
- Long-term network failure

Mains disturbances can be caused by a number of things, e.g.:

- Switching operations in the supply system
- Long cable paths in the supply system
- Environmental influences such as thunderstorms
- Mains overloads

Typical causes of mains disturbances generated in-house are:

- Thyristor-controlled drives
- Elevators, air-conditioning, photocopiers
- Motors, reactive-power compensation systems
- Electrical welding, large machines
- Switching of lighting equipment

Disturbances in mains voltages can occur individually or in combination. Possible reasons for these disturbances, their effects and countermeasures can include:

System disturbances	Percentage of total disturbance	Result	Measure
Overvoltage The supply voltage is exceeded by more than +6% for a prolonged period (acc. to IEC 60038)	Approx. 15% - 20%	Can result in overheating and even thermal destruction of individual components. Causes total failure.	SITOP power supplies with their wide operating voltage range offer sufficient protection against minor network overvoltages outside the permissible tolerance
Line undervoltage The supply voltage is undershot by more than -10% for a prolonged period (acc. to IEC 60038)	Approx. 20% - 30%	Can result in undefined operating states of loads. Causes data errors.	Use of a SITOP DC UPS (uninterruptible DC power supply) see Section 11
Interference pulses Energy-rich pulses (e.g. 700 V/1 ms) and energy-poor transients (e.g. 2500 V/20 µs) result from switching operations in the supply system	Approx. 30% - 35%	Can result in undefined operating states of the loads and can lead to the destruction of components.	For use of overvoltage protection devices, see Catalog LV 10.1 2020, Section 6
Voltage dips and surges The voltage level changes suddenly and in an uncontrolled manner, e.g. due to changes in loading and long cable routes	Approx. 15% - 30%	Can result in undefined operating states and destruction of components. Cause data errors.	Thanks to their internal buffer time, SITOP power supplies offer sufficient protection against short power failures
Electrical noise A mix of frequencies superimposed on the mains due to bad grounding and/or strong HF emitters such as radio transmitters or thunderstorms	Approx. 20% - 35%	Can result in undefined operating states of loads. Causes data errors.	Due to internal switching measures, SITOP power supplies offer sufficient immunity to electromagnetic interference
Voltage interruption Short-term interruption of the supply voltage (up to approx. 100 ms) due to short-circuiting in neighboring supply systems or starting of large electrical machines.	Approx. 8% - 10%	Can result in undefined operating states of loads, especially those with insufficient mains buffering. Causes data errors.	Use of a SITOP buffer module (in connection with SITOP smart or SITOP modular) see Section 10
Voltage interruption Long interruption of the supply voltage (longer than approx. 100 ms)	Approx. 2% - 5%	Can result in undefined operating states of loads, especially those with insufficient mains buffering. Causes data errors.	Use of a SITOP DC UPS (uninterruptible DC power supply) see Section 11

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Overview

Installation guidelines

SITOP und LOGO!Power power supplies are mostly built-in devices. They must be mounted vertically so that the supply air can enter the ventilation slots at the bottom of the devices and leave through the upper part of the devices. The minimum clearances specified in the relevant product documentation (operating instructions, device manuals) for the top and bottom of the devices must be observed to ensure free air convection. Side clearance is not required.

The option of mounting on standard mounting rails, wall mounting or mounting in non-vertical positions with the appropriate derating is specified in the respective device manuals.

Everything for project planning

Comprehensive information is available for mechanical and electrical engineering, for example, 3D data, circuit diagram macros, device manuals, product data sheets and certificates. The information is available for download via the CAx Download Manager.

Further information is available on the Internet at

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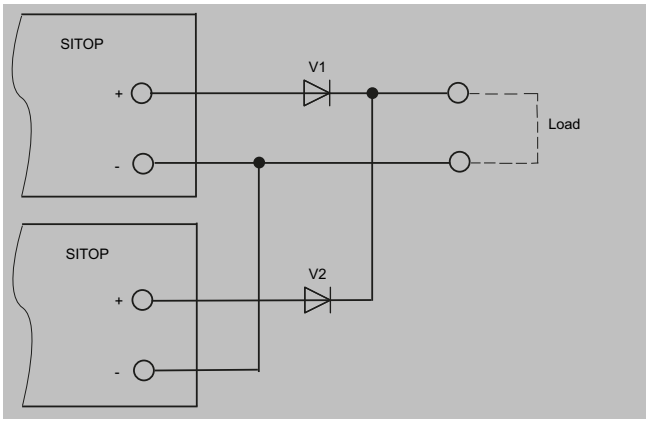
Overview

Parallel connection for redundant operation

Two SITOP power supplies of the same type can be connected in parallel through diodes for a redundant configuration. 100% redundancy only exists for two power supplies when the total load current is no higher than that which one power supply can supply alone and when the supply for the primary side is also implemented redundantly (i.e. a short-circuit on the primary side will not trigger a shared fuse which would disconnect both power supplies from the mains).

Parallel connection with decoupling diodes for redundant operation is permitted for all SITOP power supplies. The V1 and V2 diodes are used for decoupling. They must have a blocking voltage of at least 40 V (when decoupling from 24 V power supplies) and it must be possible to load them with a current equal to or greater than the maximum output current of the respective SITOP power supply. For diode dimensioning, see the following note "General information on selection of diodes".

The ready-to-use add-on SITOP PSE202U redundancy modules are available as a simple alternative to diode dimensioning (Article No.: 6EP1962-2BA00, 6EP1964-2BA00, 6EP1961-3BA21) and SITOP RED1200 (Article No.: 6EP4346-7RB00-0AX0, 6EP4347-7RB00-0AX0, 6EP4348-7RB00-0AX0) for redundant interconnection of two power supplies.



Parallel connection of two SITOP power supplies for redundant operation

General information on selection of diodes:

The diodes must be dimensioned for the maximum dynamic current. This can be the dynamic current during startup in the short-circuit case, or the dynamic current during a short-circuit in operation (the larger of the two values should be taken from the relevant technical specifications).

To dissipate the significant power loss of the decoupling diodes (steady short-circuit current rms value x diode conductive-state voltage), the diodes must be equipped with suitably dimensioned heat sinks.

An additional safety margin is recommended, because the output capacitor integral to the power supply generates an additional peak current in the short-circuit case. This additional current flows only for a few milliseconds so it is within the period in which diodes are permitted to be loaded with a multiple of the rated current (8.3 ms, known as the permissible surge current for diodes).

Example

Two 1-phase SITOP PSU8200 power supplies with 10 A rated output current (Article No.: 6EP1334-3BA10) are connected in parallel. The dynamic current in the event of a short-circuit during operation is approx. 30 A for 25 ms.

The diodes should therefore have a loading capability of 40 A to be safe, the common heat sink for both diodes must be dimensioned for the maximum possible current of approximately 24 A (steady short-circuit current rms value) x diode conductive-state voltage.

Overview (continued)

Parallel connection for performance enhancement

To enhance performance, identical types of most SITOP power supplies can be connected in parallel galvanically (the same principle as parallel connection for redundant operation, but without decoupling diodes):

The types permitted for direct galvanic parallel connection are listed in the relevant technical specifications under "Output, parallel connection for performance enhancement".

Requirement:

- The output cables connected to terminals "+" and "-" of every power supply should be installed with an identical length and cross-section (or the same impedance) to the common external linking point.
- The power supplies connected in parallel must be switched simultaneously using a common switch in the mains supply line (e.g. using the main switch available in control cabinets).
- The output voltages of the power supplies must be measured under no-load operation before they are connected in parallel and are permitted to differ by up to 50 mV. This usually corresponds to the factory setting. If the output voltage is changed in case of variable power supplies, the "-" terminals should first be connected and then the voltage difference between the "+" output terminals measured under no-load conditions before they are connected. The voltage difference must not exceed 50 mV.

Note

With a direct galvanic connection in parallel of more than two SITOP power supplies, further circuit measures may be necessary for short-circuit and overload protection!

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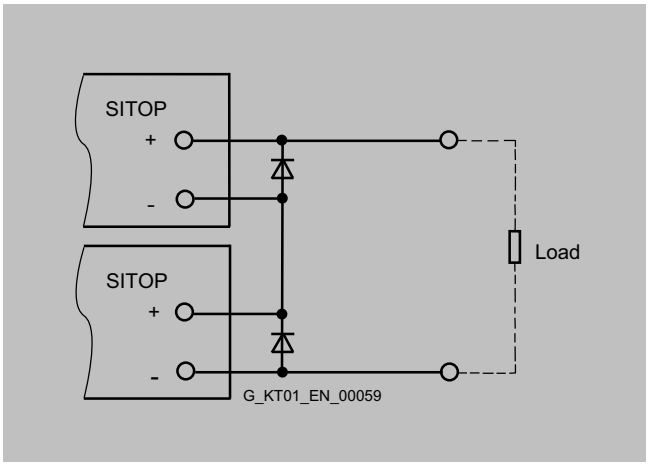
Overview

Series connection to increase the voltage

To generate a load voltage of 48 V DC, for example, two devices of the same type can be switched in series for most 24 V SITOP power supplies (see the relevant Equipment Manual for detailed information).

The SITOP outputs "+" and "–" are isolated up to at least 60 V DC against PE (creepages and clearances as well as radio interference suppression capacitors on "+" and "–" against PE), so that with this type of series connection (see Figure), the following points can be grounded:

- "–" of the lower power supply (results in +48 V DC against PE)
- Midway "+"/ "–" between both power supplies (results in ±24 V DC against PE)
- "+" of the upper power supply (results in -48 V DC against PE)



Series connection of two SITOP power units to double the voltage

Note:

If two devices are connected in parallel, it cannot be guaranteed that the voltage will remain below the maximum permissible SELV voltage of 60 V DC in the event of a fault.

The purpose of diodes V1 and V2 is to protect the electrolytic output capacitor integrated in the power supply against reverse voltages > 1 V. As a result of the not absolutely simultaneous power-up (even when a common mains switch is used for switching on, differences of a few tens of milliseconds can occur between the various startup-up delays), the power supply which starts up more quickly supplies current from output "–" of the slower power supply whose output electrolytic capacitor is then theoretically impermissibly discharged.

The internal LC filter causes the internal rectifier diode on the secondary side of the slower-starting power supply to accept this current a few milliseconds later; this means that the external diode connected with its anode to "–" and cathode to "+" is essential on each power supply. These diodes are, however, only loaded dynamically so that the 8.3 ms surge current loading capability (specified in the data sheets for suitable diodes) can be used as a basis for dimensioning and it is not usually necessary to cool the diodes using heat sinks.

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Overview

Battery charging with SITOP power supplies

The SITOP PSU3800 12 V/20 A (Article No. 6EP3424-8UB00-0AY0), 24 V/17 A (Article No. 6EP3436-8UB99-0AY0) and 24 V/40 A (Article No. 6EP3437-8UB00-0AY0) power supplies are suitable for charging lead-acid batteries. In the case of a V/I characteristic set for parallel operation, the battery will be charged with a constant current until approximately 95% of the set SITOP output voltage has been achieved. The charge current is then continuously reduced from 1.2 x rated current at 95% of the set voltage to approximately 0 A or the self-discharge current of the battery at 100% of the set output voltage, that is, resistance characteristic in this range.

As reverse voltage and reverse polarity protection, we recommend that a diode suitable for at least 1.2 x the rated current of the power supply with a blocking voltage of at least 40 V is connected in series with the "+" output (anode connected to "+" output of the SITOP PSU3800 and cathode connected to positive pole of the battery).

The output voltage of the power supply must be set at no-load to the end-of-charge voltage plus the voltage drop at the diode. For an end-of-charge voltage of e.g. 27.0 V DC (usual at 20 °C to 30 °C battery temperature; specifications of the battery manufacturer must be observed!) and 0.8 V voltage drop at the diode, the power supply must be set to 27.8 V during no-load operation.

General note for using SITOP power supplies as a battery-charging unit

When using SITOP as a battery charging unit, VDE 0510 or relevant national regulations must be observed, and adequate ventilation of the battery location provided. SITOP power supplies are designed as rack-mounting units, and protection against electric shock should therefore be provided by installation in an appropriate enclosure.

The value recommended by the battery manufacturer must be set as the end-of-charge voltage (depending on the battery temperature). An ideal temperature for the lead-acid battery is between +20 to +30 °C and the recommended end-of-charge voltage in this case is usually about 27 V.

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Overview

24 V power supply with power limitation to 100 VA according to NEC Class 2

By limiting the power supply, it is assumed that there is no risk of electric shock or fire in the output circuit. This assumption is the basis of the NEC (National Electrical Code) Class 2 standard for electrical equipment in the USA, published by the "National Fire Protection Association" (NFPA). Power supply units and additional components for the supply of the control current circuit with the approval NEC Class 2 are characterized by the fact that even in the event of a fault, the output power is limited to 100 VA. The use of these approved components and the correct and standard-compliant configuration of the switchgear can significantly simplify on-site testing.

Class 2 control circuit (UL 508A § 2.7) for the use of switchgear in the USA

These control circuits are built using specially approved power supply units that are equipped with a special "OUTPUT: NEC Class 2". Components in the control circuit with the approval "... for use with Class 2 only..." may only be supplied by these Class 2 power supplies. The advantage for the user is that UL-unlisted equipment may also be used in the "NEC Class 2 circuit", since the AHJ (Authority Having Jurisdiction) does not have to accept the components in this safe control circuit. When the control cabinet is accepted, the AHJ will take the information from the UL test report of the power supply units: "These following models are additionally investigated for NEC Class 2 output and comply with its requirement". A NEC Class 2 control circuit may be routed out of the control cabinet if it is specially marked on the terminals and is routed separately from other circuits.

Automation components of limited power infeed

Power supply limited to 100 VA is not only important for the use of switching equipment in the USA. Some automation components also take advantage of the limited power output, thereby achieving the required fire protection level. These include, for example, some industrial PCs from the SIMATIC IPC product line and switches from the SCALANCE product line.

Power supply concepts with control circuits according to NEC Class 2

There are various options for realizing NEC Class 2 control circuits. The classic variant is the use of NEC Class 2 power supplies.

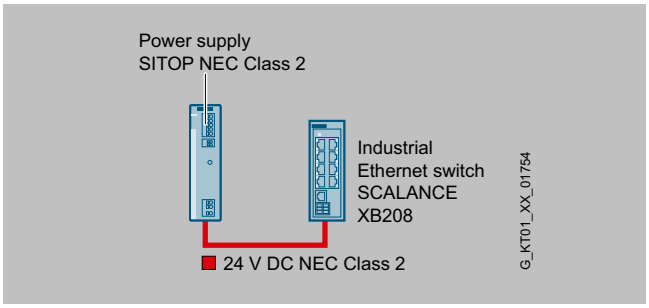
Another possibility for building a NEC Class 2 control circuit is to use specially tested Class 2 SITOP add-on modules with power outputs limited to 100 VA. This solution has the advantage that a central power supply can be used. By using these expansion modules, it is possible to set up a distributed configuration of the NEC Class 2 outlets depending on requirements.

Power supplies with NEC Class 2	Article No.
LOGO!Power	
5 V/3 A	**6EP3310-6SB00-0AY0**
12 V/0.9 A	**6EP3320-6SB00-0AY0**
12 V/1.9 A	**6EP3321-6SB00-0AY0**
15 V/1.9 A	**6EP3321-6SB10-0AY0**
15 V/4 A	**6EP3322-6SB10-0AY0**
24 V/0.6 A	**6EP3330-6SB00-0AY0**
24 V/1.3 A	**6EP3331-6SB00-0AY0**
24 V/2.5 A	**6EP3332-6SB00-0AY0**
SITOP PSU6200	
12 V/2 A	**6EP3321-7SB00-0AX0**
4 V/1.3 A	**6EP3331-7SB00-0AX0**
24 V/2.5 A	**6EP3332-7SB00-0AX0**
24 V/3.7 A	**6EP3333-7LB00-0AX0**
SITOP PSU3600 dual	
2 × 15 V/3.5 A	**6EP3323-0SA00-0BY0**

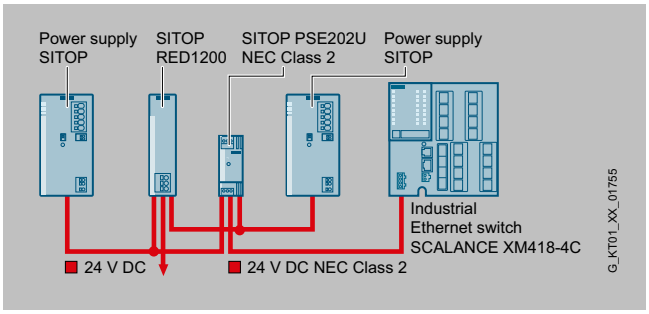
Overview (continued)

Power supplies with NEC Class 2	Article No.
SITOP PSU3400 DC/DC converter	
48 V/24 V/3.5 A	**6EP3233-0TA10-0AY0**
SITOP PSE202U redundancy module	
24 V/3.5 A	**6EP1962-2BA00**
SITOP PSE200U selectivity module	
24 V/4 × 3 A	
• With common signal contact	**6EP1961-2BA51**
• With single-channel signaling	**6EP1961-2BA61**
Expansion module for power supply system SITOP PSU8600 → SITOP CNX8600	
8 × 2.5 A	**6EP4436-8XB00-0DY0**

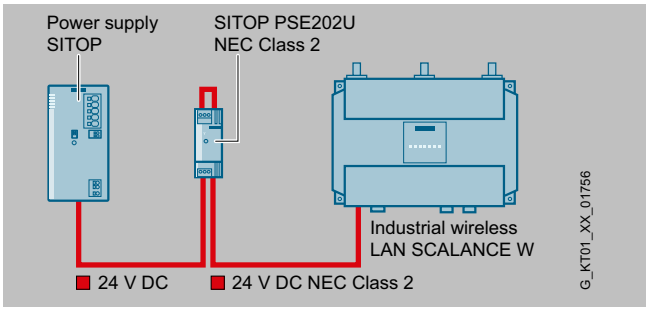
Configuration examples with NEC Class 2 feeder



Power supply unit with NEC Class 2, e.g. PSU6200 24 V/3.7 A



Redundant 24 V supply via 2 power supply units and SITOP PSE202U redundancy module with NEC Class 2



High-performance power supply unit and redundancy module with NEC Class 2

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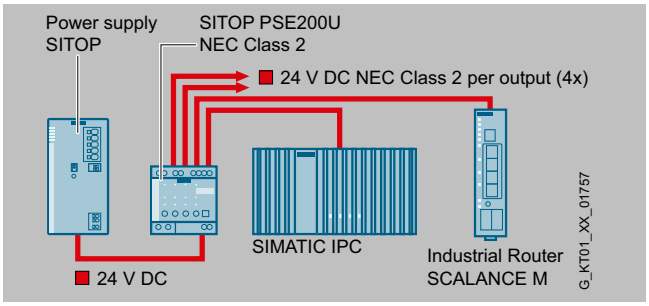
Overview (continued)

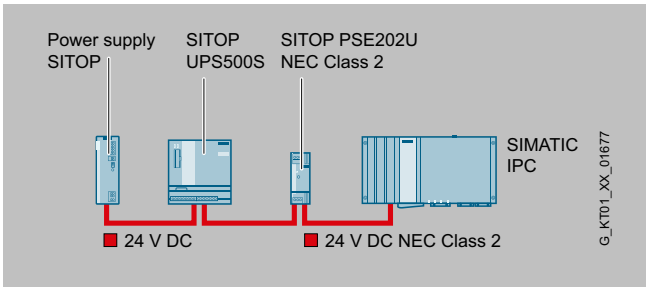


High-performance power supply unit and SITOP PSE200U selectivity module with NEC Class 2

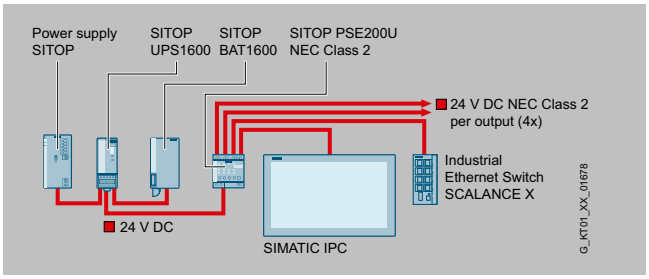
Uninterruptible 24 V DC supply according to NEC Class 2

If loads with required NEC Class 2 infeed are powered via a DC UPS, it is not sufficient to use a power supply with NEC Class 2. This is because, in buffering operation, the load is supplied via the energy storage (battery or capacitors), the output power of which is not limited to 100 VA by the DC UPS module. Using the SITOP add-on modules in NEC Class 2, the power limitation to 100 VA is maintained in both mains and buffering operation. This means that a power supply unit with high-performance can also be used. Typical loads are industrial PCs, which can be shut down safely via the DC UPS even in the event of a power failure or disconnection.

Configuration examples with DC UPS and NEC Class 2 feeders

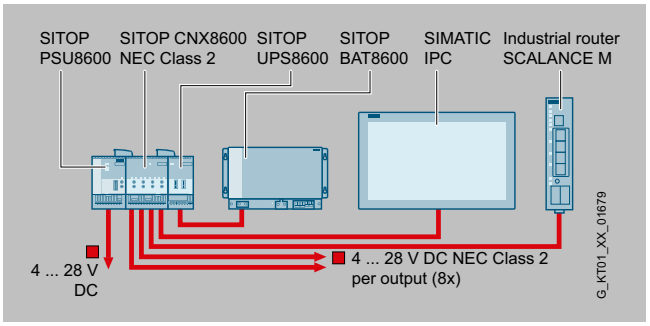


SIMATIC IPC power supply via a high-performance power supply unit with SITOP UPS500S capacitor-based DC UPS and SITOP PSE202U redundancy module with NEC Class 2



SIMATIC IPC power supply via a high-performance power supply unit with SITOP UPS1600 DC UPS module and UPS1100 battery module as well as SITOP PSE200U selectivity module with NEC Class 2

Overview (continued)



SIMATIC IPC power supply via SITOP PSU8600 power supply system with expansion module CNX8600 with NEC Class 2 and buffering of outputs by UPS8600 DC UPS with BAT8600 battery module

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Overview

SITOP has the right power supply for all SIMATIC IPCs with 24 V DC input, even when NEC Class 2 infeed is required. The SITOP power supply units can be upgraded to an uninterruptible DC power supply (DC UPS) for buffering in the event of a power failure and for safe shutdown of the PC.

Uninterruptible 24 V DC power supply

SIMATIC IPC (24 V DC)	Min. input voltage [V]	Max. inrush current [A]	Rated current [A]	Recommended power supply without DC UPS		Recommended power supply with DC UPS	
				Power supply	Article No.	Power supply	Article No.
IPC127E	19.2	1.8	0.7	LOGO!Power 1.3 A	**6EP3331-6SB00-0AY0**	SITOP PSU6200 5 A[2]	**6EP3333-7SB00-0AX0**
IPC227G	19.2	4	1.9	SITOP PSU6200 2.5 A	**6EP3332-6SB00-0AX0**	SITOP PSU6200 5 A	**6EP3333-7SB00-0AX0**
IPC277G (7", 9")	19.2	4	1.9	SITOP PSU6200 2.5 A	**6EP3332-6SB00-0AY0**	SITOP PSU6200 5 A	**6EP3333-7SB00-0AX0**
IPC277G (12", 15", 19" 22", 24")	19.2	4.5	5	SITOP PSU6200 5 A	**6EP3333-7SB00-0AX0**	SITOP PSU6200 10 A	**6EP3334-7SB00-0AX0**
IPC327G	19.2	4	2.5	SITOP PSU6200 2.5 A	**6EP3332-6SB00-0AY0**	SITOP PSU6200 5 A	**6EP3333-7SB00-0AX0**
IPC377G (12", 15", 19", 22")	19.2	4	2.5	SITOP PSU6200 2.5 A	**6EP3332-6SB00-0AY0**	SITOP PSU6200 5 A	**6EP3333-7SB00-0AX0**
IPC BX-32A	9	Max. 40 A for 1.6 ms; max. 25 A for an additional 4 ms	3.3 (24 V)	SITOP PSU6200 3.7 A[1]	**6EP3333-7LB00-0AX0**	SITOP PSU6200 10 A[2]	**6EP3334-7SB00-3AX0**
IPC PX-32A	9	Max. 40 A for 1.6 ms; max. 25 A for an additional 4 ms	3.4 (24 V)	SITOP PSU6200 3.7 A[1]	**6EP3333-7LB00-0AX0**	SITOP PSU6200 10 A[2]	**6EP3334-7SB00-3AX0**
IPC BX-39A	19.2	6.5	2.9	SITOP PSU6200 3.7 A[1]	**6EP3333-7LB00-0AX0**	SITOP PSU6200 10 A[2]	**6EP3334-7SB00-3AX0**
IPC PX-39A	19.2	6.5	3.4	SITOP PSU6200 5 A	**6EP3333-7SB00-0AX0**	SITOP PSU6200 10 A	**6EP3334-7SB00-3AX0**
IPC627E	19.2	13	8	SITOP PSU6200 10 A	**6EP3334-7SB00-3AX0**	SITOP PSU6200 20 A	**6EP3336-7SB00-3AX0**
IPC627E (5 slot)	19.2	13	8	SITOP PSU6200 10 A	**6EP3334-7SB00-3AX0**	SITOP PSU6200 20 A	**6EP3336-7SB00-3AX0**
IPC677E	19.2	14	8	SITOP PSU6200 10 A	**6EP3334-7SB00-3AX0**	SITOP PSU6200 20 A	**6EP3336-7SB00-3AX0**
IOT2050	12	1.7	0.5	LOGO!Power 2.5 A	**6EP3332-6SB00-0AY0**	SITOP PSU6200 5 A	**6EP3333-7SB00-0AX0**
IFP basic	20.4	2.5	2.5	LOGO!Power 2.5 A	**6EP3332-6SB00-0AY0**	SITOP PSU6200 5 A	**6EP3333-7SB00-0AX0**
IFP Standard	19.2	Not specified	1.0 (12") .. 1.9 (24")	LOGO!Power 2.5 A	**6EP3332-6SB00-0AY0**	SITOP PSU6200 5 A	**6EP3333-7SB00-0AX0**

1) 24 V infeed according to NEC Class 2 (max. 100 W)
2) Add-on modules with NEC Class 2 required, see configuration examples under "Power supplies with NEC Class 2"

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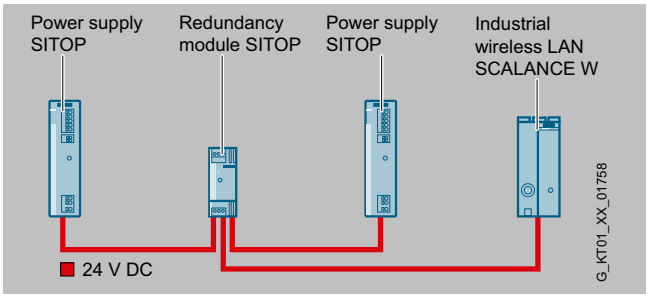
Overview

Redundant 24 V DC supply

To set up a redundant power supply, a redundancy module is usually used to decouple the power supplies (see Parallel connection). For some automation components, a redundancy module can be omitted because they can be supplied redundantly via two 24 V inputs.

The inputs are decoupled from each other and provide the required protection in the event of a power supply unit failure. For example, some SCALANCE devices have a redundant 24 V infeed - see the tables below.



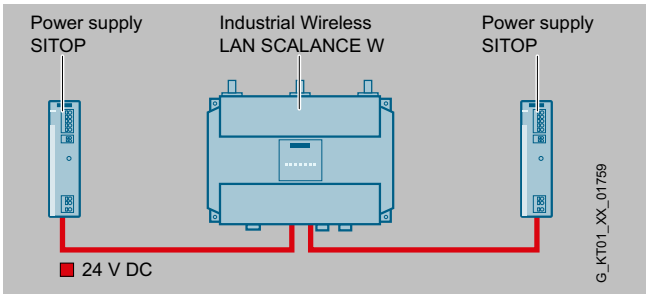
SITOP power supply with redundancy module

Advantage:

- If a load requires a NEC Class 2 infeed, the PSE202U redundancy module can be used simultaneously for redundancy and power limitation according to NEC Class 2. This allows 2 more high-performance power supplies to be used to power all 24 V loads

Disadvantages:

- Redundancy module required, meaning higher costs, more space required and more wiring effort
- Line between redundancy module and load not redundant > single point of failure



SITOP power supply without redundancy module

Advantages:

- No redundancy module required, meaning lower costs, less space required and less wiring effort
- No "single point of failure" for 24 V supply

Disadvantage:

- If the load requires a NEC Class 2 infeed, both power supplies must meet this requirement

SCALANCE X – Industrial Ethernet switches, 24 V supply Product type designation	Min. input voltage [V]	Max. input voltage [V]	Rated current [A] at 24 V [A]	Infeed NEC Class 2 (max. 100 VA)	Redundant infeed (two decoupled 24 V inputs)
SCALANCE XR-500 managed					
XR502-32 (2AR3)	19.2	28.8	3	-	✓
XR522-12 (2AR3)	19.2	28.8	3	-	✓
XR524-8C	19.2	28.8	1	-	✓
XR526-8C	19.2	28.8	1.5	-	✓
XR528-6M	19.2	28.8	0.92 - 11.5 depending on configuration	-	✓
XR552-12M	19.2	28.8	1.42 - 12.5 depending on configuration	-	✓
SCALANCE XM-400 managed					
XM408-4C, XM408-8C	19.2	28.8	2	✓	✓
XM416-4C	19.2	28.8	2	✓	
SCALANCE X-300 managed					
X307-3, X308-2, X310	18	32	0.4	✓	✓
X320-1FE	18	32	0.4	✓	✓
X308-2M PoE	19.2	28.8	2	✓	✓
X320-3LD FE	18	32	0.5	✓	✓
XC316-8	19.2	28.8	1.8	✓	✓
XC324-4	19.2	28.8	1.8	✓	✓
XC332	19.2	28.8	1.8	✓	✓
XCM334	19.2	28.8	1.8	✓	✓
XCM334	19.2	28.8	1.8	✓	✓
XCM334	19.2	28.8	1.8	✓	✓
XR326-8, XR326-8EEC	19.2	31.2	3	✓	✓

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Overview (continued)

SCALANCE X – Industrial Ethernet switches, 24 V supply Product type designation	Min. input voltage [V]	Max. input voltage [V]	Rated current [A] at 24 V [A]	Infeed NEC Class 2 (max. 100 VA)	Redundant infeed (two decoupled 24 V inputs)
XR322-12	19.2	31.2	3	✓	✓
XR302-32	19.2	31.2	3	✓	✓
XRM334 (24V DC, 8xFO), XRM334 (24V DC, 12xFO)	19.2	31.2	3	✓	✓
XR324 WG	19.2	28.8	0.3	✓	✓
XR324-12M (1AR2), XR324-12M TS (1CR2), XR324-12M (1HR2)	19.2	28.8	1.8	✓	✓
XR324-4M EEC	19.2	57.6	1.6	✓	✓
XR324-4M PoE	19.2	28.8	4.2	✓	✓
XR328-4C WG	19.2	28.8	0.5	✓	✓
SCALANCE XB-200 managed					
XB205-3	19.2	28.8	0.3	✓	✓
XB205-3LD	19.2	28.8	0.29	✓	✓
XB208	19.2	28.8	0.17	✓	✓
XB213-3	19.2	28.8	0.41	✓	✓
XB213-3LD	19.2	28.8	0.4	✓	✓
XB216	19.2	28.8	0.28	✓	✓
XB206-2 (ST, PN)	19.2	28.8	0.3	✓	✓
XB206-2LD (SC, PN)	19.2	28.8	0.3	✓	✓
XB206-2 (SC, PN)	19.2	28.8	0.3	✓	✓
SCALANCE XC-200 managed					
XC206-2, XC206-2SFP, XC206-2SFP G, XC206-2 (ST/BFOC)	9.6	31.2	0.5	✓	✓
XC206-2G PoE	19.2	31.2	6	✓	✓
XC206-2G PoE 54V	52	57	5	✓	✓
XC208	9.6	31.2	0.35	✓	✓
XC208G	9.6	31.2	0.36	✓	✓
XC208G PoE	19.2	31.2	7.5	✓	✓
XC208G PoE 54V	52	57	5	✓	✓
XC216	9.6	31.2	0.55	✓	✓
XC216-3G PoE	19.2	31.2	7.8	✓	✓
XC216-3G PoE 54V	52	57	6.5	✓	✓
XC216-4C, XC216-4C G	9.6	31.2	0.55	✓	✓
XC224	9.6	31.2	0.75	✓	✓
XC224-4C G	9.6	31.2	0.7	✓	✓
SCALANCE XC-400					
XC416-8	19.2	28.8	1.8	✓	✓
XC424-4	19.2	28.8	1.8	✓	✓
XC432	19.2	28.8	1.8	✓	✓
SCALANCE XR-500 managed					
XR526-8	19.2	31.2	3	✓	✓
XR522-12	19.2	31.2	3	✓	✓
XR502-32	19.2	31.2	3	✓	✓
SCALANCE XR-500WG managed					
XR524-8WG	19.2	31.2	3	✓	✓
SCALANCE XP-200 managed					
XP208, XP208EEC	19.2	28.8	0.21	✓	✓
XP216, XP216EEC	19.2	28.8	0.335	✓	✓
XP208PoE EEC, XP216PoE EEC	46	57	2.4	✓	✓
XP208, XP208EEC (Gen2)				✓	✓
XP208G, XP208G EEC (Gen2)				✓	✓

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Overview (continued)

SCALANCE X – Industrial Ethernet switches, 24 V supply Product type designation	Min. input voltage [V]	Max. input voltage [V]	Rated current [A] at 24 V [A]	Infeed NEC Class 2 (max. 100 VA)	Redundant infeed (two decoupled 24 V inputs)
XP208G PoE, XP208G PoE EEC				✓	✓
XP208PP				✓	✓
XP216, XP216EEC (Gen2)				✓	✓
XP216G, XP216G EEC (Gen2)				✓	✓
XP216G PoE, XP216G PoE EEC (Gen2)				✓	✓
SCALANCE XF204-2BA managed					
XF204-2BA, XF204-2BA DNA	19.2	28.8	0.36	✓	✓
XF204-2BA IRT	19.2	28.8	0.1	✓	✓
SCALANCE XF-200 managed					
XF201-3P IRT, XF202-2P IRT	19.2	28.8	0.4	✓	✓
XF204	18	32	0.11	✓	✓
XF204G	16.8	31.2	0.2	✓	✓
XF204-2BA, XF204-2BA DNA	19.2	28.8	0.36	✓	✓
XF204-2	18	32	0.22	✓	✓
XF204IRT	18	32	0.2	✓	✓
XF206-1	18	32	0.17	✓	✓
XF208	18	32	0.13	✓	✓
SCALANCE X-200RNA managed					
X204RNA	19.2	28.8	0.15	✓	✓
X204RNA EEC	85	276	0.25	✓	-
SCALANCE XR-100WG unmanaged					
XR124WG	19.2	28.8	0.25	✓	✓
SCALANCE X-000 unmanaged					
X005, X005EEC, X005TS	18	32	0.08	✓	-
SCALANCE XB-000 unmanaged					
XB004-1	19.2	28.8	0.105	✓	-
XB004-1G, XB004-1LDG	19.2	28.8	0.65	✓	-
XB004-1LD	19.2	28.8	0.095	✓	-
XB004-2LD	19.2	28.2	0.165	✓	
XB004-2	19.2	28.8	0.165	✓	-
XB005	19.2	28.8	0.065	✓	-
XB005G	19.2	28.8	0.14	✓	-
XB008	19.2	28.8	0.075	✓	-
XB008G	19.2	28.8	0.19	✓	-
SCALANCE XCM-100 unmanaged					
XCM108PoE (8 x FE PoE)	19.2	54	7.5	-	✓
XCM108PoE (8 x Gbit PoE)	19.2	54	7.5	-	✓
XCM108PoE (6 x Gbit PoE, 2xSFP)	19.2	54	7.5	-	✓
XCH108PoE (6xGbit PoE, 2xSFP)	19.2	54	7.5	-	✓
XCM102	19.2	31.2	0.15	✓	✓
SCALANCE XB-100 unmanaged					
XB108-2, XB124	19.2	28.8	0.3	✓	✓
XB112, XB116	19.2	28.8	0.2	✓	✓
SCALANCE XC-100 unmanaged					
XC106-2 (SC), XC106-2 (BFOC)	9.6	31.2	0.4	✓	✓
XC108	9.6	31.2	0.25	✓	✓
XC116	9.6	31.2	0.45	✓	✓
XC124	9.6	31.2	0.65	✓	✓
Compact Switch Module					
LOGO! CSM 12/24	10.2	30.2	0.15	✓	-
CSM 1277	19.2	28.8	0.07	✓	-
CSM 377	19.2	28.8	0.07	✓	-

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Overview (continued)

Recommendation for 24 V supply when current is required:

- Up to 0.6 A: LOGO!Power 24 V/0.6 A (6EP3330-6SB00-0AY0)
- 0.6 - 1.3 A: LOGO!Power 24 V/1.3 A (6EP3331-6SB00-0AY0)
- 1.3 - 2.5 A: LOGO!Power 24 V/2.5 A (6EP3332-6SB00-0AY0)
- 2.5 - 4 A: LOGO!Power 24 V/4 A (6EP3333-6SB00-0AY0), SITOP PSU6200 24 V/3.7 A (6EP3333-7LB00-0AX0)

SCALANCE W – Industrial Wireless LAN, 24 V supply Product type designation	Input voltage [V]	Min. input voltage [V]	Max. input voltage [V]	Rated current [A] at 24 V	Infeed NEC Class 2 (max. 100 VA)	Redundant infeed (two decoupled 24 V inputs)
SCALANCE W721/W722/W761						
W721-1 RJ45	24	19.2	28.8	0.15	✓	-
W721-1 RJ45 (USA)	24	19.2	28.8	0.15	✓	-
W722-1 RJ45	24	19.2	28.8	0.15	✓	-
W722-1 RJ45 (USA)	24	19.2	28.8	0.15	✓	-
W722-1 RJ45 (ISR)	24	19.2	28.8	0.15	✓	-
W761-1 RJ45	24	19.2	28.8	0.15	✓	-
W761-1 RJ45 (USA)	24	19.2	28.8	0.15	✓	-
SCALANCE W734-1/W774-1						
W734-1 RJ45	24	19.2	28.8	0.25	✓	✓
W734-1 RJ45 (USA)	24	19.2	28.8	0.25	✓	✓
W774-1 RJ45	24	19.2	28.8	0.25	✓	✓
W774-1 RJ45 (USA)	24	19.2	28.8	0.25	✓	✓
W774-1 RJ45 (ME)	24	19.2	28.8	0.25	✓	✓
W774-1 M12 EEC	24	16.8	31.2	0.25	✓	✓
SCALANCE W748/W788						
W748-1 RJ45	24	19.2	28.8	0.45	✓	-
W748-1 RJ45 (incl. USA)	24	19.2	28.8	0.45	✓	-
W748-1 M12	24	19.2	28.8	0.45	✓	-
W748-1 M12 (incl. USA)	24	19.2	28.8	0.45	✓	-
W788-1 RJ45	24	19.2	28.8	0.45	✓	-
W788-1 RJ45 (incl. USA)	24	19.2	28.8	0.45	✓	-
W788-1 M12	24	19.2	28.8	0.45	✓	-
W788-1 M12 (incl. USA)	24	19.2	28.8	0.45	✓	-
W788-2 RJ45	24	19.2	28.8	0.63	✓	-
W788-2 RJ45 (incl. USA, ISR)	24	19.2	28.8	0.63	✓	-
W788-2 M12	24	19.2	28.8	0.63	✓	-
W788-2 M12 (incl. USA)	24	19.2	28.8	0.63	✓	-
W788-2 M12 EEC	24	16.8	31.2	0.63	✓	-
W788-2 M12 EEC (incl. USA)	24	19.2	28.8	0.63	✓	-
SCALANCE W738/W778						
W738-1 M12	24	19.2	28.8	0.25	✓	✓
W738-1 M12 (USA)	24	19.2	28.8	0.25	✓	✓
W778-1 M12	24	19.2	28.8	0.25	✓	✓
W778-1 M12 (USA)	24	19.2	28.8	0.25	✓	✓
W778-1 M12 EEC	24	19.2	28.8	0.25	✓	✓
W778-1 M12 EEC (USA)	24	19.2	28.8	0.25	✓	✓
SCALANCE W786						
W786-1 RJ45	24	19.2	28.8	0.45	✓	-
W786-1 RJ45 (USA)	24	19.2	28.8	0.45	✓	-
W786-2 RJ45	24	19.2	28.8	0.63	✓	-
W786-2 RJ45 (USA)	24	19.2	28.8	0.63	✓	-
W786-2 RJ45 (ISR)	24	19.2	28.8	0.63	✓	-
W786-2 SFP	24	19.2	28.8	12 ... 24 V	✓	-
W786-2 SFP (USA)	24	19.2	28.8	12 ... 24 V	✓	-
W786-2IA RJ45	24	19.2	28.8	0.63	✓	-
W786-2IA RJ45 (USA)	24	19.2	28.8	0.63	✓	-

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Overview (continued)

SCALANCE W – Industrial Wireless LAN, 24 V supply Product type designation	Input voltage [V]	Min. input voltage [V]	Max. input voltage [V]	Rated current [A] at 24 V	Infeed NEC Class 2 (max. 100 VA)	Redundant infeed (two decoupled 24 V inputs)
SCALANCE W1788/W1748						
W1788-2 M12	24	16.8	31.2	0.7	✓	✓
W1788-2 M12 EEC	24	16.8	31.2	0.7	✓	✓
W1788-2IA M12	24	16.8	31.2	0.7	✓	✓
W1748-1 M12	24	16.8	31.2	0.375	✓	✓

SCALANCE M - IP-based modems and routers, 24 V supply Product type designation	Input voltage [V]	Min. input voltage [V]	Max. input voltage [V]	Rated current [A] at 24 V	Infeed NEC Class 2 (max. 100 VA)	Redundant infeed (two decoupled 24 V inputs)
M812	24	10.8	28.8	0.32	✓	-
M816	24	10.8	28.8	0.33	✓	-
M874	24	10.8	28.8	0.33	✓	-
M876	24	10.8	28.8	0.33	✓	-
M804PB	24	10.8	28.8	0.25	✓	-
M826	24	10.8	28.8	0.29	✓	-

SCALANCE S - Industrial Security Appliances, 24 V supply Product type designation	Input voltage [V]	Min. input voltage [V]	Max. input voltage [V]	Rated current [A] at 24 V	Infeed NEC Class 2 (max. 100 VA)	Redundant infeed (two decoupled 24 V inputs)
S615	24	10.8	28.8	0.2	✓	-
SC622-2C	24	9.6	31.2	0.39	✓	✓
SC626-2C	24	9.6	31.2	0.55	✓	✓
SC632-2C	24	9.6	31.2	0.38	✓	✓
SC642-2C	24	9.6	31.2	0.38	✓	✓
SC636-2C, SC646-2C	24	9.6	31.2	0.4	✓	✓

Recommendation for 24 V supply when current is required:

- Up to 0.6 A: LOGO!Power 24 V/0.6 A (6EP3330-6SB00-0AY0)
- 0.6 - 1.3 A: LOGO!Power 24 V/1.3 A (6EP3331-6SB00-0AY0)

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Overview

Protection of 24 V power supply circuits and selectivity

With non-stabilized rectifiers (power transformer equipped with rectifier) the output usually had to be protected with a suitable fuse so that its rectifier diodes would not fail in the event of an overload or a short-circuit (this would destroy the DC loads due to the resulting alternating voltage and lead to serious damage in most cases).

On the other hand, the regulated SITOP power supplies are provided with integrated electronic short-circuit protection that automatically protects both the power supply and the supplied 24 V DC circuits against overcurrent in the event of an overload/short-circuit. A distinction must be made between the following three cases with respect to fusing on the secondary side:

Example 1: No fusing

Fusing the secondary side (24 V DC) for protecting the load circuits and lines is not required if the respective cable cross-sections are selected for the maximum possible output current rms value. Depending on the event (short-circuit or overload) this may either be the short-circuit current rms value or the current limiting value.

Example SITOP modular 10 (Article No.: 6EP1334-3BA10)

- 10 A rated current
- Current limitation typ. 12 A
- Short-circuit current rms value approximately 12 A

The technical specifications usually specify typical values, maximum values are approximately 2 A above the typical value. In the example here, a maximum possible output current rms value of approximately 14 A must therefore be used for line dimensioning.

Example 2: Reduced cable cross-sections

If smaller cable cross-sections are used than are specified in the relevant standards (e.g. EN 60204-1), the affected 24 V load infeed cables must be protected with a suitable line protection.

It is then unimportant whether the power supply enters current limiting mode (overload) or delivers the maximum short-circuit current (low-resistance short-circuit). The load supply is in any case protected against an overload by the line protection matched to the cable cross-section.

Example 3: Selectivity

In cases where a load which has failed (e.g. because of a short-circuit) has to be rapidly detected or where it is essential to selectively switch it off before the power supply enters current limiting mode (with current limiting mode, the voltage would also fall for all remaining 24 V DC loads), there are two possibilities for the secondary side connection:

- Use of a SITOP PSE200U, SITOP SEL1400 or SITOP SEL1200 selectivity module for dividing the 24 V DC supply over 4 to 8 load feeders per module:
  - 4 outputs, adjustable, each 0.5 – 3 A or 3 – 10 A (PSE200U)
  - 4 outputs, adjustable, each 2 – 10 A (SEL1200, SEL1400)
  - 8 outputs, adjustable, 1 – 5 A or 2 – 10 A (SEL1200, SEL1400)
- Connection of suitable upstream 24 V DC fuses or miniature circuit breakers

The basis for selection of the 24 V DC fuse or miniature circuit breaker is the short-circuit current above the rated current which the SITOP power supplies deliver in the event of a short-circuit during operation (values are specified in the respective technical specifications under "Output, dynamic overcurrent on short-circuit during operation").

It is not easy to calculate the amount of the short-circuit current flowing into the usually not ideal "short-circuit" and the amount flowing into the remaining loads. This depends on the type of overload (high-resistance or low-resistance short-circuit) and the type of load connected (resistive, inductive and capacitive/electronic loads).

However, it can be assumed with a first approximation in the average case encountered in practice that the difference of dynamic overcurrent minus 50% SITOP rated output current is available for the immediate tripping of a miniature circuit breaker within a typical tripping time of 12 ms (with 14 times the rated DC with a miniature circuit breaker characteristic C acc. to IEC 60898, or with 7 times the rated DC with a miniature circuit breaker characteristic B or with 5 times the rated DC with a circuit breaker characteristic A). Please refer to the following tables for miniature circuit breakers appropriate for selected fusing according to this assumption.

List of ordering data and tripping characteristics of 1-pole miniature circuit breakers 5SY4...

acc. to IEC 60898 / EN 60898, for use up to 60 V DC (250 V AC, rated switching capacity 10000 A)

Rated current	Tripping characteristic	Article No.	Transition range from delayed to immediate tripping for operation with direct current (alternating current)	Required DC for immediate tripping in approx. 12 ms
1 A	Type A	**5SY4 101-5**	DC: 3 ... 5 x I_{Rated} (AC: 2 ... 3 x I_{Rated})	5 A DC
1 A	Type C	**5SY4 101-7**	DC: 7 ... 14 x I_{Rated} (AC: 5 ... 10 x I_{Rated})	14 A DC
1.6 A	Type A	**5SY4 115-5**	DC: 3 ... 5 x I_{Rated} (AC: 2 ... 3 x I_{Rated})	8 A DC
1.6 A	Type C	**5SY4 115-7**	DC: 7 ... 14 x I_{Rated} (AC: 5 ... 10 x I_{Rated})	22.4 A DC
2 A	Type A	**5SY4 102-5**	DC: 3 ... 5 x I_{Rated} (AC: 2 ... 3 x I_{Rated})	10 A DC
2 A	Type C	**5SY4 102-7**	DC: 7 ... 14 x I_{Rated} (AC: 5 ... 10 x I_{Rated})	28 A DC

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Overview (continued)

Rated current	Tripping characteristic	Article No.	Transition range from delayed to immediate tripping for operation with direct current (alternating current)	Required DC for immediate tripping in approx. 12 ms
3 A	Type A	**5SY4 103-5**	DC: 3 ... 5 x I_{Rated} (AC: 2 ... 3 x I_{Rated})	15 A DC
3 A	Type C	**5SY4 103-7**	DC: 7 ... 14 x I_{Rated} (AC: 5 ... 10 x I_{Rated})	42 A DC
4 A	Type A	**5SY4 104-5**	DC: 3 ... 5 x I_{Rated} (AC: 2 ... 3 x I_{Rated})	20 A DC
4 A	Type C	**5SY4 104-7**	DC: 7 ... 14 x I_{Rated} (AC: 5 ... 10 x I_{Rated})	56 A DC
6 A	Type A	**5SY4 106-5**	DC: 3 ... 5 x I_{Rated} (AC: 2 ... 3 x I_{Rated})	30 A DC
6 A	Type B	**5SY4 106-6**	DC: 4 ... 7 x I_{Rated} (AC: 3 ... 5 x I_{Rated})	42 A DC
6 A	Type C	**5SY4 106-7**	DC: 7 ... 14 x I_{Rated} (AC: 5 ... 10 x I_{Rated})	84 A DC
8 A	Type A	**5SY4 108-5**	DC: 3 ... 5 x I_{Rated} (AC: 2 ... 3 x I_{Rated})	40 A DC
8 A	Type C	**5SY4 108-7**	DC: 7 ... 14 x I_{Rated} (AC: 5 ... 10 x I_{Rated})	112 A DC
10 A	Type A	**5SY4 110-5**	DC: 3 ... 5 x I_{Rated} (AC: 2 ... 3 x I_{Rated})	50 A DC
10 A	Type B	**5SY4 110-6**	DC: 4 ... 7 x I_{Rated} (AC: 3 ... 5 x I_{Rated})	70 A DC
10 A	Type C	**5SY4 110-7**	DC: 7 ... 14 x I_{Rated} (AC: 5 ... 10 x I_{Rated})	140 A DC
13 A	Type A	**5SY4 113-5**	DC: 3 ... 5 x I_{Rated} (AC: 2 ... 3 x I_{Rated})	65 A DC
13 A	Type B	**5SY4 113-6**	DC: 4 ... 7 x I_{Rated} (AC: 3 ... 5 x I_{Rated})	91 A DC
13 A	Type C	**5SY4 113-7**	DC: 7 ... 14 x I_{Rated} (AC: 5 ... 10 x I_{Rated})	182 A DC
16 A	Type A	**5SY4 116-5**	DC: 3 ... 5 x I_{Rated} (AC: 2 ... 3 x I_{Rated})	80 A DC
16 A	Type B	**5SY4 116-6**	DC: 4 ... 7 x I_{Rated} (AC: 3 ... 5 x I_{Rated})	112 A DC
16 A	Type C	**5SY4 116-7**	DC: 7 ... 14 x I_{Rated} (AC: 5 ... 10 x I_{Rated})	224 A DC

List of ordering data and tripping characteristics of 1-pole 5SY1... circuit breakers for equipment

acc. to IEC 60934. for use up to 60 V DC (230 V AC, rated switching capacity 3000 A)

Rated current	Tripping characteristic	Article No.	Transition range from delayed to immediate tripping for operation with direct current (alternating current)	Required DC for immediate tripping in approx. 12 ms
0.5 A	F1	**5SY1705-2**	DC: 2.5 ... 4 x I_{Rated} (AC: 1.5 ... 3 x I_{Rated})	2 A DC
1 A	F1	**5SY1701-2**	DC: 2.5 ... 4 x I_{Rated} (AC: 1.5 ... 3 x I_{Rated})	4 A DC
2 A	F1	**5SY1702-2**	DC: 2.5 ... 4 x I_{Rated} (AC: 1.5 ... 3 x I_{Rated})	8 A DC
3 A	F1	**5SY1704-2**	DC: 2.5 ... 4 x I_{Rated} (AC: 1.5 ... 3 x I_{Rated})	12 A DC
4 A	F1	**5SY1706-2**	DC: 2.5 ... 4 x I_{Rated} (AC: 1.5 ... 3 x I_{Rated})	16 A DC
8 A	F1	**5SY1708-2**	DC: 2.5 ... 4 x I_{Rated} (AC: 1.5 ... 3 x I_{Rated})	32 A DC

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Overview (continued)

Rated current	Tripping characteristic	Article No.	Transition range from delayed to immediate tripping for operation with direct current (alternating current)	Required DC for immediate tripping in approx. 12 ms
10 A	F1	**5SY1710-2**	DC: 2.5 ... 4 x I_{Rated} (AC: 1.5 ... 3 x I_{Rated})	40 A DC
16 A	F1	**5SY1716-2**	DC: 2.5 ... 4 x I_{Rated} (AC: 1.5 ... 3 x I_{Rated})	64 A DC
0.5 A	F2	**5SY1705-4**	DC: 4 ... 7 x I_{Rated} (AC: 3 ... 5 x I_{Rated})	3.5 A DC
1 A	F2	**5SY1701-4**	DC: 4 ... 7 x I_{Rated} (AC: 3 ... 5 x I_{Rated})	7 A DC
2 A	F2	**5SY1702-4**	DC: 4 ... 7 x I_{Rated} (AC: 3 ... 5 x I_{Rated})	14 A DC
3 A	F2	**5SY1704-4**	DC: 4 ... 7 x I_{Rated} (AC: 3 ... 5 x I_{Rated})	21 A DC
4 A	F2	**5SY1706-4**	DC: 4 ... 7 x I_{Rated} (AC: 3 ... 5 x I_{Rated})	28 A DC
8 A	F2	**5SY1708-4**	DC: 4 ... 7 x I_{Rated} (AC: 3 ... 5 x I_{Rated})	56 A DC
10 A	F2	**5SY1710-4**	DC: 4 ... 7 x I_{Rated} (AC: 3 ... 5 x I_{Rated})	70 A DC
16 A	F2	**5SY1716-4**	DC: 4 ... 7 x I_{Rated} (AC: 3 ... 5 x I_{Rated})	112 A DC

You can find more circuit breakers for equipment in Catalog LV10
(https://support.industry.siemens.com/cs/ww/en/view/109482234)

Miniature circuit breakers acc. to EN 60898 (DIN VDE 0641-11) in 24 V DC power supply circuits, which are powered by SITOP PSU 8200 or SITOP smart (PSU100S/PSU300S) power supplies[1)]

Article No.	$I_{out\ rated}$	$I_{out\ dyn.}$	Characteristic A									
			1 A	1.6 A	2 A	3 A	4 A	6 A	8 A	10 A	13 A	16 A
6EP1332-2BA20	2.5 A	9 A/ 800 ms	✓	✓	•	X	X	X	X	X	X	X
6EP1333-2BA20	5 A	18 A/ 800 ms	✓	✓	✓	✓	•	X	X	X	X	X
6EP1333-3BA10	5 A	15 A/ 25 ms	✓	✓	✓	•	•	X	X	X	X	X
6EP3333-8SB00-0AY0	5 A	15 A/ 25 ms	✓	✓	✓	•	•	X	X	X	X	X
6EP1334-2BA20	10 A	32 A/ 1000 ms	✓	✓	✓	✓	✓	✓	•	X	X	X
6EP1334-3BA10	10 A	30 A/ 25 ms	✓	✓	✓	✓	✓	✓	•	X	X	X
6EP3334-8SB00-0AY0	10 A	30 A/ 25 ms	✓	✓	✓	✓	✓	✓	•	X	X	X
6EP1336-2BA10	20 A	35 A/ 100 ms	✓	✓	✓	✓	✓	✓	•	•	X	X
6EP1336-3BA10	20 A	60 A/ 25 ms	✓	✓	✓	✓	✓	✓	✓	✓	•	•
6EP3436-8SB00-0AY0	20 A	60 A/ 25 ms	✓	✓	✓	✓	✓	✓	✓	✓	•	•
6EP1436-2BA10	20 A	35 A/ 100 ms	✓	✓	✓	✓	✓	✓	•	•	X	X
6EP3337-8SB00-0AY0	40 A	120 A/ 25 ms	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6EP1437-2BA20	40 A	65 A/ 120 ms	✓	✓	✓	✓	✓	✓	✓	✓	✓	•
6EP3437-8SB00-0AY0	40 A	120 A/ 25 ms	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

$I_{out\ rated}$: Rated output current
$I_{out\ dyn}$: Dynamic overcurrent with short-circuit during operation

✓: instantaneous tripping, as dynamic overcurrent on short-circuit > maximum current of electromagnetic tripping.

•: instantaneous tripping probable, as dynamic overcurrent on short-circuit at least 50% within tolerance range of the tripping characteristic.

X: no instantaneous tripping.

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Overview (continued)

1) The selection of miniature circuit breakers that can be tripped is based on the consideration of the maximum possible short-circuit current of the power supply and the respective tripping characteristic at +20 °C. Further parameters that may be relevant in practice, such as self-heating, increased ambient temperature, line impedance and possibly currents flowing in parallel feeders, have not been taken into consideration.

Article No.	$I_{out\ rated}$	$I_{out\ dyn.}$	Characteristic B			
			6 A	10 A	13 A	16 A
6EP1332-2BA20	2.5 A	9 A/ 800 ms	X	X	X	X
6EP1333-2BA20	5 A	18 A/ 800 ms	X	X	X	X
6EP1333-3BA10	5 A	15 A/ 25 ms	X	X	X	X
6EP3333-8SB00-0AY0	5 A	15 A/ 25 ms	X	X	X	X
6EP1334-2BA20	10 A	32 A/ 1000 ms	•	X	X	X
6EP1334-3BA10	10 A	30 A/ 25 ms	•	X	X	X
6EP3334-8SB00-0AY0	10 A	30 A/ 25 ms	•	X	X	X
6EP1336-2BA10	20 A	35 A/ 100 ms	•	X	X	X
6EP1336-3BA10	20 A	60 A/ 25 ms	✓	•	X	X
6EP3436-8SB00-0AY0	20 A	60 A/ 25 ms	✓	•	X	X
6EP1436-2BA10	20 A	35 A/ 100 ms	•	X	X	X
6EP3337-8SB00-0AY0	40 A	120 A/ 25 ms	✓	✓	✓	✓
6EP1437-2BA20	40 A	65 A/ 120 ms	✓	•	•	X
6EP3437-8SB00-0AY0	40 A	120 A/ 25 ms	✓	✓	✓	✓

Article No.	$I_{out\ rated}$	$I_{out\ dyn.}$	Characteristic C									
			1 A	1.6 A	2 A	3 A	4 A	6 A	8 A	10 A	13 A	16 A
6EP1332-2BA20	2.5 A	9 A/ 800 ms	X	X	X	X	X	X	X	X	X	X
6EP1333-2BA20	5 A	18 A/ 800 ms	✓	•	X	X	X	X	X	X	X	X
6EP1333-3BA10	5 A	15 A/ 25 ms	✓	X	X	X	X	X	X	X	X	X
6EP3333-8SB00-0AY0	5 A	15 A/ 25 ms	✓	X	X	X	X	X	X	X	X	X
6EP1334-2BA20	10 A	32 A/ 1000 ms	✓	✓	✓	•	X	X	X	X	X	X
6EP1334-3BA10	10 A	30 A/ 25 ms	✓	✓	✓	•	X	X	X	X	X	X
6EP3334-8SB00-0AY0	10 A	30 A/ 25 ms	✓	✓	✓	•	X	X	X	X	X	X
6EP1336-2BA10	20 A	35 A/ 100 ms	✓	✓	✓	•	X	X	X	X	X	X
6EP1336-3BA10	20 A	60 A/ 25 ms	✓	✓	✓	✓	✓	•	X	X	X	X
6EP3436-8SB00-0AY0	20 A	60 A/ 25 ms	✓	✓	✓	✓	✓	•	X	X	X	X
6EP1436-2BA10	20 A	35 A/ 100 ms	✓	✓	✓	•	X	X	X	X	X	X
6EP3337-8SB00-0AY0	40 A	120 A/ 25 ms	✓	✓	✓	✓	✓	✓	✓	•	X	X
6EP1437-2BA20	40 A	65 A/ 120 ms	✓	✓	✓	✓	✓	•	X	X	X	X
6EP3437-8SB00-0AY0	40 A	120 A/ 25 ms	✓	✓	✓	✓	✓	✓	✓	•	X	X

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Overview

Overview of important standards and certifications

European standards (EN)	
EN 50178	Electronic equipment for use in power installations
EN 55022	Information technology equipment – Radio disturbance characteristics – Limits and methods of measurement
EN 60079 series	Electrical apparatus for explosive gas atmospheres
EN 60364-1	Low-voltage electrical installations – Fundamental principles, assessment of general characteristics, definitions
EN 60529	Degrees of protection provided by enclosures (IP-Code)
EN 60601-1	Medical electrical equipment - General requirements for basic safety and essential performance
EN 60715	Dimensions of low-voltage switchgear and control gear – Standardized mounting on rails for mechanical support of switchgear, control gear and accessories
EN 60721	Classification of environmental conditions
EN 61000-3-2	Electromagnetic compatibility (EMC) – Limits for harmonic current emissions (equipment input current ≤16 A per phase)
EN 61000-6-1	Electromagnetic compatibility (EMC) - Generic standards – Immunity standard for residential, commercial and light-industrial environments
EN 61000-6-2	Electromagnetic compatibility (EMC) – Generic standards – Immunity for industrial environments
EN 61000-6-3	Electromagnetic compatibility (EMC) – Generic standards – Emission standard for residential, commercial and light-industrial environments
EN 61000-6-4	Electromagnetic compatibility (EMC) – Generic standards – Emission standard for industrial environments
EN 61000-6-8	Electromagnetic compatibility (EMC) – Generic standards – Emission standard for professional equipment in commercial and light-industrial locations
EN 61010-1	Safety requirements for electrical equipment for measurement, control, and laboratory use – General requirements
EN 61010-2-201	Safety requirements for electrical equipment for measurement, control, and laboratory use – Particular requirements for control equipment
EN 61204-7	Low-voltage switch mode power supplies – Safety requirements
EN 61558-2-16	Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V – Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units
EN 62368-1	Audio/video, information and communication technology equipment – Safety requirements
Underwriters Laboratories (UL)	
UL 508	Industrial control equipment
UL 1604	Electrical equipment for use in class I and class II, division 2, and class III hazardous (classified) locations
UL 1778	Uninterruptible Power Supply Equipment
UL 2367	Solid State Overcurrent Protectors
UL 60079	Electrical apparatus for explosive gas atmospheres

Overview (continued)

UL 60950 -1	Information technology equipment – Safety
UL 61010-2-201	Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use - Particular Requirements for Control Equipment
UL 62368-1	Audio/Video, Information and Communication Technology Equipment – Safety Requirements
National Electrical Code (NEC)	
NEC Class 2	National Electrical Code, Class 2 Control Circuit
American National Standards Institute (ANSI)	
ANSI/ISA–12.12.01	Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations
Canadian Standards Association (CSA)	
CSA C22.2 No. 14	Industrial control equipment
CSA C22.2 No. 142	Process control equipment
CSA C22.2 No. 107.1	General Use Power Supplies
CSA C22.2 No. 213	Nonincendive Electrical Equipment for Use in Class I, Division 2 Hazardous Locations
CSA C22.2 No. 60079	Electrical apparatus for explosive gas atmospheres
CSA C22.2 No. 60950-1	Information technology equipment – Safety
CSA C22.2 No. 62368-1	Audio/Video, Information and Communication Technology Equipment – Safety Requirements
Explosion protection certifications	
CCC	Certificate for China Compulsory Product Certification
FM	Factory Mutual Research
Shipbuilding certifications	
ABS	American Bureau of Shipping
BV	Bureau Veritas (French Marine Classification Society)
CCS	China Classification Society
DNV GL	Det Norske Veritas, Germanischer Lloyd
LR	Lloyd's Register
NK	Nippon Kaiji Kyokai
RINA	Registro Italiano Navale
RMRS	Russian Maritime Register
Other certifications	
SEMI F47	Specification for semiconductor processing equipment
BIS	Bureau of Indian Standards
EAC	Eurasian Conformity mark, regulations of the Customs Union or the Eurasian Economic Union (EAEU)
UKCA	UK Conformity Assessed
RCM	Regulatory Compliance Mark, Compliance Testing for Australia

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Overview

You can find current certifications at:
https://support.industry.siemens.com/cs/document/109749785

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Appendix

12/2 **SITRAIN – Digital Industry Academy**

12/4 **Partners at Siemens**
12/5 Siemens Partner Program

12/6 **Siemens Automation Cooperates with Education (SCE)**
12/6 Teaching made easy - Comprehensive support on the way to Industry 4.0

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Introduction

SITRAIN - Digital Industry Academy stands for a modern learning culture that focuses on the needs of learners and the demands of innovative companies.

SITRAIN offers a comprehensive range of knowledge on Siemens industrial products and, under the vision "Future of Learning", pursues a holistic approach that combines different forms and methods of learning. Different learning formats allow for more effective, flexible and continuous learning depending on the type of learning.

Education and training directly from the manufacturer

Industrial Automation Systems SIMATIC
Training available for:
SIMATIC S7-1500. TIA Portal,
SIMATIC S7-300/400,
SIMATIC S7-1200

Drive Technology
Training available for:
SINAMICS S120 and
SINAMICS G120 low-voltage converters,
SINAMICS G130 / G150 / G180 / S150

SINUMERIK CNC automation system
Training available for:
SINUMERIK 840D, SINUMERIK 840D sl and SINUMERIK ONE

Process Control Systems
Training available for:
SIMATIC PCS 7,
SIMATIC PCS neo

Digital Enterprise
Training available for:
Openness, SIMIT, OPC UA, Industrial Edge, Virtual commissioning

Industrial Communications
Training available for: OPC UA, PROFINET, SCALANCE, RUGGEDOM, Industrial Ethernet, Fieldbus communication, Industrial Security, Remote communication

Identification and Locating
Training available for:
RFID, RTLS systems

Operator Control and Monitoring Systems
Training available for:
SIMATIC WinCC Unified in TIA Portal, SIMATIC WinCC in TIA Portal, SIMATIC WinCC V7x

Motion Control System SIMOTION
Training available for:
SIMOTION (Programming, Commissioning, Diagnostics, Service)

Smart Infrastructure
Training available for:
SIRIUS, SENTRON, SIVACON, ALPHA, SIMOCODE,
Circuit breakers

Process Analytics & Instrumentation
Training is available for process analytics and instrumentation, explosion protection, process gas chromatographs

Additional training offer
SIMOVE with Automated Guided Vehicles (AGV), SIPLUS CMS, Guidelines and standards for control cabinets

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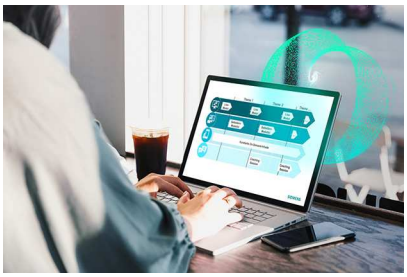
Introduction

Different learning formats and methods for maximum learning success

Face-to-face training in the training center or in the virtual classroom, with fixed dates and course times, learning in a group with a learning consultant? Or digital training, on your own responsibility and location-independent, on demand, 24/7?

With the learning formats "Learning Journey", "Learning Membership" and "Learning Event", SITRAIN offers a wide range of different learning options in connection with didactically effective methods and modular possibilities.



Learning Journey

The combination for sustainable learning success

- The optimal mix of self-study units and guided live modules
- Includes a Learning Membership to work through the self-study modules and access on-demand content
- The SITRAIN learning consultant is available for questions and one-on-one consultations
- Ideal integration into the daily work routine and adaptation to one's own learning pace.

Learning Membership

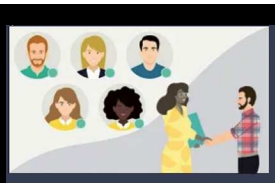
Securing knowledge through continuous learning on your own responsibility

- With access to the comprehensive and constantly growing range of self-study units on SITRAIN access, the digital learning platform
- Search and find specific learning content or simply have a look around – anytime and anywhere
- A modern learning culture through continuous learning on your own responsibility and transparency about your learning success in the team or company.

Learning Event

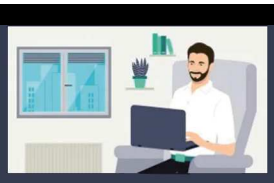
Acquire theoretical and practical knowledge in a compact and guided format

- You achieve a defined learning goal in the shortest possible time
- The learning consultant guides you through the practical exercises and is also exclusively available to you during the theoretical sessions for the entire duration
- Focused learning, outside of the daily work routine, in a protected learning environment – virtually, in the training center, or at your company.



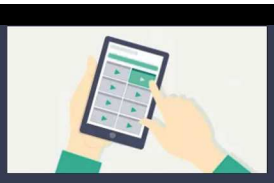
Live

Learn together with others, simultaneously and guided by a learning consultant. Online, in the SITRAIN training center or at your company.



Self-reliant

Expand your knowledge self-determined and work on your learning units at your own pace and according to your own schedule.



On demand

Get the knowledge you need, exactly when you need it. Be it to answer a current question or to work on a special topic.

Individually

Talk directly with the learning consultant, clarify detailed questions and get personal coaching for transferring the learned topics to your own application.

Training cases catalog

https://www.siemens.com/sitrain-catalog-training-cases

Find your local offer here

SITRAIN – Digital Industry Academy worldwide

You will find the regional knowledge offer in the country selection. One click will take you to the corresponding website.

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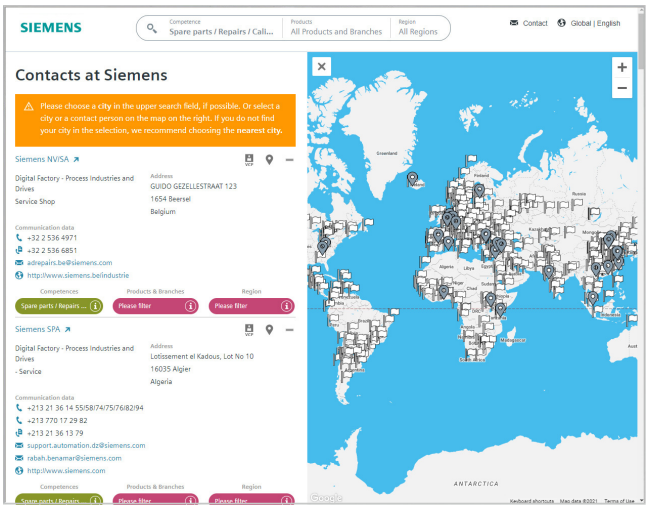
Partners at Siemens



At your service locally, around the globe for consulting, sales, training, service, support, spare parts on the entire portfolio of Siemens.

Your partner can be found in our Personal Contacts Database at:
www.siemens.com/automation-contact

You start by selecting

- the required competence,
- products and branches,
- a country and a city

or by a

- location search or free text search.

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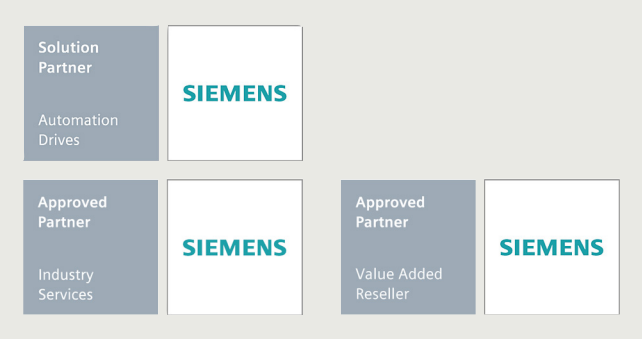
Overview

Siemens Solution and Approved Partner – Partners for your success



Highest competence in automation and drive technology

Siemens works closely together with selected partner companies around the world in order to ensure that customer requirements for all aspects of automation and drives are fulfilled as best as possible – wherever you are, and whatever the time.

We place great value on our customers acting in accordance with the same ideals which characterize Siemens as a whole: Competence, professionalism and quality. That is why continuous development through qualification and certification measures in line with global standards is a central aspect of our Partner Program. This means that with our partners, you benefit from the same high quality standards all over the world.
The partner emblem is the symbol for tried and tested quality.

The partner network for industry

The Siemens Partner Program offers you expertise and experience close at hand.

Within our global network, we distinguish between Solution Partners and Approved Partners. We currently work with more than 1,500 Solution Partners around the world. Our network of over 150 Approved Partners continues to grow. In more than 80 countries worldwide.

Siemens Solution Partner – Automation Drives

At present we are working with more than 1,500 Solution Partners worldwide. They are characterized by extensive application, system and sector knowledge, as well as proven project experience, and are able to implement future-proof tailored solutions of the highest quality, based on our product and system portfolio.

Siemens Approved Partner – Value Added Reseller

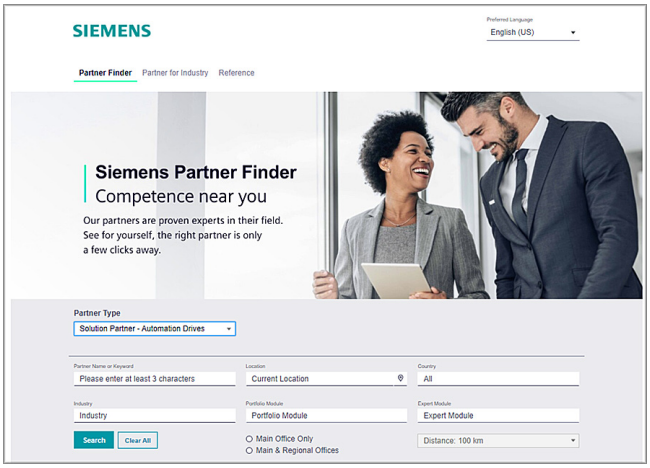
With their detailed technical knowledge, Siemens Approved Partners – Value Added Resellers offer a combination of products and services that range from specialist technologies and customized modifications to the provision of high-quality system and product packages. They also provide qualified technical support and assistance.

Siemens Approved Partner – Industry Services

Siemens Approved Partner – Industry Services put their unique expertise entirely at the service of enhancing your productivity and can be instrumental in ensuring the availability of your plants.

Partner Finder

The ideal partner for your task is just a mouse click away!



In the Siemens global Solution Partner Program, customers are certain to find the optimum partner for their specific requirements – with no great effort. The Partner Finder is basically a comprehensive database that showcases the profiles of all our partners.

Easy selection:
Set filters in the search screen form according to the criteria that are relevant to you. You can also directly enter the name of an existing partner.

Skills at a glance:
Gain a quick insight into the specific competencies of any particular partner with the reference reports.

Direct contact option:
Use our electronic query form:

www.siemens.com/partnerfinder

Additional information of the Siemens Parners for industry is available online at:

www.siemens.com/partnerprogram

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Teaching made easy - Comprehensive support on the way to Industry 4.0

Knowledge & technology – the keystones to success in digitalization

Digitalization is quickly and radically changing our world. What does this mean for education?

In the world of Industry 4.0, companies can expect a host of new opportunities and challenges. New systems are verified on the spot through simulations. Automated mass production processes can make every product on the conveyor belt a unique product.

New products are now market-ready much faster. Siemens is shaping this transformation as a technology leader in the field of automation and process lifecycle management (PLM).

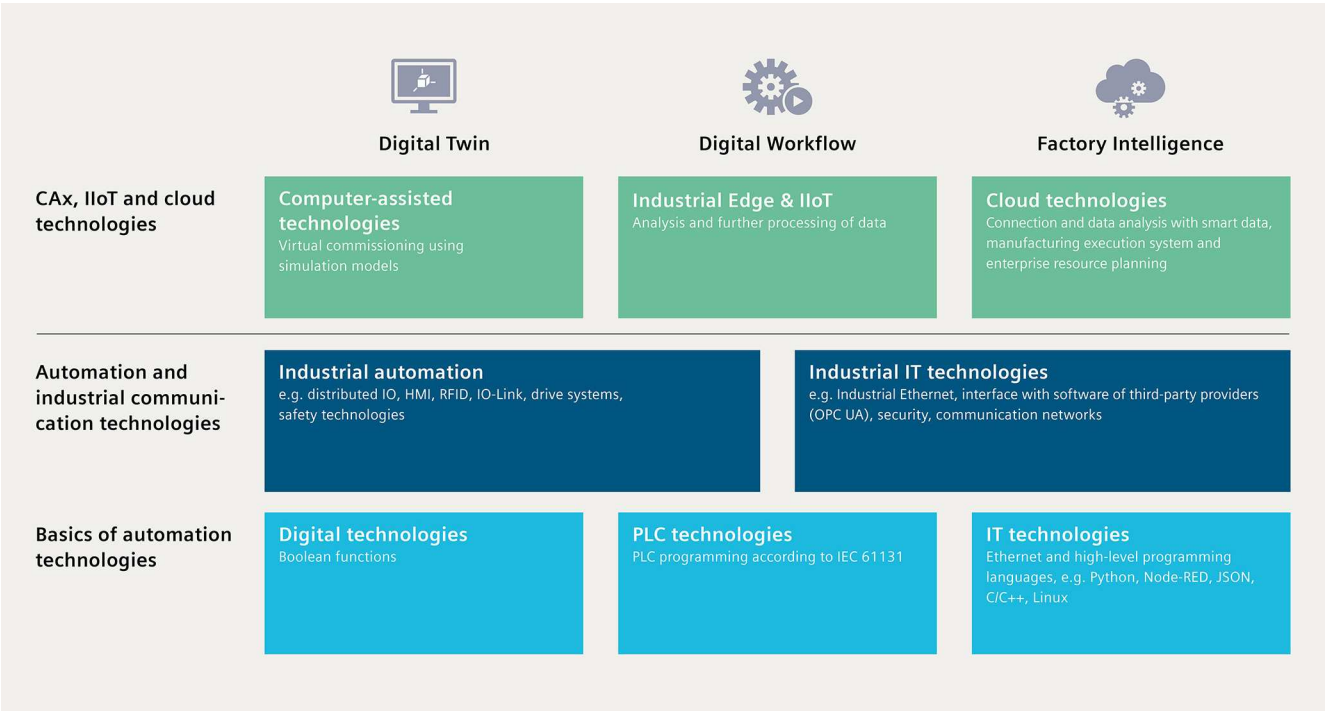
These new digitalization processes are changing the know-how requirements for employees. Many educational institutions are facing the challenge of conveying Industry 4.0 know-how as part of their teaching and training. The Siemens Automation Cooperates with Education (SCE) program is supporting educators on the way to Industry 4.0.

The SCE digitalization concept for educators

The SCE digitalization concept presented here shows how digitalization can be implemented in educational institutions – from vocational schools to universities.

Digitalization (or Industry 4.0) know-how is now introduced through computer aided technology, Industrial Edge and IIoT as well as Cloud technologies. It is founded on the basics of automation, such as digital technologies, PLC and information technologies, and on advanced automation and industrial communication technologies.

The level of digitalization knowledge can be weighted, depending on the vocational field or branch of study – e.g. mechanical engineering, automation engineering or computer science.



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The SCE digitalization concept for educators (continued)

As part of their project work, students at Vocational School 2 in Wolfsburg, Germany, have implemented the three levels of the SCE Industry 4.0 concept. A virtual twin created with the Siemens NX Mechatronics Designer (MCD) CAD software was used for the design and virtual commissioning. This enables fast and efficient assembly of the real automation system, e.g. with SIMATIC S7-1500/ET 200SP/RFID, for use in classes. Production data, such as the number of bottles filled, production date and system parameters, are uploaded to a cloud using SIMATIC IOT2000.

siemens.com/sce/iot2000

siemens.com/nx

The SCE offers

Learning and training documents

More than 100 didactically prepared learning and training documents are available through SCE and incorporate the digitalization concept. They are designed for use in classes, but can also be customized or used for individual study. These documents are available for free download, most of them in 7 languages.

siemens.com/sce/documents

Educator courses

Excellent teaching content is needed to introduce students to digitalization. For this purpose, SCE holds educator courses in certain regions. Based on our learning and training documents and through practical exercises, educators acquire the latest Industry 4.0 know-how.

siemens.com/sce/courses

Trainer packages

The 90 SCE trainer packages help educators teaching and implementing the SCE digitalization concept. Trainer packages comprise specially compiled, genuine Siemens hardware and software products. The trainer packages are based on the learning and training documents and are offered to schools, colleges and universities at special terms.

siemens.com/sce/tp

Support for your projects / textbooks

We support you on selected projects with advice and assistance from SCE contact partners.

As a special service, we support textbook authors. We maintain a list of textbooks on the SCE website.

siemens.com/sce/contact

siemens.com/sce/books

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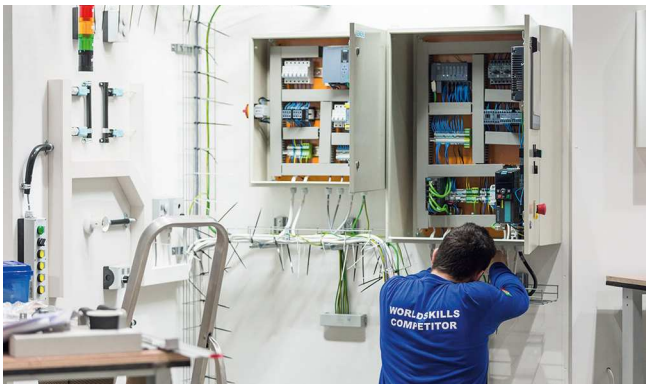
Teaching made easy - Comprehensive support on the way to Industry 4.0

Partnerships for proliferation of Industry 4.0 in education



Partnership with WorldSkills

As a technology powerhouse, we support vocational training of students around the world. Since 2010, we have partnered with WorldSkills as a Global Industry Partner in order to amplify this cause.

WorldSkills is an international organization whose mission is to raise the profile and recognition of skilled people, and show how important vocational skills are in achieving economic growth and personal success. Every two years, WorldSkills hosts the world championships of skills.

Siemens provides the competitors with automation products, such as SIMATIC S7-1500 and LOGO!, for the disciplines: industrial control, electrical installations, Polymechanics/Automation and manufacturing technology.

Additionally, we support selected continental and regional competitions.

siemens.com/worldskills

Partnerships with educators

We provide support to educators and educational organizations in the form of one-on-one advice through SCE contact partners and Siemens experts as well as long-term cooperation.

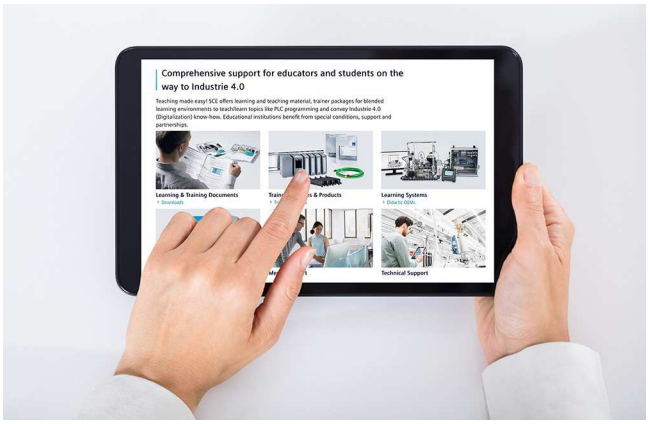
siemens.com/sce/contact

Partnerships with producers of learning systems

For practical training in classrooms and labs, numerous producers of learning systems offer a wide range of complete didactic solutions based on SCE trainer packages.

siemens.com/sce/learningsystems

Information portal



To facilitate your teaching assignment and/or for selfstudy, we offer educators and students a comprehensive SCE information portal. At this portal you have quick access to all SCE offers, e.g. learning and training documents including projects, Getting Started information, videos, manuals, trial software and newsletters.

siemens.com/sce

Global Industry Partner

worldskills

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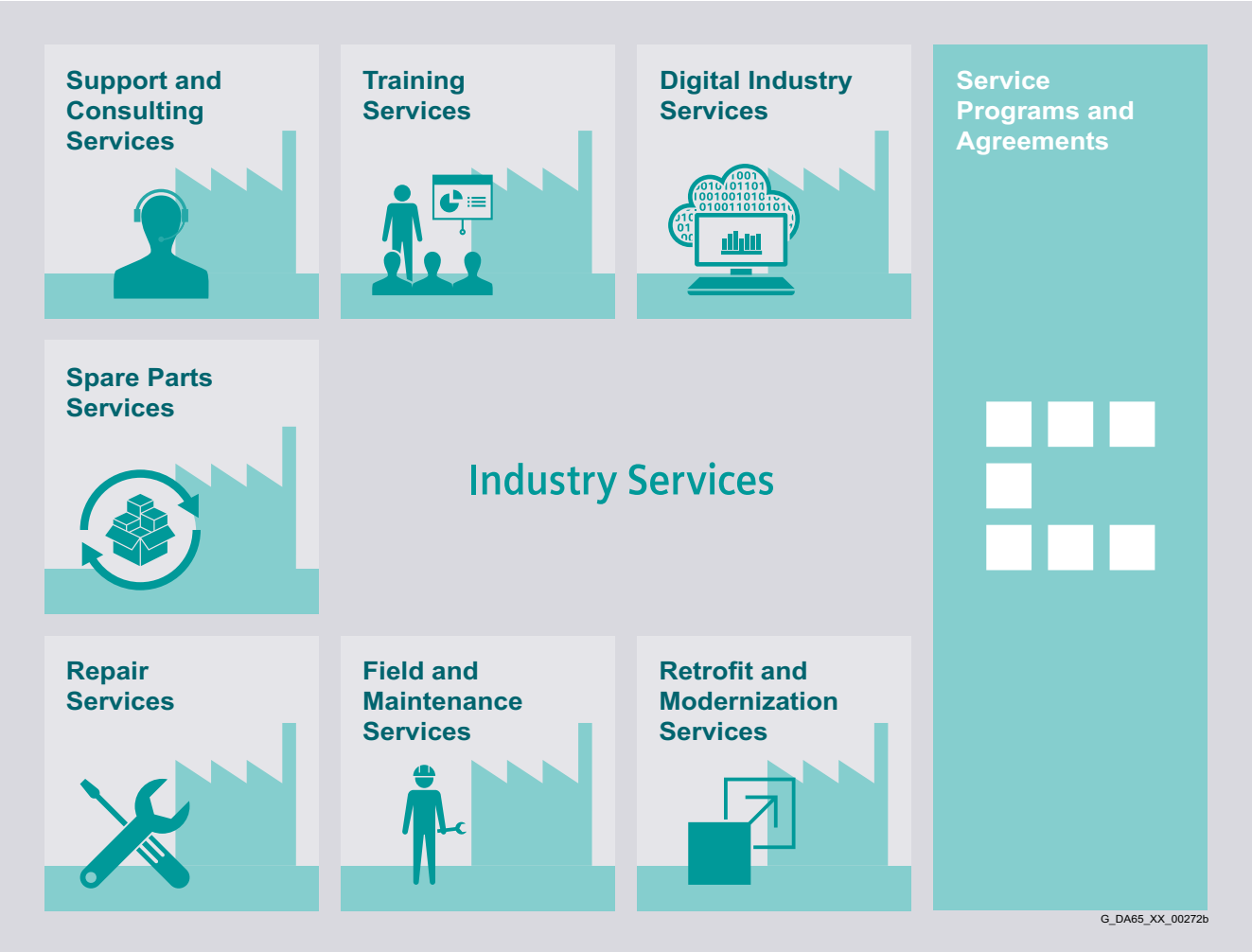
Overview



Keep your business running and shaping your digital future – with Industry Services

Optimizing the productivity of your equipment and operations can be a challenge, especially with constantly changing market conditions. Working with our service experts makes it easier. We understand your industry's unique processes and provide the services needed so that you can better achieve your business goals.

You can count on us to maximize your uptime and minimize your downtime, increasing your operations' productivity and reliability. When your operations have to be changed quickly to meet a new demand or business opportunity, our services give you the flexibility to adapt. Of course, we take care that your production is protected against cyber threats. We assist in keeping your operations as energy and resource efficient as possible and reducing your total cost of ownership. As a trendsetter, we ensure that you can capitalize on the opportunities of digitalization and by applying data analytics to enhance decision making: You can be sure that your plant reaches its full potential and retains this over the longer lifespan.

You can rely on our highly dedicated team of engineers, technicians and specialists to deliver the services you need – safely, professionally and in compliance with all regulations. We are there for you, where you need us, when you need us.

www.siemens.com/industryservices

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Industry Services – Portfolio overview

Overview

Digital Industry Services make your industrial processes transparent to gain improvements in productivity, asset availability, and energy efficiency.

Production data is generated, filtered and translated with intelligent analytics to enhance decision-making.

This is done whilst taking data security into consideration and with continuous protection against cyber-attack threats.

www.siemens.com/global/en/products/services/industry/digital-industry-services.html

Industry Online Support site for comprehensive information, application examples, FAQs and support requests.

Technical and Engineering Support for advice and answers for all inquiries about functionality, handling, and fault clearance. The Service Card as prepaid support for value added services such as Priority Call Back or Extended Support offers the clear advantage of quick and easy purchasing.

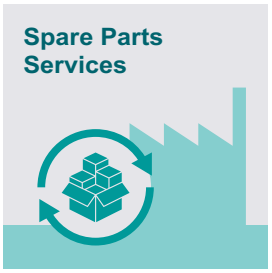
Information & Consulting Services, e.g. SIMATIC System Audit; clarity about the state and service capability of your automation system or Lifecycle Information Services; transparency on the lifecycle of the products in your plants.

https://support.industry.siemens.com/cs/ww/en/sc/2235

From the basics and advanced to specialist skills, SITRAIN courses provide expertise right from the manufacturer – and encompass the entire spectrum of Siemens products and systems for the industry.

Worldwide, SITRAIN courses are available wherever you need a training course in more than 170 locations in over 60 countries.

https://support.industry.siemens.com/cs/ww/en/sc/2226



Spare Parts Services are available worldwide for smooth and fast supply of spare parts – and thus optimal plant availability. Genuine spare parts are available for up to ten years. Logistic experts take care of procurement, transport, custom clearance, storage and order management. Reliable logistics processes ensure that components reach their destination as needed.

Since not all spare parts can be kept in stock at all times, Siemens offers a preventive measure for spare parts provisioning on the customer's premises with optimized **Spare Parts Packages** for individual products, custom-assembled drive components and entire integrated drive trains – including risk consulting.

Asset Optimization Services help you design a strategy for parts supply where your investment and carrying costs are reduced and the risk of obsolescence is avoided.

https://support.industry.siemens.com/cs/ww/en/sc/2110

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Overview (continued)

Repair Services are offered on-site and in regional repair centers for fast restoration of faulty devices' functionality.

Also available are extended repair services, which include additional diagnostic and repair measures, as well as emergency services.

https://support.industry.siemens.com/cs/ww/en/sc/2154

Provide a cost-effective solution for the expansion of entire plants, optimization of systems or upgrading existing products to the latest technology and software, e.g. migration services for automation systems.

Service experts support projects from planning through commissioning and, if desired over the entire extended lifespan, e.g. Retrofit for Integrated Drive Systems for an extended lifetime of your machines and plants.

https://support.industry.siemens.com/cs/ww/en/sc/2286

Siemens specialists are available globally to provide expert field and maintenance services, including commissioning, functional testing, preventive maintenance and fault clearance.
All services can be included in customized service agreements with defined reaction times or fixed maintenance intervals.

https://support.industry.siemens.com/cs/ww/en/sc/2265

A technical Service Program or Agreement enables you to easily bundle a wide range of services into a single annual or multi-year agreement.

You pick the services you need to match your unique requirements or fill gaps in your organization's maintenance capabilities.

Programs and agreements can be customized as KPI-based and/or performance-based contracts.

https://support.industry.siemens.com/cs/ww/en/sc/2275

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Online Support

Overview

Siemens Industry and Online Support with some 1.7 million visitors per month is one of the most popular web services provided by Siemens. It is the central access point for comprehensive technical know-how about products, systems and services for automation and drives applications as well as for process industries.

In connection with the challenges and opportunities related to digitalization you can look forward to continued support with innovative offerings.

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1. General Provisions

By using this catalog you can purchase hard- and software products as well as services (together hereinafter referred to as "products") described therein from Siemens Aktiengesellschaft subject to the following Terms and Conditions of Sale and Delivery (hereinafter referred to as "T&C"). Note, for products purchased from any Siemens entity having a registered office outside of Germany, the respective terms and conditions of sale and delivery of the respective Siemens entity apply exclusively. The following T&C apply exclusively for orders placed with Siemens Aktiengesellschaft, Germany.

1.1 For customers with a seat or registered office in European Union

For customers with a seat or registered office in European Union, the following terms and conditions apply subordinate to T&C:

- for products, which include specific terms and conditions in the text of the product description, these specific terms and conditions shall apply and subordinate thereto,,
- for stand-alone software products and software products forming a part of a product or project, the "General Conditions for Software Products for Infrastructure & Industry Business (German law)"[1)] and/or
- for consulting services the "Allgemeine Geschäftsbedingungen für Beratungsleistungen für Infrastructure & Industry Geschäft (Deutsches Recht)"[1)] (available only in German) and/or
- for other services, the „Supplementary Terms and Conditions for Services for Infrastructure & Industry Business (German Law) ("BL")"[1)] and/or
- for other products the "General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry"[1)].
  In case such products should contain Open Source Software, the conditions of which shall prevail over the "General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry"[1)], the Product will be given a note as to which special conditions apply to this open source software. This shall apply mutatis mutandis for notices referring to other third-party software components.

1.2 For customers with a seat or registered office outside European Union

For customers with a seat or registered office outside European Union, the following terms and conditions apply subordinate to T&C:

- for products, which include specific terms and conditions in the description text, these specific terms and conditions shall apply and subordinate thereto,
- for consulting services the "Standard Terms and Conditions for Consulting Services for Infrastructure & Industry Business (Swiss Law)"[1)] and/or
- for other services the "International Terms & Conditions for Services"[1)] supplemented by "Software Licensing Conditions"[1)] and/or
- for other products the "International Terms & Conditions for Products"[1)] supplemented by "Software Licensing Conditions"[1)]

1.3 For customers with master or framework agreement

To the extent products offered are covered by an existing master or framework agreement, the terms and conditions of that agreement shall apply instead of T&C.

2. Prices

The prices are in € (Euro) ex point of delivery, exclusive of packaging.

The sales tax (value added tax) is not included in the prices. It shall be charged separately at the respective rate according to the applicable statutory legal regulations.

Prices are subject to change without prior notice. We will charge the prices valid at the time of delivery.

To compensate for variations in the price of raw materials (e.g. silver, copper, aluminum, lead, gold, dysprosium and neodym), surcharges are calculated on a daily basis using the so-called metal factor for products containing these raw materials.
A surcharge for the respective raw material is calculated as a supplement to the price of a product if the basic official price of the raw material in question is exceeded.

The metal factor of a product indicates the basic official price (for those raw materials concerned) as of which the surcharges on the price of the product are applied, and with what method of calculation. The metal factor, provided it is relevant, can be found in the respective product description.

An exact explanation of the metal factor can be downloaded at:

https://mall.industry.siemens.com/legal/ww/en/terms_of_trade_en.pdf

To calculate the surcharge (except in the cases of copper, dysprosium and neodym), the official price from the day prior to that on which the order was received or the release order was effected is used.

To calculate the surcharge applicable to copper, the official price from two days prior to that on which the order was received or the release order was effected is used.

To calculate the surcharge applicable to dysprosium and neodym ("rare earths"), the corresponding three-month basic average price in the quarter prior to that in which the order was received or the release order was effected is used with a one-month buffer (details on the calculation can be found in the explanation of the metal factor).

3. Additional Terms and Conditions

The dimensions are in mm. In Germany, according to the German law on units in measuring technology, data in inches apply only to devices for export.

Illustrations are not binding.

Insofar as there are no remarks on the individual pages of this catalog – especially with regard to data, dimensions and weights given – these are subject to change without prior notice.

[1)] The text of the Terms and Conditions of Siemens AG can be downloaded at
https://mall.industry.siemens.com/legal/ww/en/terms_of_trade_en.pdf

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4. Export Control and Sanctions Compliance

4.1 General

Customer shall comply with all applicable sanctions, embargoes and (re-)export control laws and regulations, and, in any event, with those of the European Union, the United States of America and any locally applicable jurisdiction (collectively "Export Regulations").

4.2 Checks for Products

Prior to any transaction by customer concerning products (including hardware, documentation and technology) delivered by Siemens, or products (including maintenance and technical support) performed by Siemens with a third party, customer shall check and certify by appropriate measures that

- (i) the customer's use, transfer, or distribution of such products, the brokering of contracts or the provision of other economic resources in connection with products will not be in violation of any Export Regulations, also taking into account any prohibitions to circumvent these (e.g., by undue diversion)
- (ii) the products are not intended or provided for prohibited or unauthorized non-civilian purposes (e.g. armaments, nuclear technology, weapons, or any other usage in the field of defense and military);
- (iii) customer has screened all direct and indirect parties involved in the receipt, use, transfer, or distribution of the products against all applicable restricted party lists of the Export Regulations concerning trading with entities, persons and organizations listed therein and
- (iv) products within the scope of items-related restrictions, as specified in the respective annexes to the Export Regulations, will not, unless permitted by the Export Regulations, be
  (a) exported, directly or indirectly (e.g., via Eurasian Economic Union (EAEU) countries), to Russia or Belarus, or
  (b) resold to any third party business partner that does not take a prior commitment not to export such products to Russia or Belarus.

4.3 Non-Acceptable Use of Software and Cloud Services

Customer shall not, unless permitted by the Export Regulations or respective governmental licenses or approvals,

(i) download, install, access or use the products from or in any location prohibited by or subject to comprehensive sanctions or subject or to license requirements according to the Export Regulations;
(ii) grant access to, transfer, (re-)export (including any "deemed (re-)exports"), or otherwise make available the products to any entity, person, or organization identified on a restricted party list of the Export Regulations;
(iii) use the products for any purpose prohibited by the Export Regulations (e.g. use in connection with armaments, nuclear technology or weapons);
(iv) upload to a products platform any customer content unless it is non-controlled (e.g. in the EU: AL = N;
in the U.S.: ECCN = N or EAR99);
(v) facilitate any of the afore mentioned activities by any user.
Customer shall provide all users with all information necessary to ensure compliance with the Export Regulations.

4.4 Semiconductor Development

Customer will not, without advance written authorization from Siemens, use offerings for the development or production of integrated circuits at any semiconductor fabrication facility located in China meeting the criteria specified in the U.S. Export Administration Regulations, 15 C.F.R. 744.23.

4.5 Information

Upon request by Siemens, customer shall promptly provide Siemens with all information pertaining to users, the intended use and the location of use or the final destination (in the case of hardware, documentation and technology) of the products. Customer will notify Siemens prior to customer disclosing any information to Siemens that is defense-related or requires controlled or special data handling pursuant to applicable government regulations, and will use the disclosure tools and methods specified by Siemens.

4.6 Reservation

Siemens shall not be obligated to fulfill this agreement if such fulfillment is prevented by any impediments arising out of national or international foreign trade or customs requirements or any embargoes or other sanctions. Customer acknowledges that Siemens may be obliged under the Export Regulations to limit or suspend access by customer and/or users to products.

5. Miscellaneous

Errors excepted and subject to change without prior notice.

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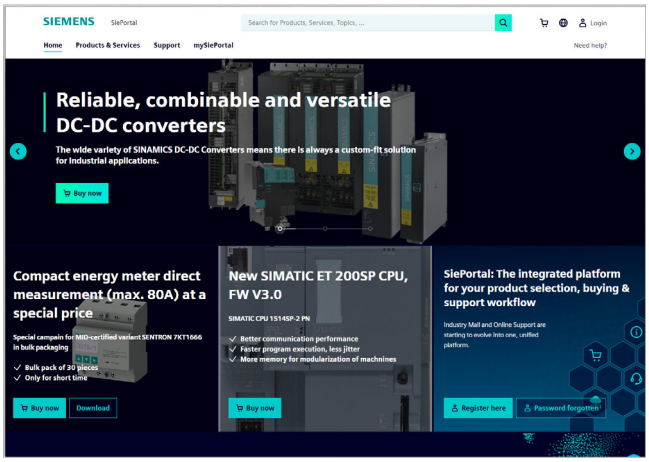


Easy product selection and ordering with SiePortal

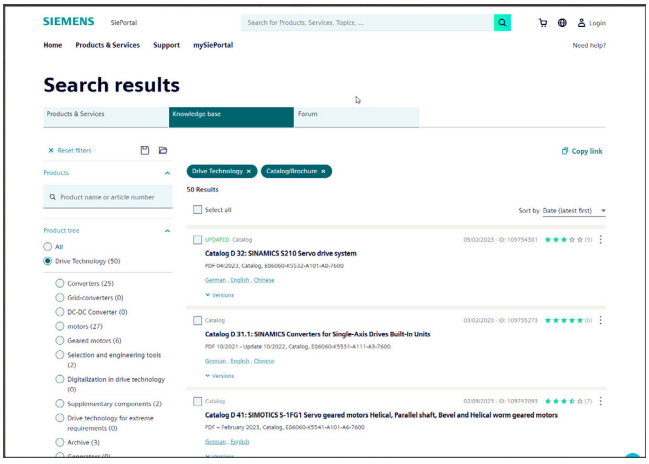
SiePortal > Products & Services

The internet ordering platform of Siemens AG is located in SiePortal. It provides you with online access to a comprehensive product spectrum that is presented in an informative, well-organized way.

Powerful search functions help you select the required products, while configurators enable you to configure complex product and system components quickly and easily. CAx data are also available for you to use.

Data transfer allows the entire procedure, from selection through ordering to tracking and tracing, to be carried out online. Availability checks, individual customer discounting, and quotation preparation are also possible.

https://sieportal.siemens.com



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