

Advanced power supplies



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Advanced power supplies

Introduction

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, in special-purpose machine manufacturing, or in harsh environments.

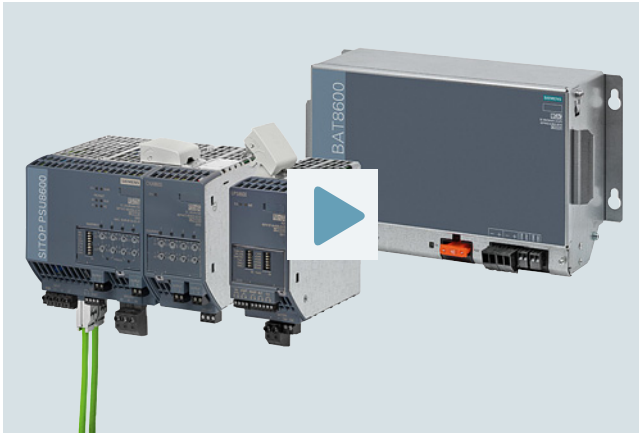
The SITOP PSU8200 product line meets the stringent requirements in these areas, e.g. thanks to its overload characteristics, efficiency, and compactness. Additionally, SITOP PSU8600 offers a power supply system with open communication for optimum integration in the world of digitalization.

Advanced power supplies

SITOP PSU8600 power supply system

Introduction

Overview



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.

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.

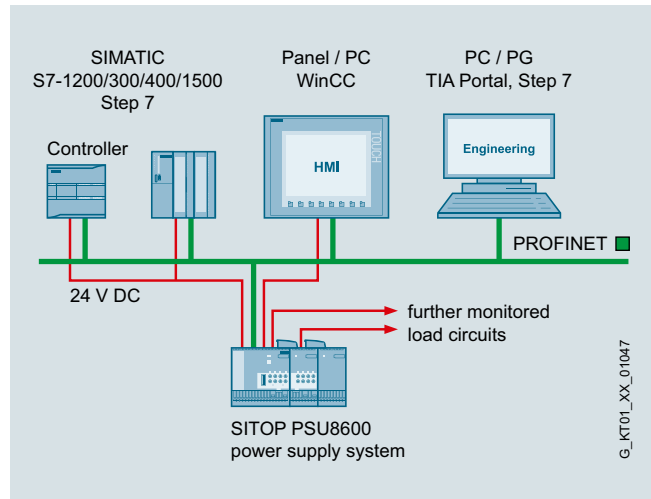
Benefits

- 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)
- Reliable operation by bridging power failures in the second, minute or hour range
- Two integrated Ethernet/PROFINET ports (no external switch required)
- 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 (PROFenergy protocol)

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/network failure, overtemperature) via PROFINET.

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 PROFenergy during idle times.

Advanced power supplies

SITOP PSU8600 power supply system

Introduction

Design

- SITOP PSU8600, 1-phase power supply, 24 V DC/20 A/4 x 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 x 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 x 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

Modular system, consisting of:

- SITOP CNX8600 4 x 5 A (expansion module with 4 outputs, each 5 A)
- SITOP CNX8600 4 x 10 A (expansion module with 4 outputs, each 10 A)
- SITOP CNX8600 8 x 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 14 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 on top of the modules without any wiring effort using the System Clip Link, a connecting plug for system data and power supplies. 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.

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 rated 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 interface. This also means you can disable individual outputs by means of PROFlenergy during breaks to save energy.

Communication

Comprehensive diagnostic information can be queried and processed via the integrated Ethernet/PROFINET 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

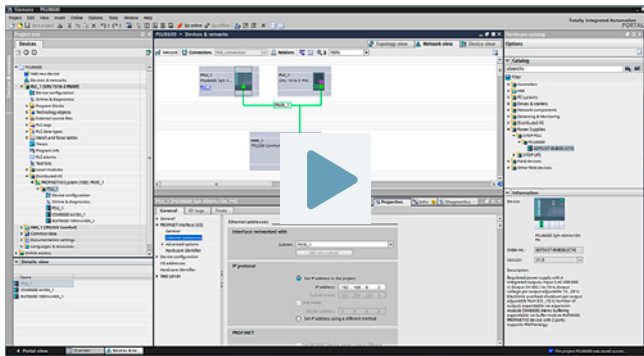
Different software components are available to facilitate easy integration of SITOP PSU8600 in the TIA environment.

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 through simple selection from the hardware catalog
- Free HSPs (hardware support packages) available for the TIA Portal:
<http://support.automation.siemens.com/WW/view/en/102254062>
- Free GSD file (Generic Station Description) for STEP 7 V 5
<http://support.automation.siemens.com/WW/view/en/102254061>



Establishing the PROFINET connection between the SITOP PSU8600 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 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>

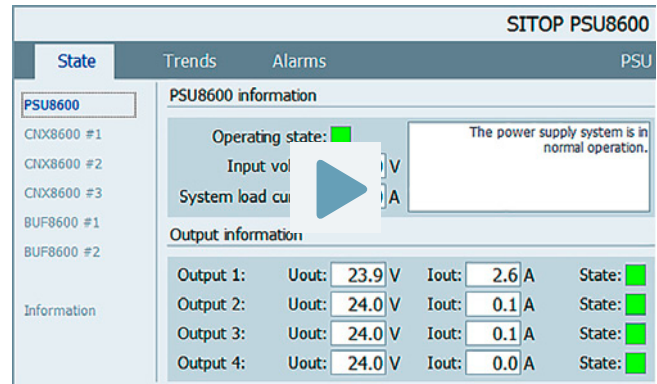
Faceplates for WinCC

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 from 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>



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

Advanced power supplies

SITOP PSU8600 power supply system

Basic units 24 V DC (PSU8600)

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 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 PROFlenergy.

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 PROFlenergy

Ordering data

Article No.

**SITOP PSU8600 1- and 2-phase,
24 V DC/20 A/4 x 5 A
with PN/IE connection**

6EP3336-8MB00-2CY0

Stabilized power supply
Input: 100 ... 240 V AC
Output: 24 V DC/20 A/4 x 5 A

**SITOP PSU8600 3-phase,
24 V DC/20 A
with PN/IE connection**

6EP3436-8SB00-2AY0

Stabilized power supply
Input: 400 ... 500 V 3 AC
Output: 24 V DC/20 A

**SITOP PSU8600 3-phase,
24 V DC/40 A
with PN/IE connection**

6EP3437-8SB00-2AY0

Stabilized power supply
Input: 400 ... 500 V 3 AC
Output: 24 V DC/40 A

**SITOP PSU8600 3-phase,
24 V DC/20 A/4 x 5 A
with PN/IE connection**

6EP3436-8MB00-2CY0

Stabilized power supply
Input: 400 ... 500 V 3 AC
Output: 24 V DC/20 A/4 x 5 A

**SITOP PSU8600 3-phase,
24 V DC/40 A/4 x 10 A
with PN/IE connection**

6EP3437-8MB00-2CY0

Stabilized power supply
Input: 400 ... 500 V 3 AC
Output: 24 V DC/40 A/4 x 10 A

Accessories

**SITOP CNX8600 4 x 5 A
expansion module**

6EP4436-8XB00-0CY0

For SITOP PSU8600
Output: 24 V DC/4 x 5 A

**SITOP CNX8600 4 x 10 A
expansion module**

6EP4437-8XB00-0CY0

For SITOP PSU8600
Output: 24 V DC/4 x 10 A

**SITOP CNX8600 8 x 2.5 A
expansion module**

6EP4436-8XB00-0DY0

For SITOP PSU8600
Output: 24 V DC/8 x 2.5 A

**SITOP BUF8600 100 ms
buffer module**

6EP4297-8HB00-0XY0

For SITOP PSU8600
Buffer capacity 100 ms/40 A

**SITOP BUF8600 300 ms
buffer module**

6EP4297-8HB10-0XY0

For SITOP PSU8600
Buffer capacity 300 ms/40 A

SITOP BUF8600 4 s buffer module

6EP4293-8HB00-0XY0

For SITOP PSU8600
Buffer capacity 4 s/40 A

**SITOP BUF8600 10 s
buffer module**

6EP4295-8HB00-0XY0

For SITOP PSU8600
Buffer capacity 10 s/40 A

SITOP UPS8600 UPS module

6EP4197-8AB00-0XY0

For SITOP PSU8600
Rated buffer power 960 W

**SITOP BAT8600
battery module 380 Wh**

6EP4145-8GB00-0XY0

For SITOP UPS8600
With lead-acid batteries
(Pb technology)

**SITOP BAT8600 battery module
264 Wh**

6EP4143-8JB00-0XY0

For SITOP UPS8600
With LiFePO4 batteries

Unit labeling plates

3RT2900-1SB20

Advanced power supplies

SITOP PSU8600 power supply system

Basic units 24 V DC (PSU8600)

Technical specifications

Article number	6EP3336-8MB00-2CY0	6EP3436-8MB00-2CY0	6EP3436-8SB00-2AY0	6EP3437-8MB00-2CY0	6EP3437-8SB00-2AY0
Product	SITOP PSU8600	SITOP PSU8600	SITOP PSU8600	SITOP PSU8600	SITOP PSU8600
Power supply, type	24 V/20 A/4x 5 A	24 V/20 A/4x 5 A	24 V/20 A	24 V/40 A/4x 10 A	24 V/40 A
Input					
Input	1-phase and 2-phase AC or DC	3-phase AC	3-phase AC	3-phase AC	3-phase AC
Rated voltage value $V_{in rated}$	100 ... 240 V	400 ... 500 V	400 ... 500 V	400 ... 500 V	400 ... 500 V
Voltage range AC	85 ... 275 V	320 ... 575 V	320 ... 575 V	320 ... 575 V	320 ... 575 V
• Note	-	Derating 320 ... 360 and 530 ... 575 V	Derating 320 ... 360 and 530 ... 575 V	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	Yes	Yes
Mains buffering	at $V_{in} = 100$ V; Prioritized supply Output 1 at power failure can be selected via DIP switch	at $V_{in} = 400$ V; Prioritized supply Output 1 at power failure can be selected via DIP switch	at $V_{in} = 400$ V; Prioritized supply to the output on power failure via DIP switch can be selected (only with expansion module CNX8600)	at $V_{in} = 400$ V; Prioritized supply Output 1 at power failure can be selected via DIP switch	at $V_{in} = 400$ V; Prioritized supply to the output on power failure via DIP switch can be selected (only with expansion module CNX8600)
Mains buffering at $I_{out rated}$, min.	20 ms; at $V_{in} = 100$ V; Prioritized supply Output 1 at power failure can be selected via DIP switch	15 ms; at $V_{in} = 400$ V; Prioritized supply Output 1 at power failure can be selected via DIP switch	15 ms; at $V_{in} = 400$ V; Prioritized supply to the output on power failure via DIP switch can be selected (only with expansion module CNX8600)	15 ms; at $V_{in} = 400$ V; Prioritized supply Output 1 at power failure can be selected via DIP switch	15 ms; at $V_{in} = 400$ V; Prioritized supply to the output on power failure via DIP switch can be selected (only with expansion module CNX8600)
Rated line frequency 1	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz
Rated line frequency 2	60 Hz	60 Hz	60 Hz	60 Hz	60 Hz
Rated line range	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz
input current					
• at rated input voltage 100 V	5.4 A	-	-	-	-
• at rated input voltage 120 V	4.5 A	-	-	-	-
• at rated input voltage 230 V	2.5 A	-	-	-	-
• at rated input voltage 240 V	2.4 A	-	-	-	-
• at rated input voltage 110 V	4.8 A	-	-	-	-
• at rated input voltage 220 V	2.4 A	-	-	-	-
• at rated input voltage 400 V	-	1.4 A	1.4 A	2.75 A	2.75 A
• at rated input voltage 500 V	-	1.1 A	1.1 A	2.2 A	2.2 A
Switch-on current limiting (+25 °C), max.	15 A	14 A	14 A	14 A	14 A
I^2t , max.	4.33 A ² ·s	1.2 A ² ·s	1.2 A ² ·s	2.24 A ² ·s	2.24 A ² ·s
Built-in incoming fuse	internal	none	none	none	none
Protection in the mains power input (IEC 898)	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)	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)

Advanced power supplies

SITOP PSU8600 power supply system

Basic units 24 V DC (PSU8600)

Technical specifications (continued)

Article number	6EP3336-8MB00-2CY0	6EP3436-8MB00-2CY0	6EP3436-8SB00-2AY0	6EP3437-8MB00-2CY0	6EP3437-8SB00-2AY0
Product	SITOP PSU8600	SITOP PSU8600	SITOP PSU8600	SITOP PSU8600	SITOP PSU8600
Power supply, type	24 V/20 A/4x 5 A	24 V/20 A/4x 5 A	24 V/20 A	24 V/40 A/4x 10 A	24 V/40 A
Output					
Output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
number of outputs	4	4	1	4	1
Rated voltage V_{out} DC	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
• output voltage at output 2 at DC rated value	24 V	24 V	-	24 V	-
• output voltage at output 3 at DC rated value	24 V	24 V	-	24 V	-
• output voltage at output 4 at DC rated value	24 V	24 V	-	24 V	-
Total tolerance, static ±	3 %	3 %	3 %	3 %	3 %
Static mains compensation, approx.	0.2 %	0.2 %	0.2 %	0.2 %	0.2 %
Static load balancing, approx.	0.1 %	0.1 %	0.1 %	0.1 %	0.1 %
Residual ripple peak-peak, max.	100 mV	100 mV	100 mV	100 mV	100 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	200 mV	200 mV	200 mV	200 mV	200 mV
Adjustment range	4 ... 28 V	4 ... 28 V	4 ... 28 V	4 ... 28 V	4 ... 28 V
product function output voltage adjustable	Yes	Yes	Yes	Yes	Yes
Output voltage setting	via potentiometer or IE/PN interface; Derating > 24 V: 4%/V; max. 120 W per output, max. 480 W overall system	via potentiometer or IE/PN interface; Derating > 24 V: 4%/V; max. 120 W per output, max. 480 W overall system	via potentiometer or IE/PN interface; Derating > 24 V: 4%/V; max. 480 W overall system	via potentiometer or IE/PN interface; Derating > 24 V: 4%/V; max. 240 W per output, max. 960 W overall system	via potentiometer or IE/PN interface; Derating > 24 V: 4%/V; max. 960 W overall system
Status display	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 per output for operating state output	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
Signaling	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"	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"
On/off behavior	No overshoot of V_{out} (soft start)	No overshoot of V_{out} (soft start)	No overshoot of V_{out} (soft start)	No overshoot of V_{out} (soft start)	No overshoot of V_{out} (soft start)
Startup delay, max.	1 s; Without on-delay of the outputs	1 s; Without on-delay of the outputs	1 s	1 s; Without on-delay of the outputs	1 s
connection of outputs operating	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)	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	500 ms	500 ms
Rated current value $I_{out rated}$	20 A	20 A	20 A	40 A	40 A

Advanced power supplies

SITOP PSU8600 power supply system

Basic units 24 V DC (PSU8600)

Technical specifications (continued)

Article number	6EP3336-8MB00-2CY0	6EP3436-8MB00-2CY0	6EP3436-8SB00-2AY0	6EP3437-8MB00-2CY0	6EP3437-8SB00-2AY0
Product	SITOP PSU8600	SITOP PSU8600	SITOP PSU8600	SITOP PSU8600	SITOP PSU8600
Power supply, type	24 V/20 A/4x 5 A	24 V/20 A/4x 5 A	24 V/20 A	24 V/40 A/4x 10 A	24 V/40 A
output current					
• per output	5 A	5 A	20 A	10 A	40 A
• at output 1 rated value	5 A	5 A	20 A	10 A	40 A
• at output 2 rated value	5 A	5 A	-	10 A	-
• at output 3 rated value	5 A	5 A	-	10 A	-
• at output 4 rated value	5 A	5 A	-	10 A	-
Current range	0 ... 20 A	0 ... 20 A	0 ... 20 A	0 ... 40 A	0 ... 40 A
• Note	-	+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	+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	+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	+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
supplied active power typical	480 W	480 W	480 W	960 W	960 W
short-term overload current					
• at short-circuit during operation typical	-	-	60 A	-	120 A
• note	-	-	only in operation without CNX8600 extension module	-	only in operation without CNX8600 extension module
duration of overloading capability for excess current					
• at short-circuit during operation	-	-	25 ms	-	25 ms
product feature 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	-	Yes; Parallel circuit Output 1 with 2 or Output 3 with 4 can be selected via DIP switch	-
Parallel switching for enhanced performance	No	No	Yes; suitable output characteristics via DIP switch can be selected	No	Yes; suitable output characteristics via DIP switch can be selected
Numbers of parallel switchable units for enhanced performance	-	-	2	-	2
Efficiency					
Efficiency at $V_{out rated}$, $I_{out rated}$, approx.	92 %	93 %	93 %	93 %	93 %
Power loss at $V_{out rated}$, $I_{out rated}$, approx.	39 W	34 W	34 W	72 W	72 W
power loss [W] during no-load operation maximum	14 W	12 W	12 W	20 W	20 W
Closed-loop control					
Dynamic mains compensation ($V_{in rated} \pm 15\%$), max.	0.1 %	0.1 %	0.1 %	0.1 %	0.1 %
Dynamic load smoothing (I_{out} : 50/100/50 %), $U_{out} \pm$ typ. setting time maximum	0.4 %	0.4 %	0.4 %	0.4 %	0.4 %
	10 ms	10 ms	10 ms	10 ms	10 ms
Protection and monitoring					
Output overvoltage protection	max. 35 V (max. 500 ms)	max. 35 V (max. 500 ms)	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	Yes	Yes
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	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 response value current of current-dependent overload trip	0.5 ... 5 A	0.5 ... 5 A	2 ... 20 A	0.5 ... 10 A	4 ... 40 A
type of threshold value setting	via potentiometer or IE/PN interface	via potentiometer or IE/PN interface	via potentiometer or IE/PN interface	via potentiometer or IE/PN interface	via potentiometer or IE/PN interface

Advanced power supplies

SITOP PSU8600 power supply system

Basic units 24 V DC (PSU8600)

Technical specifications (continued)

Article number	6EP3336-8MB00-2CY0	6EP3436-8MB00-2CY0	6EP3436-8SB00-2AY0	6EP3437-8MB00-2CY0	6EP3437-8SB00-2AY0
Product	SITOP PSU8600	SITOP PSU8600	SITOP PSU8600	SITOP PSU8600	SITOP PSU8600
Power supply, type	24 V/20 A/4x 5 A	24 V/20 A/4x 5 A	24 V/20 A	24 V/40 A/4x 10 A	24 V/40 A
characteristics of electronic overload switch-off	$I_a > 1.0 \dots < 1.5 \times I_a$ threshold permissible for 5 s; I_a limit (= $1.5 \times I_a$ threshold) permissible for 200 ms	$I_a > 1.0 \dots < 1.5 \times I_a$ threshold permissible for 5 s; I_a limit (= $1.5 \times I_a$ threshold) permissible for 200 ms	$I_a > 1.0 \dots < 1.5 \times I_a$ threshold permissible for 5 s; I_a limit (= $1.5 \times I_a$ threshold) permissible for 200 ms	$I_a > 1.0 \dots < 1.5 \times I_a$ threshold permissible for 5 s; I_a limit (= $1.5 \times I_a$ threshold) permissible for 200 ms	$I_a > 1.0 \dots < 1.5 \times I_a$ threshold permissible for 5 s; I_a limit (= $1.5 \times I_a$ threshold) permissible for 200 ms
characteristics of constant current operation	I_a limit (= $1.5 \times I_a$ threshold) permissible for 5 s, afterwards I_a threshold continuous	I_a limit (= $1.5 \times I_a$ threshold) permissible for 5 s, afterwards I_a threshold continuous	I_a limit (= $1.5 \times I_a$ threshold) permissible for 5 s, afterwards I_a threshold continuous	I_a limit (= $1.5 \times I_a$ threshold) permissible for 5 s, afterwards I_a threshold continuous	I_a limit (= $1.5 \times I_a$ threshold) permissible for 5 s, afterwards I_a threshold continuous
Reset	via sensor per output or IE/PN interface	via sensor per output or IE/PN interface	via sensor or IE/PN interface	via sensor per output or IE/PN interface	via sensor or IE/PN interface
Remote reset	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 V input (signal level "high" at > 15 V)
overcurrent overload capability in normal operation	Total system overloadable 150% I_a rated to 5 s/min	Total system overloadable 150% I_a rated to 5 s/min	Total system overloadable 150% I_a rated to 5 s/min	Total system overloadable 150% I_a rated to 5 s/min	Total system overloadable 150% I_a rated to 5 s/min
Overload/short-circuit indicator	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	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
Interface					
Specification interface	Ethernet/PROFINET	Ethernet/PROFINET	Ethernet/PROFINET	Ethernet/PROFINET	Ethernet/PROFINET
design of the interface PROFINET protocol	Yes	Yes	Yes	Yes	Yes
protocol is supported OPC UA	Yes	Yes	Yes	Yes	Yes
Safety					
Primary/secondary isolation	Yes	Yes	Yes	Yes	Yes
galvanic isolation	Safety extra-low output voltage U_{out} acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage U_{out} acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage U_{out} acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage U_{out} acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage U_{out} acc. to EN 60950-1 and EN 50178
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	3.5 mA
Degree of protection (EN 60529)	IP20	IP20	IP20	IP20	IP20
Approvals					
CE mark	Yes	Yes	Yes	Yes	Yes
UL/cUL (CSA) approval	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
certificate of suitability NEC Class 2	No	No	No	No	No
CB approval	Yes	Yes	Yes	Yes	Yes
certificate of suitability EAC approval	Yes	Yes	Yes	Yes	Yes
Marine approval	-	ABS, DNV GL	ABS, DNV GL	ABS, DNV GL	ABS, DNV GL
EMC					
Emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
Supply harmonics limitation	EN 61000-3-2	EN 61000-3-2	EN 61000-3-2	EN 61000-3-2	EN 61000-3-2
Noise immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
environmental conditions					
ambient temperature					
• during operation	-25 ... +60 °C	-25 ... +60 °C	-25 ... +60 °C	-25 ... +60 °C	-25 ... +60 °C
- Note	with natural convection	with natural convection	with natural convection	with natural convection	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

Advanced power supplies

SITOP PSU8600 power supply system

Basic units 24 V DC (PSU8600)

Technical specifications (continued)

Article number	6EP3336-8MB00-2CY0	6EP3436-8MB00-2CY0	6EP3436-8SB00-2AY0	6EP3437-8MB00-2CY0	6EP3437-8SB00-2AY0
Product	SITOP PSU8600	SITOP PSU8600	SITOP PSU8600	SITOP PSU8600	SITOP PSU8600
Power supply, type	24 V/20 A/4x 5 A	24 V/20 A/4x 5 A	24 V/20 A	24 V/40 A/4x 10 A	24 V/40 A
Humidity class according to EN 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
Mechanics					
Connection technology	Plug-in terminals with screwed connection	Plug-in terminals with screwed connection	Plug-in terminals with screwed connection	Plug-in terminals with screwed connection	Plug-in terminals with screwed connection
Connections					
• Supply 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	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
• 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	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 0.2 ... 4 mm²; 0 V: screw terminal with 3 screw connectors for 0.2 ... 4 mm²
• Auxiliary	RST (Reset): Plug-in terminal (together with alarm signal) with 1 screwed connection for 0.2 ... 1.5 mm ²	RST (Reset): Plug-in terminal (together with alarm signal) with 1 screwed connection for 0.2 ... 1.5 mm ²	RST (Reset): Plug-in terminal (together with alarm signal) with 1 screwed connection for 0.2 ... 1.5 mm ²	RST (Reset): Plug-in terminal (together with alarm signal) with 1 screwed connection for 0.2 ... 1.5 mm ²	RST (Reset): Plug-in terminal (together with alarm signal) with 1 screwed connection for 0.2 ... 1.5 mm ²
• signaling contact	11, 12, 14 (alarm signal): Plug-in terminal (together with Reset) with 1 screwed connection each for 0.2 ... 1.5 mm ²	11, 12, 14 (alarm signal): Plug-in terminal (together with Reset) with 1 screwed connection each for 0.2 ... 1.5 mm ²	11, 12, 14 (alarm signal): Plug-in terminal (together with Reset) with 1 screwed connection each for 0.2 ... 1.5 mm ²	11, 12, 14 (alarm signal): Plug-in terminal (together with Reset) with 1 screwed connection each for 0.2 ... 1.5 mm ²	11, 12, 14 (alarm signal): Plug-in terminal (together with Reset) with 1 screwed connection each for 0.2 ... 1.5 mm ²
product function					
• removable terminal at input	Yes	Yes	Yes	Yes	Yes
• removable terminal at output	Yes	Yes	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)	PROFINET/Ethernet: two RJ45 sockets (2-port switch)	PROFINET/Ethernet: two RJ45 sockets (2-port switch)
suitability for interaction modular system	Yes	Yes	Yes	Yes	Yes
width of the enclosure	125 mm	100 mm	80 mm	125 mm	125 mm
height of the enclosure	125 mm	125 mm	125 mm	125 mm	125 mm
depth of the enclosure	150 mm	150 mm	150 mm	150 mm	150 mm
required spacing					
• top	50 mm	50 mm	50 mm	50 mm	50 mm
• bottom	50 mm	50 mm	50 mm	50 mm	50 mm
• left	0 mm	0 mm	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm	0 mm	0 mm
Weight, approx.	2.6 kg	2 kg	1.8 kg	2.6 kg	2.6 kg
product feature of the enclosure housing can be lined up	Yes	Yes	Yes	Yes	Yes
Installation	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	Snaps onto DIN rail EN 60715 35x15
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	Expansion modules CNX8600, buffer modules BUF8600, module UPS8600	Expansion modules CNX8600, buffer modules BUF8600, module UPS8600
mechanical accessories	Device identification label 20 mm x 7 mm, TI-grey 3RT2900-1SB20	Device identification label 20 mm x 7 mm, TI-grey 3RT2900-1SB20	Device identification label 20 mm x 7 mm, TI-grey 3RT2900-1SB20	Device identification label 20 mm x 7 mm, TI-grey 3RT2900-1SB20	Device identification label 20 mm x 7 mm, TI-grey 3RT2900-1SB20
MTBF at 40 °C	186 700 h	243 178 h	298 979 h	207 612 h	235 118 h
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)				

Advanced power supplies

SITOP PSU8600 power supply system

Modular system, expansion of outputs (CNX8600)

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 PROFlenergy via the PSU8600 basic unit

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

Ordering data

Article No.

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

Unit labeling plates

3RT2900-1SB20

Advanced power supplies

SITOP PSU8600 power supply system

Modular system, expansion of outputs (CNX8600)

Technical specifications

Article number	6EP4436-8XB00-0CY0	6EP4437-8XB00-0CY0	6EP4436-8XB00-0DY0
Product	SITOP CNX8600	SITOP CNX8600	SITOP CNX8600
Power supply, type	4x 5 A	4x 10 A	8x 2.5 A
Output			
Output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
number of outputs	4	4	8
Rated voltage V_{out} DC	24 V	24 V	24 V
• output voltage at output 1 at DC rated value	24 V	24 V	24 V
• output voltage at output 2 at DC rated value	24 V	24 V	24 V
• output voltage at output 3 at DC rated value	24 V	24 V	24 V
• output voltage at output 4 at DC rated value	24 V	24 V	24 V
• output voltage at output 5 at DC rated value	-	-	24 V
• output voltage at output 6 at DC rated value	-	-	24 V
• output voltage at output 7 at DC rated value	-	-	24 V
• output voltage at output 8 at DC rated value	-	-	24 V
Total tolerance, static ±	3 %	3 %	3 %
Static mains compensation, approx.	0.2 %	0.2 %	0.2 %
Static load balancing, approx.	0.1 %	0.1 %	0.1 %
Residual ripple peak-peak, max.	100 mV	100 mV	100 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	200 mV	200 mV	200 mV
Adjustment range	4 ... 28 V	4 ... 28 V	4 ... 28 V
product function output voltage adjustable	Yes	Yes	Yes
Output voltage setting	via potentiometer or IE/PN interface; Derating > 24 V: 4%/V; max. 120 W per output	via potentiometer or IE/PN interface; Derating > 24 V: 4%/V; max. 240 W per output	via potentiometer or IE/PN interface; Derating > 24 V: 4%/V; max. 60 W per output
Status display	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
Signaling	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
On/off behavior	No overshoot of V_{out} (soft start)	No overshoot of V_{out} (soft start)	No overshoot of V_{out} (soft start)
Startup delay, max.	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
connection of outputs operating	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
Rated current value $I_{out rated}$ output current	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
• at output 8 rated value	-	-	2.5 A

Advanced power supplies

SITOP PSU8600 power supply system

Modular system, expansion of outputs (CNX8600)

Technical specifications (continued)

Article number	6EP4436-8XB00-0CY0	6EP4437-8XB00-0CY0	6EP4436-8XB00-0DY0
Product	SITOP CNX8600	SITOP CNX8600	SITOP CNX8600
Power supply, type	4x 5 A	4x 10 A	8x 2.5 A
Current range	0 ... 20 A	0 ... 40 A	0 ... 20 A
• Note	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
product feature parallel switching of outputs	No	No	No
Parallel switching for enhanced performance	No	No	No
Efficiency			
Efficiency at $V_{out \text{ rated}}$, $I_{out \text{ rated}}$, approx.	97 %	97 %	97 %
Power loss at $V_{out \text{ rated}}$, $I_{out \text{ rated}}$, approx.	15 W	30 W	15 W
Closed-loop control			
Dynamic mains compensation ($V_{in \text{ rated}} \pm 15 \%$), max.	0.1 %	0.1 %	0.1 %
Dynamic load smoothing (I_{out} : 50/100/50 %), $U_{out} \pm \text{typ.}$ settling time maximum	0.4 %	0.4 %	0.4 %
	10 ms	10 ms	10 ms
Protection and monitoring			
Output 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
Short-circuit protection	electronic overload cut-off	electronic overload cut-off	electronic overload cut-off
adjustable response value current of current-dependent overload trip	0.5 ... 5 A	0.5 ... 10 A	0.5 ... 2.5 A
type of threshold value setting	via potentiometer or IE/PN interface	via potentiometer or IE/PN interface	via potentiometer or IE/PN interface
characteristics of electronic overload switch-off	$I_a > 1.0 \dots < 1.5 \times I_{a \text{ threshold}}$ permissible for 5 s; $I_a \text{ limit} (= 1.5 \times I_{a \text{ threshold}})$ permissible for 200 ms	$I_a > 1.0 \dots < 1.5 \times I_{a \text{ threshold}}$ permissible for 5 s; $I_a \text{ limit} (= 1.5 \times I_{a \text{ threshold}})$ permissible for 200 ms	$I_a > 1.0 \dots < 1.5 \times I_{a \text{ threshold}}$ permissible for 5 s; $I_a \text{ limit} (= 1.5 \times I_{a \text{ threshold}})$ permissible for 200 ms
Reset	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	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
Overload/short-circuit indicator	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
Interface			
Specification interface	Ethernet/PROFINET via power supply unit PSU8600	Ethernet/PROFINET via power supply unit PSU8600	Ethernet/PROFINET via power supply unit PSU8600
Safety			
Primary/secondary isolation	Yes	Yes	Yes
galvanic isolation	Safety extra-low output voltage U_{out} acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage U_{out} acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage U_{out} acc. to EN 60950-1 and EN 50178
Protection class	Class III	Class III	Class III
Degree of protection (EN 60529)	IP20	IP20	IP20
Approvals			
CE mark	Yes	Yes	Yes
UL/cUL (CSA) approval	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1), NEC class 2
certificate of suitability NEC Class 2	No	No	Yes
CB approval	Yes	Yes	Yes
certificate of suitability EAC approval	Yes	Yes	Yes
Regulatory Compliance Mark (RCM)	-	-	Yes
Marine approval	ABS, DNV GL	ABS, DNV GL	ABS, DNV GL

Advanced power supplies

SITOP PSU8600 power supply system

Modular system, expansion of outputs (CNX8600)

Technical specifications (continued)

Article number	6EP4436-8XB00-0CY0	6EP4437-8XB00-0CY0	6EP4436-8XB00-0DY0
Product	SITOP CNX8600	SITOP CNX8600	SITOP CNX8600
Power supply, type	4x 5 A	4x 10 A	8x 2.5 A
EMC			
Emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
Noise immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
environmental conditions			
ambient temperature			
• during operation	-25 ... +60 °C	-25 ... +60 °C	-25 ... +60 °C
- Note	with natural convection	with natural convection	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
Humidity class according to EN 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
Mechanics			
Connection technology	Plug-in terminals with screwed connection	Plug-in terminals with screwed connection	Plug-in terminals with screwed connection
Connections			
• 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
product function			
• 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
width of the enclosure	60 mm	60 mm	100 mm
height of the enclosure	125 mm	125 mm	125 mm
depth of the enclosure	150 mm	150 mm	150 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
Weight, approx.	1.15 kg	1.15 kg	1.29 kg
product feature of the enclosure housing can be lined up	Yes	Yes	Yes
Installation	Snaps onto DIN rail EN 60715 35x15	Snaps onto DIN rail EN 60715 35x15	Snaps onto DIN rail EN 60715 35x15
mechanical accessories	Device identification label 20 mm x 7 mm, TI-grey 3RT2900-1SB20	Device identification label 20 mm x 7 mm, TI-grey 3RT2900-1SB20	Device identification label 20 mm x 7 mm, TI-grey 3RT2900-1SB20
MTBF at 40 °C	358 372 h	358 372 h	327 369 h
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)		



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

Ordering dataArticle No.

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	
Unit labeling plates	3RT2900-1SB20

Advanced power supplies

SITOP PSU8600 power supply system

Modular system, buffer modules for brief power failure (BUF8600)

Technical specifications

Article number	6EP4297-8HB00-0XY0	6EP4297-8HB10-0XY0	6EP4293-8HB00-0XY0	6EP4295-8HB00-0XY0
product brand name	SITOP BUF8600	SITOP BUF8600	SITOP BUF8600	SITOP BUF8600
type of current supply	100 ms/40 A	300 ms/40 A	4 s/40 A	10 s/40 A
Mains buffering				
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
Output				
output current				
• rated value	40 A	40 A	40 A	40 A
Signaling				
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"
Interface				
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
Approvals				
certificate of suitability				
• CE marking	Yes	Yes	Yes	Yes
• as approval for USA	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
• C-Tick	No	No	No	No
type of certification CB-certificate	Yes	Yes	Yes	Yes
shipbuilding approval	ABS, DNV GL	ABS, DNV GL	ABS, DNV GL	ABS, DNV GL
EMC				
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
environmental 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 ... +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 acc. 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

Advanced power supplies

SITOP PSU8600 power supply system

Modular system, buffer modules for brief power failure (BUF8600)

Technical specifications (continued)

Article number	6EP4297-8HB00-0XY0	6EP4297-8HB10-0XY0	6EP4293-8HB00-0XY0	6EP4295-8HB00-0XY0
product brand name	SITOP BUF8600	SITOP BUF8600	SITOP BUF8600	SITOP BUF8600
type of current supply	100 ms/40 A	300 ms/40 A	4 s/40 A	10 s/40 A
Mechanics				
type of electrical connection	-	-	Plug-in terminal with screw connectors	Plug-in terminal with screw connectors
• at input	-	-	-	-
• at output	-	-	-	-
• 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 mm ²	X1, X2 (control contact) and 13,14, 23, 24 (message signals): 1 screw terminal each for 0.2 ... 1.5 mm ²
type of connection to system components	Via integrated connector	Via integrated connector	Via integrated connector	Via integrated connector
width of the enclosure	60 mm	125 mm	60 mm	125 mm
height of the enclosure	125 mm	125 mm	125 mm	125 mm
depth of the enclosure	150 mm	150 mm	150 mm	150 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
net weight	1.33 kg	2.26 kg	1.25 kg	1.95 kg
product feature of the enclosure housing can be lined up	Yes	Yes	Yes	Yes
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
mechanical accessories	Device identification label 20 mm x 7 mm, TI-grey 3RT2900-1SB20	Device identification label 20 mm x 7 mm, TI-grey 3RT2900-1SB20	Device identification label 20 mm x 7 mm, TI-grey 3RT2900-1SB20	Device identification label 20 mm x 7 mm, TI-grey 3RT2900-1SB20
MTBF at 40 °C	4 505 531 h	4 505 531 h	1 374 707 h	1 190 747 h
reference code acc. to IEC 81346-2	T	T	T	T
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)			

Advanced power supplies

SITOP PSU8600 power supply system

Modular system, UPS module for longer power failure (UPS8600, BAT8600)

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 management for 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)

Ordering data

Article No.

SITOP UPS8600 UPS module

6EP4197-8AB00-0XY0

For SITOP PSU8600
Rated buffer power 960 W

SITOP BAT8600 battery module 380 Wh

6EP4145-8GB00-0XY0

For SITOP UPS8600
With lead batteries (Pb technology)

SITOP BAT8600 battery module 264 Wh

6EP4143-8JB00-0XY0

For SITOP UPS8600
With LiFePO₄ batteries

Accessories

Unit labeling plates

3RT2900-1SB20

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.

Buffering and charging times		
	6EP4143-8JB00-0XY0 (LiFePO ₄ , 264 Wh)	6EP4145-8GB00-0XY0 (Pb, 380 Wh)
Buffer time with 1x BAT8600		
Load 120 W	typ. 1 h 56 min	typ. 2 h 04 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 5x 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.

Advanced power supplies

SITOP PSU8600 power supply system

Modular system, UPS module for longer power failure (UPS8600, BAT8600)

Technical specifications (continued)

Article number	6EP4197-8AB00-0XY0
product brand name	SITOP UPS8600
type of current supply	960 W
Mains buffering	
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
charging current	1.25 A - 2.5 A
adjustable charging current maximum note	Charging capacity 60 W/120 W, can be set with DIP switches
Output	
output voltage	
• in normal operation at DC rated value	48 V
property of the output short-circuit proof	Yes
supplied active power typical	960 W
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
Protection and monitoring	
product function	
• reverse polarity protection against energy storage unit polarity reversal	Yes
Signaling	
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"
Interface	
design of the interface	Ethernet/PROFINET via power supply unit PSU8600
Safety	
operating resource protection class	Class III
protection class IP	IP20
Approvals	
certificate of suitability	
• CE marking	Yes
• as approval for USA	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
type of certification CB-certificate	Yes
shipbuilding approval	ABS, DNV GL

Article number	6EP4197-8AB00-0XY0
product brand name	SITOP UPS8600
type of current supply	960 W
EMC	
standard	
• for emitted interference	EN 55022 Class B
• for interference immunity	EN 61000-6-2
environmental conditions	
ambient temperature	
• during operation	-25 ... +70 °C; with natural convection
• during transport	-40 ... +85 °C
• during storage	-40 ... +85 °C
environmental category acc. to IEC 60721	Climate class 3K3, 5 ... 95% no condensation
Mechanics	
type of electrical connection	Plug-in terminals with screwed connection
• for rechargeable battery module	+, -: Plug-in terminal with 1 screwed connection each for 0.2 ... 10 mm ²
type of connection to system components	Via integrated connector
width of the enclosure	60 mm
height of the enclosure	125 mm
depth of the enclosure	150 mm
required spacing	
• top	50 mm
• bottom	50 mm
• left	0 mm
• right	0 mm
net weight	0.9 kg
product feature of the enclosure housing can be lined up	Yes
fastening method	Snaps onto DIN rail EN 60715 35x15
electrical accessories	Battery module BAT8600
mechanical accessories	Device identification label 20 mm x 7 mm, TI-grey 3RT2900-1SB20
MTBF at 40 °C	405 763 h
reference code acc. to IEC 81346-2	T
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)

Advanced power supplies

SITOP PSU8600 power supply system

Modular system, UPS module for longer power failure (UPS8600, BAT8600)

Technical specifications (continued)

Article number	6EP4145-8GB00-0XY0	6EP4143-8JB00-0XY0
Product	SITOP BAT8600 Pb	SITOP BAT8600 LiFePO4
Product type	Battery module 380 Wh	Battery module 264 Wh
Output		
energy content of energy storage	380 W·h	264 W·h
Rated current value $I_{out rated}$	20 A	20 A
Rated voltage $V_{out DC}$	48 V	48 V
Numbers of parallel switchable units for enhanced performance	5	5
Safety		
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
Safety		
Protection class	Class III	Class III
Degree of protection (EN 60529)	IP20	IP20
Approvals		
CE mark	Yes	-
UL/cUL (CSA) approval	cURus-Recognized (UL 1778, CSA C22.2 No. 107.1), File E219627; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
Marine approval	ABS, DNV GL	ABS, DNV GL
environmental conditions		
Operating data note	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		
service life of energy storage		
• typical note	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 y	15 y
• at 30 °C typical	2 y	10 y
• at 40 °C typical	1 y	9 y
• at 50 °C typical	0.5 y	2 y
ambient temperature during storage 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.	
Mechanics		
Connection technology	Plug-in terminals with screwed connection	Plug-in terminals with screwed connection
Connection for power supply unit	+, -: 2 plug-in terminals with 1 screwed connection each for 0.2 ... 10 mm ²	+, -: 2 plug-in terminals with 1 screwed connection each for 0.2 ... 10 mm ²
product component included	2x blade-type fuse 40 A, 58 V DC	2x blade-type fuse 40 A, 58 V DC
width of the enclosure	322 mm	322 mm
height of the enclosure	187 mm	187 mm
depth of the enclosure	110 mm	110 mm
installation width	322 mm	322 mm
Installation height	207 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		
• wall mounting	Yes	Yes
• standard rail mounting	No	No
• S7 rail mounting	No	No
Installation	Keyhole mounting for hooking in to M4 screws	Keyhole mounting for hooking in to M4 screws
Weight, approx.	13 kg	6.5 kg
number of batteries	4	4
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	

Advanced power supplies

SITOP PSU8200

Introduction

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

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

<http://www.siemens.com/tst>

Overview



The single-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 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

- Single-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

Ordering data

Article No.

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

Add-on modules

SITOP redundancy modules¹⁾

See page 9/3

SITOP selectivity modules²⁾

See page 9/6

SITOP buffer modules³⁾

See page 9/17

Accessories

Unit labeling plate

3RT2900-1SB20

1) For more information, visit: <https://www.siemens.com/sitop-redundancy/mall>

2) For more information, visit: <https://www.siemens.com/sitop-selectivity/mall>

3) For more information, visit: <https://www.siemens.com/sitop-buffering/mall>

Technical specifications

Article number	6EP3333-8SB00-0AY0	6EP3334-8SB00-0AY0	6EP1336-3BA10	6EP3337-8SB00-0AY0
Product	SITOP PSU8200	SITOP PSU8200	SITOP PSU8200	SITOP PSU8200
Power supply, type	24 V/5 A	24 V/10 A	24 V/20 A	24 V/40 A
Input				
Input	1-phase AC	1-phase AC	1-phase and 2-phase AC or DC	1-phase and 2-phase AC
Rated voltage value $V_{in rated}$	-	-	120 ... 230 V	-
Voltage range AC	-	-	85 ... 275 V	-
• Note	Automatic range selection	Automatic range selection	Derating of temperature necessary down to 50 °C at $V_{in} < 100$ V AC or DC	Automatic selection; startup starting from $U_e \geq 90/180$ V
supply voltage				
• 1 at AC rated value	120 V	120 V	-	120 V
• 2 at AC rated value	230 V	230 V	-	230 V
• at DC	-	-	110 ... 220 V	-
input voltage				
• 1 at AC	85 ... 132 V	85 ... 132 V	-	85 ... 132 V
• 2 at AC	170 ... 264 V	170 ... 264 V	-	170 ... 264 V
• at DC	-	-	88 ... 350 V	-
Wide-range input	No	No	Yes	No
Mains buffering	at $V_{in} = 120/230$ V	at $V_{in} = 120/230$ V	at $V_{in} = 230$ V	at $V_{in} = 230$ V
Mains buffering at $I_{out rated}$, min.	35 ms; at $V_{in} = 120/230$ V	35 ms; at $V_{in} = 120/230$ V	20 ms; at $V_{in} = 230$ V	25 ms; at $V_{in} = 230$ V
Rated line frequency 1	50 Hz	50 Hz	50 Hz	50 Hz
Rated line frequency 2	60 Hz	60 Hz	60 Hz	60 Hz
Rated line range	47 ... 63 Hz	47 ... 63 Hz	45 ... 65 Hz	45 ... 65 Hz

Advanced power supplies

SITOP PSU8200

1-phase, 24 V DC

Technical specifications (continued)

Article number	6EP3333-8SB00-0AY0	6EP3334-8SB00-0AY0	6EP1336-3BA10	6EP3337-8SB00-0AY0
Product	SITOP PSU8200	SITOP PSU8200	SITOP PSU8200	SITOP PSU8200
Power supply, type	24 V/5 A	24 V/10 A	24 V/20 A	24 V/40 A
input current				
• at rated input voltage 120 V	2.1 A	4 A	4.6 A	15 A
• at rated input voltage 230 V	1.2 A	1.9 A	2.5 A	9 A
Switch-on current limiting (+25 °C), max.	10 A	10 A	20 A	50 A
I^2t , max.	0.2 A ² ·s	0.3 A ² ·s	5 A ² ·s	8 A ² ·s
Built-in incoming fuse	T 3.15 A (not accessible)	T 6.3 A (not accessible)	Yes	Yes
Protection in the mains power input (IEC 898)	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)
Output				
Output	Controlled, isolated DC voltage	Controlled, isolated bDC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
Rated voltage V_{out} DC	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
Total tolerance, static ±	3 %	3 %	3 %	3 %
Static mains compensation, approx.	0.1 %	0.1 %	0.1 %	0.1 %
Static load balancing, approx.	0.2 %	0.3 %	0.3 %	0.1 %
Residual ripple peak-peak, max.	50 mV	50 mV	100 mV	100 mV
Residual ripple peak-peak, typ.	-	-	80 mV	50 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	200 mV	200 mV	200 mV	240 mV
Spikes peak-peak, typ. (bandwidth: 20 MHz)	-	-	100 mV	220 mV
Adjustment range	24 ... 28.8 V	24 ... 28.8 V	24 ... 28.8 V	24 ... 28 V
product function output voltage adjustable	Yes	Yes	Yes	Yes
Output voltage setting	via potentiometer; max. 120 W	via potentiometer; max. 240 W	via potentiometer	via potentiometer; max. 960 W
Status display	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
Signaling	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"			
On/off behavior	Overshoot of V_{out} approx. 3 %	Overshoot of V_{out} approx. 3 %	No overshoot of V_{out} (soft start)	Overshoot of V_{out} approx. 3 %
Startup delay, max.	1.5 s	1.5 s	1.5 s	1.5 s
Voltage rise, typ.	30 ms	70 ms	50 ms	30 ms
Rated current value I_{out} rated	5 A	10 A	20 A	40 A
Current range	0 ... 5 A	0 ... 10 A	0 ... 20 A	0 ... 40 A
• Note	As of $U_a > 24$ V: 4% [I_a]/V [U_a]; at $U_e < 100$ V/ <200 V: 80% I_a rated	+60 ... +70 °C: Derating 2%/K; as of $U_a > 24$ V: 4% [I_a]/V [U_a]; at $U_e < 100$ V/ <200 V: 80% I_a rated	+60 ... +70 °C: Derating 3%/K	+60 ... +70 °C: Derating 3%/K
supplied active power typical	120 W	240 W	480 W	960 W
short-term overload current				
• on short-circuiting during the start-up typical	-	-	-	120 A
• at short-circuit during operation typical	15 A	30 A	60 A	120 A
duration of overloading capability for excess current				
• on short-circuiting during the start-up	-	-	-	25 ms
• at short-circuit during operation	25 ms	25 ms	25 ms	25 ms

Technical specifications (continued)

Article number	6EP3333-8SB00-0AY0	6EP3334-8SB00-0AY0	6EP1336-3BA10	6EP3337-8SB00-0AY0
Product	SITOP PSU8200	SITOP PSU8200	SITOP PSU8200	SITOP PSU8200
Power supply, type	24 V/5 A	24 V/10 A	24 V/20 A	24 V/40 A
constant overload current				
• on short-circuiting during the start-up typical	6 A	12 A	30 A	60 A
Parallel switching for enhanced performance	Yes; switchable characteristic	Yes; switchable characteristic	Yes; switchable characteristic	Yes; switchable characteristic
Numbers of parallel switchable units for enhanced performance	2	2	2	2
Efficiency				
Efficiency at V_{out} rated, I_{out} rated, approx.	93 %	94 %	93 %	92 %
Power loss at V_{out} rated, I_{out} rated, approx.	9 W	18 W	42 W	82 W
power loss [W] during no-load operation maximum	1.5 W	1.5 W	-	6.8 W
Closed-loop control				
Dynamic mains compensation (V_{in} rated ± 15 %), max.	0.1 %	0.1 %	0.5 %	1 %
Dynamic load smoothing (I_{out} : 50/100/50 %), $U_{out} \pm$ typ.	2 %	4 %	1 %	1.9 %
Load step setting time 50 to 100%, typ.	0.25 ms	0.25 ms	1 ms	2 ms
Load step setting time 100 to 50%, typ.	0.5 ms	0.5 ms	1 ms	2 ms
Dynamic load smoothing (I_{out} : 10/90/10 %), $U_{out} \pm$ typ.	2 %	4 %	-	3.8 %
Load step setting time 10 to 90%, typ.	0.25 ms	0.25 ms	-	1 ms
Load step setting time 90 to 10%, typ.	0.5 ms	0.5 ms	-	1 ms
setting time maximum	1 ms	1 ms	5 ms	1 ms
Protection and monitoring				
Output overvoltage protection	< 33 V	< 33 V	< 33 V	< 32 V
Current limitation, typ.	6 A	12 A	21.5 A	41 A
property of the output short-circuit proof	Yes	Yes	Yes	Yes
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. 23 A or latching shutdown	Alternatively, constant current characteristic approx. 41 A or latching shutdown
enduring short circuit current RMS value				
• typical	6 A	12 A	23 A	41 A
overcurrent overload capability in normal operation	overload capability 150 % I_{out} rated up to 5 s/min	overload capability 150 % I_{out} rated up to 5 s/min	overload capability 150 % I_{out} rated up to 5 s/min	250% I_{out} rated up to 25 ms, 150% I_{out} rated up to 5 s/min
Overload/short-circuit indicator	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"
Safety				
Primary/secondary isolation	Yes	Yes	Yes	Yes
galvanic isolation	Safety extra-low output voltage U_{out} acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage U_{out} acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage U_{out} acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage U_{out} acc. to EN 60950-1 and EN 50178
Protection class	Class I	Class I	Class I	Class I
leakage current				
• maximum	3.5 mA	3.5 mA	3.5 mA	0.1 mA
• typical	1 mA	1 mA	1 mA	0.1 mA
Degree of protection (EN 60529)	IP20	IP20	IP20	IP20

Advanced power supplies

SITOP PSU8200

1-phase, 24 V DC

Technical specifications (continued)

Article number	6EP3333-8SB00-0AY0	6EP3334-8SB00-0AY0	6EP1336-3BA10	6EP3337-8SB00-0AY0
Product	SITOP PSU8200	SITOP PSU8200	SITOP PSU8200	SITOP PSU8200
Power supply, type	24 V/5 A	24 V/10 A	24 V/20 A	24 V/40 A
Approvals				
CE mark	Yes	Yes	Yes	Yes
UL/cUL (CSA) approval	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
certificate of suitability NEC Class 2	No	No	No	No
CB approval	Yes	Yes	Yes	Yes
certificate of suitability EAC approval	Yes	Yes	Yes	Yes
Marine approval	ABS, DNV GL	ABS, DNV GL	ABS, DNV GL	ABS, DNV GL
EMC				
Emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
Supply harmonics limitation	EN 61000-3-2	EN 61000-3-2	EN 61000-3-2	-
Noise immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
environmental conditions				
ambient temperature				
• during operation	-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C
- Note	With natural convection; startup tested starting from -40 °C nominal voltage	With natural convection; startup tested starting from -40 °C nominal voltage	With natural convection; startup tested starting from -40 °C nominal voltage	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
Humidity class according to EN 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
Mechanics				
Connection technology	screw-type terminals	screw-type terminals	screw-type terminals	screw-type terminals
Connections				
• Supply 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
• 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
• Auxiliary	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): 1 screw terminal each for 0.14 ... 1.5 mm²	13, 14 (alarm signal): 1 screw terminal each for 0.14 ... 1.5 mm²
width of the enclosure	45 mm	55 mm	90 mm	145 mm
height of the enclosure	125 mm	125 mm	125 mm	145 mm
depth of the enclosure	125 mm	125 mm	125 mm	150 mm
required spacing				
• top	50 mm	50 mm	50 mm	40 mm
• bottom	50 mm	50 mm	50 mm	40 mm
• left	0 mm	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm	0 mm
Weight, approx.	0.8 kg	1 kg	1.2 kg	3.1 kg
product feature of the enclosure housing can be lined up	Yes	Yes	Yes	Yes
Installation	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
electrical accessories	Buffer module	Buffer module	Buffer module	Buffer module, redundancy module
mechanical accessories	Device identification label 20 mm x 7 mm, TI-grey 3RT2900-1SB20	Device identification label 20 mm x 7 mm, TI-grey 3RT2900-1SB20	Device identification label 20 mm x 7 mm, TI-grey 3RT2900-1SB20	Device identification label 20 mm x 7 mm, TI-grey 3RT2900-1SB20
MTBF at 40 °C	1 421 519 h	1 292 102 h	667 048 h	838 156 h
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)			

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

Ordering data

Article No.

SITOP PSU200M 1- and 2-phase, 24 V DC/5 A

6EP1333-3BA10

Stabilized power supply
Input:
120 ... 230/230 ... 500 V AC
Output: 24 V DC/5 A

SITOP PSU200M 1- and 2-phase, 24 V DC/5 A

6EP1333-3BA10-8AC0

Stabilized power supply
Input:
120 ... 230/230 ... 500 V AC
Output: 24 V DC/5 A
Version with protective coating

SITOP PSU200M 1- and 2-phase, 24 V DC/10 A

6EP1333-3BA10

Stabilized power supply
Input:
120 ... 230 V/230 ... 500 V AC
Output: 24 V DC/10 A

SITOP PSU200M 1- and 2-phase, 24 V DC/10 A

6EP1333-3BA10-8AB0

Stabilized power supply
Input:
120 ... 230/230 ... 500 V AC
Output: 24 V DC/10 A
version with protective coating

Add-on modules

SITOP redundancy modules¹⁾

See page 9/3

SITOP selectivity modules²⁾

See page 9/6

SITOP buffer modules³⁾

See page 9/17

Accessories

Device identification label

3RT2900-1SB20

¹⁾ For more information, visit: <https://www.siemens.com/sitop-redundancy/mall>

²⁾ For more information, visit: <https://www.siemens.com/sitop-selectivity/mall>

³⁾ For more information, visit: <https://www.siemens.com/sitop-buffering/mall>

Technical specifications

Article number	6EP1333-3BA10	6EP1333-3BA10-8AC0	6EP1333-3BA10	6EP1333-3BA10-8AB0
Product	SITOP PSU200M	SITOP PSU200M	SITOP PSU200M	SITOP PSU200M
Power supply, type	24 V/5 A	24 V/5 A	24 V/10 A	24 V/10 A
Input				
Input	1-phase and 2-phase AC	1-phase and 2-phase AC	1-phase and 2-phase AC	1-phase and 2-phase AC
• Note	Set by means of selector switch on the device; starting from $V_{in} > 90/180$ V	Set by means of selector switch on the device; starting from $V_{in} > 90/180$ 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
• 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
• 2 at AC	176 ... 550 V	176 ... 550 V	176 ... 550 V	176 ... 550 V
Wide-range input	Yes	Yes	Yes	Yes
Overvoltage resistance	1300 V_{peak} , 1.3 ms	1300 V_{peak} , 1.3 ms	1300 V_{peak} , 1.3 ms	1300 V_{peak} , 1.3 ms
Mains buffering	at $V_{in} = 120/230$ V, typ. 150 ms at $V_{in} = 400$ V	at $V_{in} = 120/230$ V, typ. 150 ms at $V_{in} = 400$ V	at $V_{in} = 120/230$ V, typ. 150 ms at $V_{in} = 400$ V	at $V_{in} = 120/230$ V, typ. 150 ms at $V_{in} = 400$ V
Mains buffering at $I_{out rated}$, min.	25 ms; at $V_{in} = 120/230$ V, typ. 150 ms at $V_{in} = 400$ V	25 ms; at $V_{in} = 120/230$ V, typ. 150 ms at $V_{in} = 400$ V	25 ms; at $V_{in} = 120/230$ V, typ. 150 ms at $V_{in} = 400$ V	25 ms; at $V_{in} = 120/230$ V, typ. 150 ms at $V_{in} = 400$ V
Rated line frequency 1	50 Hz	50 Hz	50 Hz	50 Hz
Rated line frequency 2	60 Hz	60 Hz	60 Hz	60 Hz
Rated line range	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz

Advanced power supplies

SITOP PSU8200

1- and 2-phase, 24 V DC

Technical specifications (continued)

Article number	6EP1333-3BA10	6EP1333-3BA10-8AC0	6EP1334-3BA10	6EP1334-3BA10-8AB0
Product	SITOP PSU200M	SITOP PSU200M	SITOP PSU200M	SITOP PSU200M
Power supply, type	24 V/5 A	24 V/5 A	24 V/10 A	24 V/10 A
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
Switch-on current limiting (+25 °C), max.	35 A	35 A	35 A	35 A
I ² t, max.	1.7 A²·s	1.7 A²·s	4 A²·s	4 A²·s
Built-in incoming fuse	T 3.15 A (not accessible)	T 3.15 A (not accessible)	T 6.3 A (not accessible)	T 6.3 A (not accessible)
Protection in the mains power input (IEC 898)	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				
Output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
Rated voltage V_{out} DC	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
Total tolerance, static ±	3 %	3 %	3 %	3 %
Static mains compensation, approx.	0.1 %	0.1 %	0.1 %	0.1 %
Static load balancing, approx.	0.1 %	0.1 %	0.1 %	0.1 %
Residual ripple peak-peak, max.	50 mV	50 mV	50 mV	50 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	200 mV	200 mV	200 mV	200 mV
Adjustment range	24 ... 28.8 V	24 ... 28.8 V	24 ... 28.8 V	24 ... 28.8 V
product function output voltage adjustable	Yes	Yes	Yes	Yes
Output voltage setting	via potentiometer	via potentiometer	via potentiometer	via potentiometer
Status display	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK
Signaling	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"
On/off behavior	Overshoot of V_{out} approx. 3 %	Overshoot of V_{out} approx. 3 %	Overshoot of V_{out} approx. 3 %	Overshoot of V_{out} approx. 3 %
Startup delay, max.	1 s	1 s	1 s	1 s
Voltage rise, typ.	50 ms	50 ms	50 ms	50 ms
Rated current value I_{out} rated	5 A	5 A	10 A	10 A
Current range	0 ... 5 A	0 ... 5 A	0 ... 10 A	0 ... 10 A
• Note	-	-	+60 ... +70 °C: Derating 2%/K (at 120 V, 230 V) or 3.5%/K (at 400 V)	+60 ... +70 °C: Derating 2%/K (at 120 V, 230 V) or 3.5%/K (at 400 V)
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
Parallel switching for enhanced performance	Yes; switchable characteristic	Yes; switchable characteristic	Yes; switchable characteristic	Yes; switchable characteristic
Numbers of parallel switchable units for enhanced performance	2	2	2	2

Technical specifications (continued)

Article number	6EP1333-3BA10	6EP1333-3BA10-8AC0	6EP1334-3BA10	6EP1334-3BA10-8AB0
Product	SITOP PSU200M	SITOP PSU200M	SITOP PSU200M	SITOP PSU200M
Power supply, type	24 V/5 A	24 V/5 A	24 V/10 A	24 V/10 A
Efficiency				
Efficiency at V_{out} rated, I_{out} rated, approx.	88 %	88 %	91 %	91 %
Power loss at V_{out} rated, I_{out} rated, approx.	17 W	17 W	24 W	24 W
power loss [W] during no-load operation maximum	4 W	4 W	6 W	6 W
Closed-loop control				
Dynamic mains compensation (V_{in} rated ± 15 %), max.	0.1 %	0.1 %	0.1 %	0.1 %
Dynamic load smoothing (I_{out} : 50/100/50 %), $U_{out} \pm$ typ.	3 %	3 %	3 %	3 %
Load step setting time 50 to 100%, typ.	2 ms	2 ms	2 ms	2 ms
Load step setting time 100 to 50%, typ.	2 ms	2 ms	2 ms	2 ms
setting time maximum	5 ms	5 ms	5 ms	5 ms
Protection and monitoring				
Output overvoltage protection	< 35 V	< 35 V	< 35 V	< 35 V
Current limitation, typ.	6 A	6 A	12 A	12 A
property of the output short-circuit proof	Yes	Yes	Yes	Yes
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
enduring short circuit current RMS value				
• typical	6 A	6 A	12 A	12 A
Overload/short-circuit indicator	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				
Primary/secondary isolation	Yes	Yes	Yes	Yes
galvanic isolation	Safety extra-low output voltage U_{out} acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage U_{out} acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage U_{out} acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage U_{out} acc. to EN 60950-1 and EN 50178
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
Degree of protection (EN 60529)	IP20	IP20	IP20	IP20
Approvals				
CE mark	Yes	Yes	Yes	Yes
UL/cUL (CSA) approval	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259, cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259, cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
certificate of suitability NEC Class 2	No	No	No	No
CB approval	Yes	No	Yes	No
certificate of suitability EAC approval	Yes	Yes	Yes	Yes
Marine approval	ABS, DNV GL	ABS, DNV GL	ABS, DNV GL	ABS, DNV GL
EMC				
Emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
Supply harmonics limitation	EN 61000-3-2	EN 61000-3-2	EN 61000-3-2	EN 61000-3-2
Noise immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2

Advanced power supplies

SITOP PSU8200

1- and 2-phase, 24 V DC

Technical specifications (continued)

Article number	6EP1333-3BA10	6EP1333-3BA10-8AC0	6EP1334-3BA10	6EP1334-3BA10-8AB0
Product	SITOP PSU200M	SITOP PSU200M	SITOP PSU200M	SITOP PSU200M
Power supply, type	24 V/5 A	24 V/5 A	24 V/10 A	24 V/10 A
environmental conditions				
ambient temperature	-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C
• during operation	With natural convection; startup tested starting from -40 °C nominal voltage	with natural convection	With natural convection; startup tested starting from -40 °C nominal voltage	with natural convection
- Note				
• 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
Humidity class according to EN 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
Mechanics				
Connection technology	screw-type terminals	screw-type terminals	screw-type terminals	screw-type terminals
Connections				
• Supply input	L, N, PE: 1 screw terminal each for 0.2 ... 2.5 mm ² single-core/finely stranded	L, N, PE: 1 screw terminal each for 0.2 ... 2.5 mm ² single-core/finely stranded	L, N, PE: 1 screw terminal each for 0.2 ... 2.5 mm ² single-core/finely stranded	L, N, PE: 1 screw terminal each for 0.2 ... 2.5 mm ² single-core/finely stranded
• Output	+, -: 2 screw terminals each for 0.2 ... 2.5 mm ²	+, -: 2 screw terminals each for 0.2 ... 2.5 mm ²	+, -: 2 screw terminals each for 0.2 ... 2.5 mm ²	+, -: 2 screw terminals each for 0.2 ... 2.5 mm ²
• Auxiliary	13, 14 (alarm signal): 1 screw terminal each for 0.14 ... 1.5 mm ²	13, 14 (alarm signal): 1 screw terminal each for 0.14 ... 1.5 mm ²	13, 14 (alarm signal): 1 screw terminal each for 0.14 ... 1.5 mm ²	13, 14 (alarm signal): 1 screw terminal each for 0.14 ... 1.5 mm ²
width of the enclosure	70 mm	70 mm	70 mm	70 mm
height of the enclosure	125 mm	125 mm	125 mm	125 mm
depth of the enclosure	121 mm	121 mm	121 mm	121 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
Weight, approx.	0.6 kg	0.6 kg	0.8 kg	0.8 kg
product feature of the enclosure housing can be lined up	Yes	Yes	Yes	Yes
Installation	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
electrical accessories	Buffer module	Buffer module	Buffer module	Buffer module
MTBF at 40 °C	1 123 973 h	1 123 973 h	1 055 408 h	1 055 408 h
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)			

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

Ordering data

Article No.

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

Add-on modules

SITOP redundancy modules¹⁾

See page 9/3

SITOP selectivity modules²⁾

See page 9/6

SITOP buffer modules³⁾

See page 9/17

Accessories

Device identification label

3RT2900-1SB20

¹⁾ For more information, visit: <https://www.siemens.com/sitop-redundancy/mall>

²⁾ For more information, visit: <https://www.siemens.com/sitop-selectivity/mall>

³⁾ For more information, visit: <https://www.siemens.com/sitop-buffering/mall>

Advanced power supplies

SITOP PSU8200

3-phase, 24 V DC

Technical specifications

Article number	6EP3436-8SB00-0AY0	6EP3437-8SB00-0AY0
Product	SITOP PSU8200	SITOP PSU8200
Power supply, type	24 V/20 A	24 V/40 A
Input		
Input	3-phase AC	3-phase AC
Rated voltage value $V_{in rated}$	400 ... 500 V	400 ... 500 V
Voltage range AC	320 ... 575 V	320 ... 575 V
Wide-range input	Yes	Yes
Mains buffering	at $V_{in} = 400 V$	at $V_{in} = 400 V$
Mains buffering at $I_{out rated}$, min.	15 ms; at $V_{in} = 400 V$	10 ms; at $V_{in} = 400 V$
Rated line frequency 1	50 Hz	50 Hz
Rated line frequency 2	60 Hz	60 Hz
Rated line range	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
Switch-on current limiting (+25 °C), max.	16 A	13 A
I^2t , max.	0.8 A²·s	2.24 A²·s
Built-in incoming fuse	none	none
Protection in the mains power input (IEC 898)	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		
Output	Controlled, isolated DC voltage	Controlled, isolated DC voltage
Rated voltage $V_{out DC}$	24 V	24 V
• output voltage at output 1 at DC rated value	24 V	24 V
Total tolerance, static ±	3 %	3 %
Static mains compensation, approx.	0.1 %	0.1 %
Static load balancing, approx.	0.2 %	0.2 %
Residual ripple peak-peak, max.	100 mV	100 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	200 mV	240 mV
Adjustment range	24 ... 28 V	24 ... 28 V
product function output voltage adjustable	Yes	Yes
Output voltage setting	via potentiometer; max. 480 W	via potentiometer; max. 960 W
Status display	Green LED for 24 V OK	Green LED for 24 V OK
Signaling	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"
On/off behavior	No overshoot of V_{out} (soft start)	minimal overshooting (< 2 %)
Startup delay, max.	2.5 s	0.1 s
voltage increase time of the output voltage maximum	500 ms	100 ms
Rated current value $I_{out rated}$	20 A	40 A
Current range	0 ... 20 A	0 ... 40 A
• Note	+60 ... +70 °C: Derating 2%/K	+60 ... +70 °C: Derating 4%/K
supplied active power typical	480 W	960 W
short-term overload current		
• 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
Parallel switching for enhanced performance	Yes; switchable characteristic	Yes; switchable characteristic
Numbers of parallel switchable units for enhanced performance	2	2

Technical specifications (continued)

Article number	6EP3436-8SB00-0AY0	6EP3437-8SB00-0AY0
Product	SITOP PSU8200	SITOP PSU8200
Power supply, type	24 V/20 A	24 V/40 A
Efficiency		
Efficiency at V_{out} rated, I_{out} rated, approx.	94 %	94 %
Power loss at V_{out} rated, I_{out} rated, approx.	31 W	66 W
power loss [W] during no-load operation maximum	-	4 W
Closed-loop control		
Dynamic mains compensation (V_{in} rated ± 15 %), max.	0.1 %	1 %
Dynamic load smoothing (I_{out} : 50/100/50 %), $U_{out} \pm$ typ.	1 %	3 %
Load step setting time 50 to 100%, typ.	0.2 ms	-
Load step setting time 100 to 50%, typ.	0.2 ms	-
Dynamic load smoothing (I_{out} : 10/90/10 %), $U_{out} \pm$ typ.	2 %	-
Load step setting time 10 to 90%, typ.	0.2 ms	-
Load step setting time 90 to 10%, typ.	0.2 ms	-
setting time maximum	10 ms	10 ms
Protection and monitoring		
Output overvoltage protection	< 32 V	< 31.8 V
Current limitation, typ.	22 A	44 A
property of the output short-circuit proof	Yes	Yes
Short-circuit protection	Alternatively, constant current characteristic approx. 22 A or latching shutdown	Alternatively, constant current characteristic approx. 44 A or latching shutdown
enduring short circuit current RMS value		
• typical	22 A	50 A
overcurrent overload capability in normal operation	overload capability 150 % I_{out} rated up to 5 s/min	overload capability 150 % I_{out} rated up to 5 s/min
Overload/short-circuit indicator	LED yellow for "overload", LED red for "latching shutdown"	LED yellow for "overload", LED red for "latching shutdown"
Safety		
Primary/secondary isolation	Yes	Yes
galvanic isolation	Safety extra low output voltage V_{out} according to EN 60950-1	Safety extra-low output voltage U_{out} acc. to EN 60950-1 and EN 50178
Protection class	Class I	Class I
leakage current		
• maximum	3.5 mA	1 mA
• typical	0.9 mA	0.6 mA
Degree of protection (EN 60529)	IP20	IP20
Approvals		
CE mark	Yes	Yes
UL/cUL (CSA) approval	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
certificate of suitability NEC Class 2	No	No
CB approval	Yes	Yes
certificate of suitability EAC approval	Yes	Yes
Marine approval	ABS, DNV GL	ABS, DNV GL
EMC		
Emitted interference	EN 55022 Class B	EN 55022 Class B
Supply harmonics limitation	EN 61000-3-2	EN 61000-3-2
Noise immunity	EN 61000-6-2	EN 61000-6-2

Advanced power supplies

SITOP PSU8200

3-phase, 24 V DC

Technical specifications (continued)

Article number	6EP3436-8SB00-0AY0	6EP3437-8SB00-0AY0
Product	SITOP PSU8200	SITOP PSU8200
Power supply, type	24 V/20 A	24 V/40 A
environmental conditions		
ambient temperature		
• during operation	-25 ... +70 °C	-25 ... +70 °C
- Note	With natural convection; startup tested starting from -40 °C nominal voltage	With natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C
Humidity class according to EN 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
Mechanics		
Connection technology	screw-type terminals	screw-type terminals
Connections		
• Supply 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
• 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
• Auxiliary	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
width of the enclosure	70 mm	135 mm
height of the enclosure	125 mm	145 mm
depth of the enclosure	125 mm	150 mm
required spacing		
• top	50 mm	40 mm
• bottom	50 mm	40 mm
• left	0 mm	0 mm
• right	0 mm	0 mm
Weight, approx.	1.2 kg	3.3 kg
product feature of the enclosure housing can be lined up	Yes	Yes
Installation	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x15
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
MTBF at 40 °C	590 573 h	517 015 h
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	

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

Ordering data**Article No.****SITOP PSU8200 3-phase,
36 V DC/13 A****6EP3446-8SB10-0AY0**

Stabilized power supply
Input: 400 ... 500 V 3 AC
Output: 36 V DC/13 A

Add-on modules**SITOP redundancy modules
RED1200¹⁾**

See page 9/3

Accessories**Unit labeling plate****3RT2900-1SB20**

¹⁾ For more information, visit: <https://www.siemens.com/sitop-redundancy/mall>

Technical specifications

Article number	6EP3446-8SB10-0AY0
Product	SITOP PSU8200
Power supply, type	36 V/13 A
Input	
Input	3-phase AC
Rated voltage value $V_{in \text{ rated}}$	400 ... 500 V
Voltage range AC	320 ... 575 V
Wide-range input	Yes
Mains buffering	at $V_{in} = 400 \text{ V}$
Mains buffering at $I_{out \text{ rated}}$, min.	15 ms; at $V_{in} = 400 \text{ V}$
Rated line frequency 1	50 Hz
Rated line frequency 2	60 Hz
Rated line range	47 ... 63 Hz
input current	
• at rated input voltage 400 V	1.2 A
• at rated input voltage 500 V	1 A
Switch-on current limiting (+25 °C), max.	16 A
I^2t , max.	0.8 A ² ·s
Built-in incoming fuse	none
Protection in the mains power input (IEC 898)	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	
Output	Controlled, isolated DC voltage
Rated voltage $V_{out \text{ DC}}$	36 V
• output voltage at output 1 at DC rated value	36 V
Total tolerance, static ±	3 %
Static mains compensation, approx.	0.1 %
Static load balancing, approx.	0.2 %
Residual ripple peak-peak, max.	100 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	200 mV
Adjustment range	36 ... 42 V
product function output voltage adjustable	Yes
Output voltage setting	via potentiometer; max. 480 W
Status display	Green LED for 36 V OK
Signaling	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for 36 V OK
On/off behavior	No overshoot of V_{out} (soft start)
Startup delay, max.	2.5 s
voltage increase time of the output voltage maximum	500 ms
Rated current value $I_{out \text{ rated}}$	13 A
Current range	0 ... 13 A
• Note	+60 ... +70 °C: Derating 2%/K
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
Parallel switching for enhanced performance	Yes; switchable characteristic

Advanced power supplies

SITOP PSU8200

3-phase, 36 V DC

Technical specifications (continued)

Article number	6EP3446-8SB10-0AY0
Product	SITOP PSU8200
Power supply, type	36 V/13 A
Numbers of parallel switchable units for enhanced performance	2
Efficiency	
Efficiency at V_{out} rated, I_{out} rated, approx.	94 %
Power loss at V_{out} rated, I_{out} rated, approx.	30 W
Closed-loop control	
Dynamic mains compensation (V_{in} rated ± 15 %), max.	0.1 %
Dynamic load smoothing (I_{out} : 50/100/50 %), $U_{out} \pm$ typ.	1 %
Load step setting time 50 to 100%, typ.	0.2 ms
Load step setting time 100 to 50%, typ.	0.2 ms
Dynamic load smoothing (I_{out} : 10/90/10 %), $U_{out} \pm$ typ.	2 %
Load step setting time 10 to 90%, typ.	0.2 ms
Load step setting time 90 to 10%, typ.	0.2 ms
setting time maximum	10 ms
Protection and monitoring	
Output overvoltage protection	< 48 V
Current limitation, typ.	14 A
property of the output short-circuit proof	Yes
Short-circuit protection	Alternatively, constant current characteristic approx. 14 A or latching shutdown
enduring short circuit current RMS value	
• typical	14 A
overcurrent overload capability in normal operation	overload capability 150 % I_{out} rated up to 5 s/min
Overload/short-circuit indicator	LED yellow for "overload", LED red for "latching shutdown"
Safety	
Primary/secondary isolation	Yes
galvanic isolation	Safety extra low output voltage V_{out} according to EN 60950-1
Protection class	Class I
leakage current	
• maximum	3.5 mA
• typical	0.9 mA
Degree of protection (EN 60529)	IP20
Approvals	
CE mark	Yes
UL/cUL (CSA) approval	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
certificate of suitability NEC Class 2	No
CB approval	Yes
certificate of suitability EAC approval	Yes
Marine approval	DNV GL

Article number	6EP3446-8SB10-0AY0
Product	SITOP PSU8200
Power supply, type	36 V/13 A
EMC	
Emitted interference	EN 55022 Class B
Supply harmonics limitation	EN 61000-3-2
Noise immunity	EN 61000-6-2
environmental conditions	
ambient temperature	
• during operation	-25 ... +70 °C
- Note	with natural convection
• during transport	-40 ... +85 °C
• during storage	-40 ... +85 °C
Humidity class according to EN 60721	Climate class 3K3, 5 ... 95% no condensation
Mechanics	
Connection technology	screw-type terminals
Connections	
• Supply input	L1, L2, L3, PE: 1 screw terminal each for 0.2 ... 4 mm ² single-core/finely stranded
• Output	+, -: 2 screw terminals each for 0.2 ... 4 mm ²
• Auxiliary	13, 14 (alarm signal): 1 screw terminal each for 0.14 ... 1.5 mm ² ; 15, 16 (Remote): 1 screw terminal each for 0.14 ... 1.5 mm ²
width of the enclosure	70 mm
height of the enclosure	125 mm
depth of the enclosure	125 mm
required spacing	
• top	50 mm
• bottom	50 mm
• left	0 mm
• right	0 mm
Weight, approx.	1.2 kg
product feature of the enclosure housing can be lined up	Yes
Installation	Snap onto DIN rail EN 60715 35x7.5/15
mechanical accessories	Device identification label 20 mm x 7 mm, TI-grey 3RT2900-1SB20
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)

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

Ordering data	Article No.
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
Add-on modules	
SITOP RED1200 redundancy modules¹⁾	See page 9/3
Accessories	
Device identification label	3RT2900-1SB20

¹⁾ For more information, visit: <https://www.siemens.com/sitop-redundancy/mall>

Advanced power supplies

SITOP PSU8200

3-phase, 48 V DC

Technical specifications

Article number	6EP3446-8SB00-0AY0	6EP3447-8SB00-0AY0
Product	SITOP PSU8200	SITOP PSU8200
Power supply, type	48 V/10 A	48 V/20 A
Input		
Input	3-phase AC	3-phase AC
Rated voltage value $V_{in rated}$	400 ... 500 V	400 ... 500 V
Voltage range AC	320 ... 575 V	320 ... 575 V
Wide-range input	Yes	Yes
Mains buffering	at $V_{in} = 400$ V	at $V_{in} = 400$ V
Mains buffering at $I_{out rated}$, min.	15 ms; at $V_{in} = 400$ V	10 ms; at $V_{in} = 400$ V
Rated line frequency 1	50 Hz	50 Hz
Rated line frequency 2	60 Hz	60 Hz
Rated line range	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
Switch-on current limiting (+25 °C), max.	16 A	13 A
I^2t , max.	0.8 A²·s	2.24 A²·s
Built-in incoming fuse	none	-
Protection in the mains power input (IEC 898)	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		
Output	Controlled, isolated DC voltage	Controlled, isolated DC voltage
Rated voltage $V_{out DC}$	48 V	48 V
• output voltage at output 1 at DC rated value	48 V	48 V
Total tolerance, static ±	3 %	3 %
Static mains compensation, approx.	0.1 %	0.1 %
Static load balancing, approx.	0.2 %	0.2 %
Residual ripple peak-peak, max.	100 mV	100 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	200 mV	480 mV
Adjustment range	42 ... 56 V	46 ... 56 V
product function output voltage adjustable	Yes	Yes
Output voltage setting	via potentiometer; max. 480 W	via potentiometer; max. 960 W
Status display	Green LED for 48 V OK	Green LED for 48 V OK
Signaling	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
On/off behavior	No overshoot of V_{out} (soft start)	minimal overshoot (< 3 %)
Startup delay, max.	2.5 s	0.1 s
voltage increase time of the output voltage maximum	500 ms	100 ms
Rated current value $I_{out rated}$	10 A	20 A
Current range	0 ... 10 A	0 ... 20 A
• Note	+60 ... +70 °C: Derating 2%/K	+60 ... +70 °C: Derating 4%/K
supplied active power typical	480 W	960 W
short-term overload current		
• 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
Parallel switching for enhanced performance	Yes; switchable characteristic	Yes; switchable characteristic
Numbers of parallel switchable units for enhanced performance	2	2

Technical specifications (continued)

Article number	6EP3446-8SB00-0AY0	6EP3447-8SB00-0AY0
Product	SITOP PSU8200	SITOP PSU8200
Power supply, type	48 V/10 A	48 V/20 A
Efficiency		
Efficiency at V_{out} rated, I_{out} rated, approx.	94 %	94 %
Power loss at V_{out} rated, I_{out} rated, approx.	31 W	58 W
power loss [W] during no-load operation maximum	-	4 W
Closed-loop control		
Dynamic mains compensation (V_{in} rated ± 15 %), max.	0.1 %	1 %
Dynamic load smoothing (I_{out} : 50/100/50 %), $U_{out} \pm$ typ.	1 %	3 %
Load step setting time 50 to 100%, typ.	0.2 ms	-
Load step setting time 100 to 50%, typ.	0.2 ms	-
Dynamic load smoothing (I_{out} : 10/90/10 %), $U_{out} \pm$ typ.	2 %	-
Load step setting time 10 to 90%, typ.	0.2 ms	-
Load step setting time 90 to 10%, typ.	0.2 ms	-
setting time maximum	10 ms	10 ms
Protection and monitoring		
Output overvoltage protection	< 60 V	< 57.8 V
Current limitation, typ.	11 A	22 A
property of the output short-circuit proof	Yes	Yes
Short-circuit protection	Alternatively, constant current characteristic approx. 11 A or latching shutdown	Alternatively, constant current characteristic approx. 22 A or latching shutdown
enduring short circuit current RMS value		
• typical	11 A	26 A
overcurrent overload capability in normal operation	overload capability 150 % I_{out} rated up to 5 s/min	overload capability 150 % I_{out} rated up to 5 s/min
Overload/short-circuit indicator	LED yellow for "overload", LED red for "latching shutdown"	LED yellow for "overload", LED red for "latching shutdown"
Safety		
Primary/secondary isolation	Yes	Yes
galvanic isolation	Safety extra low output voltage V_{out} according to EN 60950-1	Safety extra-low output voltage U_{out} acc. to EN 60950-1 and EN 50178
Protection class	Class I	Class I
leakage current		
• maximum	3.5 mA	1 mA
• typical	0.9 mA	0.6 mA
Degree of protection (EN 60529)	IP20	IP20
Approvals		
CE mark	Yes	Yes
UL/cUL (CSA) approval	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
certificate of suitability NEC Class 2	No	No
CB approval	Yes	Yes
certificate of suitability EAC approval	Yes	Yes
Marine approval	ABS, DNV GL	DNV GL
EMC		
Emitted interference	EN 55022 Class B	EN 55022 Class B
Supply harmonics limitation	EN 61000-3-2	EN 61000-3-2
Noise immunity	EN 61000-6-2	EN 61000-6-2

Advanced power supplies

SITOP PSU8200

3-phase, 48 V DC

Technical specifications (continued)

Article number	6EP3446-8SB00-0AY0	6EP3447-8SB00-0AY0
Product	SITOP PSU8200	SITOP PSU8200
Power supply, type	48 V/10 A	48 V/20 A
environmental conditions		
ambient temperature		
• during operation	-25 ... +70 °C	-25 ... +70 °C
- Note	with natural convection	With natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C
Humidity class according to EN 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
Mechanics		
Connection technology	screw-type terminals	screw-type terminals
Connections		
• Supply 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
• 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
• Auxiliary	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
width of the enclosure	70 mm	135 mm
height of the enclosure	125 mm	145 mm
depth of the enclosure	125 mm	150 mm
required spacing		
• top	50 mm	40 mm
• bottom	50 mm	40 mm
• left	0 mm	0 mm
• right	0 mm	0 mm
Weight, approx.	1.2 kg	3.3 kg
product feature of the enclosure housing can be lined up	Yes	Yes
Installation	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x15
mechanical accessories	Device identification label 20 mm × 7 mm, TI-grey 3RT2900-1SB20	Device identification label 20 mm × 7 mm, TI-grey 3RT2900-1SB20
MTBF at 40 °C	-	520 782 h
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	

Standard power supplies



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3/3	Introduction
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3/18	1-phase, 48 V DC
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3/25	3-phase, 48 V DC
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Standard power supplies

Introduction

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.

Overview



SITOP PSU6200 family

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 monitor¹⁾
 - LED display for DC OK, utilization (<30%, >30%, >60%, >90%) and remaining life time
- Diagnostics interface¹⁾
 - 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 characteristic¹⁾
 - 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 operation 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
- 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 terminal¹⁾ (grounding) for wiring according to PELV (Protected Extra Low Voltage)
- High overload capability²⁾
 - 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

Standard power supplies

SITOP PSU6200

1-phase, 12 V DC

Overview



SITOP PSU6200 family 12 V

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

Ordering data

Article No.

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

Add-on modules

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

Accessories

SIMATIC ET 200SP labels

160 equipment labeling plates,
10 sheets (160 plates)

6ES7193-6LF30-0AW0

Technical specifications

Article number	6EP3321-7SB00-0AX0	6EP3323-7SB00-0AX0	6EP3324-7SB00-3AX0
Product	SITOP PSU6200	SITOP PSU6200	SITOP PSU6200
Power supply, type	12 V/2 A	12 V/7 A	12 V/12 A
Input			
Input	1-phase AC or DC	1-phase AC or DC	1-phase AC or DC
Rated voltage value $V_{in rated}$	120 ... 240 V	120 ... 230 V	120 ... 230 V
Voltage range AC supply voltage	85 ... 264 V	85 ... 264 V	85 ... 264 V
• at DC input voltage	120 ... 240 V	120 ... 240 V	110 ... 240 V
• at DC Wide-range input	110 ... 275 V	99 ... 275 V	85 ... 275 V
Overvoltage resistance	Yes	Yes	Yes
Mains buffering	300 V AC for 30 s at $V_{in} = 230 V$	300 V AC for 30 s at $V_{in} = 230 V$	300 V AC for 30 s at $V_{in} = 230 V$
Mains buffering at $I_{out rated}$, min.	150 ms; at $V_{in} = 230 V$	90 ms; at $V_{in} = 230 V$	70 ms; at $V_{in} = 230 V$
Rated line frequency 1	50 Hz	50 Hz	50 Hz
Rated line frequency 2	60 Hz	60 Hz	60 Hz
Rated line range	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 230 V	0.25 A	0.8 A	0.8 A
Switch-on current limiting (+25 °C), max.	32 A	29 A	6 A
Built-in incoming fuse	3.15 A	5 A	5 A
Protection in the mains power input (IEC 898)	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			
Output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
number of outputs	1	1	1
Rated voltage $V_{out DC}$	12 V	12 V	12 V
• output voltage at output 1 at DC rated value	12 V	12 V	12 V
Total tolerance, static ±	3 %	3 %	3 %
Static mains compensation, approx.	0.3 %	0.1 %	0.1 %
Static load balancing, approx.	0.3 %	0.2 %	0.1 %
Residual ripple peak-peak, max.	30 mV	30 mV	30 mV
Residual ripple peak-peak, typ.	20 mV	20 mV	20 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	20 mV	100 mV	30 mV
Spikes peak-peak, typ. (bandwidth: 20 MHz)	10 mV	60 mV	20 mV
Adjustment range	10.5 ... 12.9 V	12 ... 15.5 V	12 ... 15.5 V
product function output voltage adjustable	Yes	Yes	Yes
Output voltage setting	via potentiometer; max. 24 W	via potentiometer; max. 84 W (100 W up to 45°C)	via potentiometer; max. 144 W (173 W up to 45°C)
Status display	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK
Signaling	-	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
On/off behavior	Overshoot of V_{out} approx. 3 %	Overshoot of $V_{out} < 2 %$	Overshoot of $V_{out} < 2 %$
Startup delay, max.	1 s	0.5 s	0.5 s
Voltage rise, typ.	50 ms	100 ms	100 ms
Rated current value $I_{out rated}$	2 A	7 A	12 A
Current range	0 ... 2 A	0 ... 7 A	0 ... 12 A
• Note	-	8.4 A up to +45°C; +60 ... +70 °C: Derating 3%/K	14.4 A up to +45°C; +60 ... +70 °C: Derating 3%/K

Standard power supplies

SITOP PSU6200

1-phase, 12 V DC

Technical specifications (continued)

Article number	6EP3321-7SB00-0AX0	6EP3323-7SB00-0AX0	6EP3324-7SB00-3AX0
Product	SITOP PSU6200	SITOP PSU6200	SITOP PSU6200
Power supply, type	12 V/2 A	12 V/7 A	12 V/12 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 for enhanced performance	No	No	Yes; switchable characteristic
Numbers of parallel switchable units for enhanced performance	-	-	2
Efficiency			
Efficiency at $V_{out rated}$, $I_{out rated}$, approx.	83.3 %	87.1 %	89.3 %
Power loss at $V_{out rated}$, $I_{out rated}$, approx.	5 W	13 W	17 W
power loss [W] during no-load operation maximum	0.8 W	1.8 W	3 W
Closed-loop control			
Dynamic load smoothing (I_{out} : 10/90/10 %), $U_{out} \pm$ typ.	4 %	3 %	3 %
Load step setting time 10 to 90%, typ.	2 ms	1 ms	2 ms
Load step setting time 90 to 10%, typ.	2 ms	1 ms	2 ms
setting time maximum	3 ms	2 ms	3 ms
Protection and monitoring			
Output overvoltage protection	< 20 V	< 20 V	< 20 V
Current limitation, typ.	2.8 A	8.4 A	14.4 A
property of the output short-circuit proof	Yes	Yes	Yes
Short-circuit protection	Shutdown and periodic restart attempts	Shutdown and periodic restart attempts	Shutdown and periodic restart attempts
overcurrent overload capability in normal operation	-	overload capability 150 % $I_{out rated}$ up to 5 s/min	overload capability 150 % $I_{out rated}$ up to 5 s/min
Safety			
Primary/secondary isolation	Yes	Yes	Yes
galvanic isolation	Safety extra low output voltage V_{out} according to EN 60950-1	Safety extra low output voltage V_{out} according to EN 60950-1	Safety extra low output voltage V_{out} according to EN 60950-1
Protection class	Class I	Class I	Class I
leakage current			
• maximum	3.5 mA	3.5 mA	3.5 mA
Degree of protection (EN 60529)	IP20	IP20	IP20
Approvals			
CE mark	Yes	Yes	Yes
UL/cUL (CSA) approval	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
certificate of suitability NEC Class 2	Yes	No	No
CB approval	Yes	Yes	Yes
certificate of suitability EAC approval	Yes	Yes	Yes
Regulatory Compliance Mark (RCM)	No	No	No
Marine approval	in process: DNV GL, ABS	in process: DNV GL, ABS	in process: DNV GL, ABS
EMC			
Emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
Supply harmonics limitation	EN 61000-3-2	EN 61000-3-2	EN 61000-3-2
Noise immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2

Technical specifications (continued)

Article number	6EP3321-7SB00-0AX0	6EP3323-7SB00-0AX0	6EP3324-7SB00-3AX0
Product	SITOP PSU6200	SITOP PSU6200	SITOP PSU6200
Power supply, type	12 V/2 A	12 V/7 A	12 V/12 A
environmental conditions			
ambient temperature			
• during operation	-25 ... +70 °C	-30 ... +70 °C	-30 ... +70 °C
- Note	with natural convection	with natural convection a monotonically increasing start-up from -25 °C, safe start-up from -40 °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
Humidity class according to EN 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
Mechanics			
Connection technology	Push-in terminals	Push-in terminals	Push-in terminals
Connections			
• Supply input	L1/+, L2/N/-; PE PushIn for 0.5 ... 2.5 mm² single-core/finely stranded	L1/+, L2/N/-; PE PushIn for 0.5 ... 4 mm² single-core/finely stranded	L1/+, L2/N/-; PE PushIn for 0.5 ... 4 mm² single-core/finely stranded
• Output	+1, -1, -2: PushIn for 0.5 ... 2.5 mm²	+1, +2, -1, -2, -3: PushIn for 0.5 ... 2.5 mm²	+1, +2, -1, -2, -3: PushIn for 0.5 ... 2.5 mm²
• Auxiliary	-	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
width of the enclosure	25 mm	35 mm	45 mm
height of the enclosure	100 mm	135 mm	135 mm
depth of the enclosure	88 mm	125 mm	125 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
Weight, approx.	0.2 kg	0.7 kg	0.9 kg
product feature of the enclosure housing can be lined up	Yes	Yes	Yes
Installation	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
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
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)		

More information

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

<http://www.siemens.com/tst>

Standard power supplies

SITOP PSU6200

1-phase, 24 V DC

Overview



SITOP PSU6200 family 24 V, the power supplies starting at 10 A have extensive diagnostic options - see video.

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

Product highlights

- Single-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 24 V/5 A, 10 A and 20 A: The coating of the electronic modules also provides special protection from harmful environmental influences such as corrosive gases and salts, dust and abrasion particles, and humidity
- 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

Standard power supplies

SITOP PSU6200

1-phase, 24 V DC

3

Ordering data	Article No.		Article No.	
SITOP PSU6200 1-phase, 24 V DC/1.3 A Stabilized power supply Input: 120-230 V AC/120-240 V DC Output: 24 V DC/1.3 A	6EP3331-7SB00-0AX0		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 PSU6200 1-phase, 24 V DC/2.5 A Stabilized power supply Input: 120-230 V AC/120-240 V DC Output: 24 V DC/2.5 A	6EP3332-7SB00-0AX0		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 PSU6200 1-phase, 24 V DC/3.7 A Stabilized power supply Input: 120-230 V AC/120-240 V DC Output: 24 V DC/3.7 A	6EP3333-7LB00-0AX0		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 PSU6200 1-phase, 24 V DC/5 A Stabilized power supply Input: 120-230 V AC/120-240 V DC Output: 24 V DC/5 A	6EP3333-7SB00-0AX0		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 PSU6200 1-phase, 24 V DC/10 A Stabilized power supply Input: 120-230 V AC/120-240 V DC Output: 24 V DC/10 A	6EP3334-7SB00-3AX0		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 PSU6200 1-phase, 24 V DC/20 A Stabilized power supply Input: 120-230 V AC/120-240 V DC Output: 24 V DC/20 A	6EP3336-7SB00-3AX0		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 PSU6200 Ex 1-phase, 24 V DC/5 A Stabilized power supply Input: 120-230 V AC/120-240 V DC Output: 24 V DC/5 A	6EP3333-7SC00-0AX0		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 PSU6200 Ex 1-phase, 24 V DC/10 A Stabilized power supply Input: 120-230 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: 120-230 V AC/120-240 V DC Output: 24 V DC/20 A	6EP3336-7SC00-3AX0			
Add-on modules		DC UPS modules		
SITOP buffer module BUF1200 Buffer time 300 ms at 40 A Buffer time depends on load current	6EP4231-7HB00-0AX0	SITOP DC UPS¹⁾	See page 8/2	
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		Accessories		
		SIMATIC ET 200SP labels 160 reference identification labels, 10 sheets (160 labels)	6ES7193-6LF30-0AW0	

¹⁾ For more information, visit: <https://www.siemens.com/sitop-ups/mall>

¹⁾ For more information, visit: <https://www.siemens.com/sitop-ups/mall>

Standard power supplies

SITOP PSU6200

1-phase, 24 V DC

Technical specifications

Article number	6EP3331-7SB00-0AX0	6EP3332-7SB00-0AX0	6EP3333-7LB00-0AX0
Product	SITOP PSU6200	SITOP PSU6200	SITOP PSU6200
Power supply, type	24 V/1.3 A	24 V/2.5 A	24 V/3.7 A
Input			
Input	1-phase AC or DC	1-phase AC or DC	1-phase AC or DC
Rated voltage value V_{in} rated	120 ... 240 V	120 ... 240 V	120 ... 240 V
Voltage range AC supply voltage	85 ... 264 V	85 ... 264 V	85 ... 264 V
• at DC input voltage	120 ... 240 V	120 ... 240 V	120 ... 240 V
• at DC Wide-range input	110 ... 275 V	110 ... 275 V	99 ... 275 V
Overvoltage resistance	Yes	Yes	Yes
Mains buffering	300 V AC for 30 s at $V_{in} = 230$ V	300 V AC for 30 s at $V_{in} = 230$ V	300 V AC for 30 s at $V_{in} = 230$ V
Mains buffering at I_{out} rated, min.	150 ms; at $V_{in} = 230$ V	150 ms; at $V_{in} = 230$ V	90 ms; at $V_{in} = 230$ V
Rated line frequency 1	50 Hz	50 Hz	50 Hz
Rated line frequency 2	60 Hz	60 Hz	60 Hz
Rated line range	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 230 V	0.3 A	0.6 A	0.9 A
Switch-on current limiting (+25 °C), max.	32 A	32 A	29 A
Built-in incoming fuse	3.15 A	3.15 A	3.15 A
Protection in the mains power input (IEC 898)	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			
Output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
number of outputs	1	1	1
Rated voltage V_{out} DC	24 V	24 V	24 V
• output voltage at output 1 at DC rated value	24 V	24 V	24 V
Total tolerance, static ±	3 %	3 %	3 %
Static mains compensation, approx.	0.1 %	0.1 %	0.2 %
Static load balancing, approx.	0.1 %	0.1 %	0.3 %
Residual ripple peak-peak, max.	30 mV	30 mV	30 mV
Residual ripple peak-peak, typ.	20 mV	20 mV	20 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	30 mV	30 mV	100 mV
Spikes peak-peak, typ. (bandwidth: 20 MHz)	20 mV	20 mV	60 mV
Adjustment range	22.2 ... 26.4 V	22.2 ... 26.4 V	24 ... 28 V
product function output voltage adjustable	Yes	Yes	Yes
Output voltage setting	via potentiometer; max. 31.2 W	via potentiometer; max. 60 W	via potentiometer; max. 89 W (106 W up to 45°C)
Status display	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK
Signaling	-	-	Electronic contact (NO contact, contact rating 30 V DC/0.1 A) for DC O.K. or diagnostic interface
On/off behavior	Overshoot of V_{out} approx. 3 %	Overshoot of V_{out} approx. 3 %	Overshoot of $V_{out} < 2 %$
Startup delay, max.	1 s	1 s	0.5 s
Voltage rise, typ.	50 ms	100 ms	100 ms
Rated current value I_{out} rated	1.3 A	2.5 A	3.7 A
Current range	0 ... 1.3 A	0 ... 2.5 A	0 ... 3.7 A
• Note	+60 ... +70 °C: Derating 2.5%/K	+60 ... +70 °C: Derating 2.5%/K	+60 ... +70 °C: Derating 1.5%/K
supplied active power typical	31.2 W	60 W	89 W

Technical specifications (continued)

Article number	6EP3331-7SB00-0AX0	6EP3332-7SB00-0AX0	6EP3333-7LB00-0AX0
Product	SITOP PSU6200	SITOP PSU6200	SITOP PSU6200
Power supply, type	24 V/1.3 A	24 V/2.5 A	24 V/3.7 A
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
Parallel switching for enhanced performance	No	No	No
Efficiency			
Efficiency at V_{out} rated, I_{out} rated, approx.	86.3 %	89 %	89.3 %
Power loss at V_{out} rated, I_{out} rated, approx.	5 W	7 W	11 W
power loss [W] during no-load operation maximum	0.8 W	0.8 W	2.2 W
Closed-loop control			
Dynamic load smoothing (I_{out} : 10/90/10 %), $U_{out} \pm$ typ.	2 %	3 %	2 %
Load step setting time 10 to 90%, typ.	0.5 ms	1 ms	2 ms
Load step setting time 90 to 10%, typ.	0.5 ms	1 ms	2 ms
setting time maximum	1 ms	2 ms	3 ms
Protection and monitoring			
Output overvoltage protection	< 32 V	< 32 V	< 32 V
Current limitation, typ.	1.6 A	3.1 A	3.7 A
property of the output short-circuit proof	Yes	Yes	Yes
Short-circuit protection	Shutdown and periodic restart attempts	Shutdown and periodic restart attempts	Shutdown and periodic restart attempts
Safety			
Primary/secondary isolation	Yes	Yes	Yes
galvanic isolation	Safety extra low output voltage V_{out} according to EN 60950-1	Safety extra low output voltage V_{out} according to EN 60950-1	Safety extra low output voltage V_{out} according to EN 60950-1
Protection class	Class I	Class I	Class I
leakage current			
• maximum	3.5 mA	3.5 mA	3.5 mA
Degree of protection (EN 60529)	IP20	IP20	IP20
Approvals			
CE mark	Yes	Yes	Yes
UL/cUL (CSA) approval	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
certificate of suitability NEC Class 2	Yes	Yes	Yes
CB approval	Yes	Yes	Yes
certificate of suitability EAC approval	Yes	Yes	Yes
Regulatory Compliance Mark (RCM)	No	No	No
Marine approval	in process: DNV GL, ABS	in process: DNV GL, ABS	in process: DNV GL, ABS
EMC			
Emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
Supply harmonics limitation	EN 61000-3-2	EN 61000-3-2	EN 61000-3-2
Noise immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
environmental conditions			
ambient temperature			
• during operation	-25 ... +70 °C	-25 ... +70 °C	-30 ... +70 °C
- Note	with natural convection	with natural convection	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
Humidity class according to EN 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation

Standard power supplies

SITOP PSU6200

1-phase, 24 V DC

Technical specifications (continued)

Article number	6EP3331-7SB00-0AX0	6EP3332-7SB00-0AX0	6EP3333-7LB00-0AX0
Product	SITOP PSU6200	SITOP PSU6200	SITOP PSU6200
Power supply, type	24 V/1.3 A	24 V/2.5 A	24 V/3.7 A
Mechanics			
Connection technology	Push-in terminals	Push-in terminals	Push-in terminals
Connections			
• Supply input	L1/+, L2/N/-; PE PushIn for 0.5 ... 2.5 mm ² single-core/finely stranded	L1/+, L2/N/-; PE PushIn for 0.5 ... 2.5 mm ² single-core/finely stranded	L1/+, L2/N/-; PE PushIn for 0.5 ... 4 mm ² single-core/finely stranded
• Output	+1, -1, -2: PushIn for 0.5 ... 2.5 mm ²	+1, -1, -2: PushIn for 0.5 ... 2.5 mm ²	+1, +2, -1, -2, -3: PushIn for 0.5 ... 2.5 mm ²
• Auxiliary	-	-	13, 14 (alarm signal): 1 push-in terminal each for 0.2 ... 1.5 mm ²
width of the enclosure	25 mm	40 mm	35 mm
height of the enclosure	100 mm	100 mm	135 mm
depth of the enclosure	88 mm	88 mm	125 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
Weight, approx.	0.2 kg	0.25 kg	0.7 kg
product feature of the enclosure housing can be lined up	Yes	Yes	Yes
Installation	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
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
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	6EP3333-7SB00-0AX0	6EP3334-7SB00-3AX0	6EP3336-7SB00-3AX0
Product	SITOP PSU6200	SITOP PSU6200	SITOP PSU6200
Power supply, type	24 V/5 A	24 V/10 A	24 V/20 A
Input			
Input	1-phase AC or DC	1-phase AC or DC	1-phase AC or DC
Rated voltage value $V_{in rated}$	120 ... 230 V	120 ... 230 V	120 ... 230 V
Voltage range AC	85 ... 264 V	85 ... 264 V	85 ... 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 resistance	300 V AC for 30 s	300 V AC for 30 s	300 V AC for 30 s
Mains buffering	at $V_{in} = 230 V$	at $V_{in} = 230 V$	at $V_{in} = 230 V$
Mains buffering at $I_{out rated, min.}$	80 ms; at $V_{in} = 230 V$	45 ms; at $V_{in} = 230 V$	25 ms; at $V_{in} = 230 V$
Rated line frequency 1	50 Hz	50 Hz	50 Hz
Rated line frequency 2	60 Hz	60 Hz	60 Hz
Rated line range	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 230 V	1.1 A	1.2 A	2.3 A
Switch-on current limiting (+25 °C), max.	29 A	6 A	12 A
Built-in incoming fuse	3.15 A	5 A	10 A
Protection in the mains power input (IEC 898)	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)

Technical specifications (continued)

Article number	6EP3333-7SB00-0AX0	6EP3334-7SB00-3AX0	6EP3336-7SB00-3AX0
Product	SITOP PSU6200	SITOP PSU6200	SITOP PSU6200
Power supply, type	24 V/5 A	24 V/10 A	24 V/20 A
Output			
Output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
number of outputs	1	1	1
Rated voltage V_{out} DC	24 V	24 V	24 V
• output voltage at output 1 at DC rated value	24 V	24 V	24 V
Total tolerance, static $\pm$	3 %	3 %	3 %
Static mains compensation, approx.	0.1 %	0.1 %	0.2 %
Static load balancing, approx.	0.2 %	0.1 %	0.2 %
Residual ripple peak-peak, max.	30 mV	30 mV	80 mV
Residual ripple peak-peak, typ.	20 mV	20 mV	50 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	100 mV	30 mV	100 mV
Spikes peak-peak, typ. (bandwidth: 20 MHz)	60 mV	20 mV	60 mV
Adjustment range	24 ... 28 V	24 ... 28 V	24 ... 28 V
product function output voltage adjustable	Yes	Yes	Yes
Output voltage setting	via potentiometer; max. 120 W (144 W up to 45°C)	via potentiometer; max. 240 W (288 W up to 45°C)	via potentiometer; max. 480 W (576 W up to 45°C)
Status display	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK
Signaling	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
On/off behavior	Overshoot of $V_{out} < 2$ %	Overshoot of $V_{out} < 2$ %	Overshoot of V_{out} approx. 3 %
Startup delay, max.	0.5 s	0.5 s	0.5 s
Voltage rise, typ.	100 ms	200 ms	100 ms
Rated current value $I_{out rated}$	5 A	10 A	20 A
Current range	0 ... 5 A	0 ... 10 A	0 ... 20 A
• Note	6 A up to +45°C; +60 ... +70 °C: Derating 3%/K	12 A up to +45°C; +60 ... +70 °C: Derating 3%/K	24 A up to +45°C; +60 ... +70 °C: Derating 3%/K
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 for enhanced performance	No	Yes; switchable characteristic	Yes; switchable characteristic
Numbers of parallel switchable units for enhanced performance	-	2	2
Efficiency			
Efficiency at $V_{out rated}$, $I_{out rated}$, approx.	90.2 %	92.8 %	95.5 %
Power loss at $V_{out rated}$, $I_{out rated}$, approx.	13 W	18 W	25 W
power loss [W] during no-load operation maximum	2 W	2.2 W	2.6 W
Closed-loop control			
Dynamic load smoothing (I_{out} : 10/90/10 %), $U_{out} \pm$ typ.	2 %	2 %	3 %
Load step setting time 10 to 90%, typ.	1 ms	2 ms	0.5 ms
Load step setting time 90 to 10%, typ.	1 ms	2 ms	0.5 ms
setting time maximum	2 ms	3 ms	1 ms
Protection and monitoring			
Output overvoltage protection	< 32 V	< 32 V	< 32 V
Current limitation, typ.	6 A	12 A	30 A
property of the output short-circuit proof	Yes	Yes	Yes
Short-circuit protection	Shutdown and periodic restart attempts	Shutdown and periodic restart attempts	Shutdown and periodic restart attempts
overcurrent overload capability in normal operation	overload capability 150 % $I_{out rated}$ up to 5 s/min	overload capability 150 % $I_{out rated}$ up to 5 s/min	overload capability 150 % $I_{out rated}$ up to 5 s/min

Standard power supplies

SITOP PSU6200

1-phase, 24 V DC

Technical specifications (continued)

Article number	6EP3333-7SB00-0AX0	6EP3334-7SB00-3AX0	6EP3336-7SB00-3AX0
Product	SITOP PSU6200	SITOP PSU6200	SITOP PSU6200
Power supply, type	24 V/5 A	24 V/10 A	24 V/20 A
Safety			
Primary/secondary isolation	Yes	Yes	Yes
galvanic isolation	Safety extra low output voltage V_{out} according to EN 60950-1	Safety extra low output voltage V_{out} according to EN 60950-1	Safety extra low output voltage V_{out} according to EN 60950-1
Protection class	Class I	Class I	Class I
leakage current			
• maximum	3.5 mA	3.5 mA	3.5 mA
Degree of protection (EN 60529)	IP20	IP20	IP20
Approvals			
CE mark	Yes	Yes	Yes
UL/cUL (CSA) approval	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
certificate of suitability NEC Class 2	No	No	No
CB approval	Yes	Yes	Yes
certificate of suitability EAC approval	Yes	Yes	Yes
Regulatory Compliance Mark (RCM)	No	No	No
Marine approval	in process: DNV GL, ABS	in process: DNV GL, ABS	in process: DNV GL, ABS
EMC			
Emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
Supply harmonics limitation	EN 61000-3-2	EN 61000-3-2	EN 61000-3-2
Noise immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
environmental conditions			
ambient temperature			
• during operation	-30 ... +70 °C	-30 ... +70 °C	-30 ... +70 °C
- Note	with natural convection a monotonically increasing start-up from -25 °C, safe start-up from -40 °C	with natural convection a monotonically increasing start-up from -25 °C, safe start-up from -40 °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
Humidity class according to EN 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
Mechanics			
Connection technology	Push-in terminals	Push-in terminals	Push-in terminals
Connections			
• Supply input	L1/+, L2/N/-; PE PushIn for 0.5 ... 4 mm ² single-core/finely stranded	L1/+, L2/N/-; PE PushIn for 0.5 ... 4 mm ² single-core/finely stranded	L1/+, L2/N/-; PE PushIn for 0.5 ... 4 mm ² single-core/finely stranded
• Output	+1, +2, -1, -2, -3: PushIn for 0.5 ... 2.5 mm²	+1, +2, -1, -2, -3: PushIn for 0.5 ... 2.5 mm²	+1, +2, -1, -2, -3: PushIn for 0.5 ... 6 mm²
• Auxiliary	13, 14 (alarm signal): 1 push-in terminal each for 0.2 ... 1.5 mm ²	13, 14 (alarm signal): 1 push-in terminal each for 0.2 ... 1.5 mm ²	13, 14 (alarm signal): 1 push-in terminal each for 0.2 ... 1.5 mm ²
width of the enclosure	35 mm	45 mm	70 mm
height of the enclosure	135 mm	135 mm	135 mm
depth of the enclosure	125 mm	125 mm	155 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
Weight, approx.	0.7 kg	0.9 kg	1.5 kg
product feature of the enclosure housing can be lined up	Yes	Yes	Yes
Installation	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
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
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)		

Technical specifications (continued)

Article number	6EP3333-7SC00-0AX0	6EP3334-7SC00-3AX0	6EP3336-7SC00-3AX0
Product	SITOP PSU6200	SITOP PSU6200	SITOP PSU6200
Power supply, type	24 V/5 A	24 V/10 A	24 V/20 A
Input			
Input	1-phase AC or DC	1-phase AC or DC	1-phase AC or DC
Rated voltage value $V_{in \text{ rated}}$	120 ... 230 V	120 ... 230 V	120 ... 230 V
Voltage range AC supply voltage	85 ... 264 V	85 ... 264 V	85 ... 264 V
• at DC input voltage	120 ... 240 V	110 ... 240 V	110 ... 240 V
• at DC Wide-range input	99 ... 275 V	85 ... 275 V	85 ... 275 V
Overvoltage resistance	Yes	Yes	Yes
Mains buffering	300 V AC for 30 s at $V_{in} = 230 \text{ V}$	300 V AC for 30 s at $V_{in} = 230 \text{ V}$	300 V AC for 30 s at $V_{in} = 230 \text{ V}$
Mains buffering at $I_{out \text{ rated}}$, min.	80 ms; at $V_{in} = 230 \text{ V}$	45 ms; at $V_{in} = 230 \text{ V}$	25 ms; at $V_{in} = 230 \text{ V}$
Rated line frequency 1	50 Hz	50 Hz	50 Hz
Rated line frequency 2	60 Hz	60 Hz	60 Hz
Rated line range input current	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz
• at rated input voltage 120 V	1.9 A	2.2 A	4.3 A
• at rated input voltage 230 V	1.1 A	1.2 A	2.3 A
Switch-on current limiting (+25 °C), max.	29 A	6 A	12 A
Built-in incoming fuse	3.15 A	5 A	10 A
Protection in the mains power input (IEC 898)	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 8 A) or 3RV2711-1HD10 (UL 489)
Output			
Output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
number of outputs	1	1	1
Rated voltage $V_{out \text{ DC}}$	24 V	24 V	24 V
• output voltage at output 1 at DC rated value	24 V	24 V	24 V
Total tolerance, static ±	3 %	3 %	3 %
Static mains compensation, approx.	0.1 %	0.1 %	0.2 %
Static load balancing, approx.	0.2 %	0.1 %	0.2 %
Residual ripple peak-peak, max.	30 mV	30 mV	80 mV
Residual ripple peak-peak, typ.	20 mV	20 mV	50 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	100 mV	30 mV	100 mV
Spikes peak-peak, typ. (bandwidth: 20 MHz)	60 mV	20 mV	60 mV
Adjustment range	24 ... 28 V	24 ... 28 V	24 ... 28 V
product function output voltage adjustable	Yes	Yes	Yes
Output voltage setting	via potentiometer; max. 120 W (144 W up to 45°C)	via potentiometer; max. 240 W (288 W up to 45°C)	via potentiometer; max. 480 W (576 W up to 45°C)
Status display	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK
Signaling	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
On/off behavior	Overshoot of $V_{out} < 2 \%$	Overshoot of $V_{out} < 2 \%$	Overshoot of V_{out} approx. 3 %
Startup delay, max.	0.5 s	0.5 s	0.5 s
Voltage rise, typ.	100 ms	200 ms	100 ms
Rated current value $I_{out \text{ rated}}$	5 A	10 A	20 A
Current range	0 ... 5 A	0 ... 10 A	0 ... 20 A
• Note	6 A up to +45°C; +60 ... +70 °C: Derating 3%/K	12 A up to +45°C; +60 ... +70 °C: Derating 3%/K	24 A up to +45°C; +60 ... +70 °C: Derating 3%/K
supplied active power typical	120 W	240 W	480 W

Standard power supplies

SITOP PSU6200

1-phase, 24 V DC

Technical specifications (continued)

Article number	6EP3333-7SC00-0AX0	6EP3334-7SC00-3AX0	6EP3336-7SC00-3AX0
Product	SITOP PSU6200	SITOP PSU6200	SITOP PSU6200
Power supply, type	24 V/5 A	24 V/10 A	24 V/20 A
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 for enhanced performance	No	Yes; switchable characteristic	Yes; switchable characteristic
Numbers of parallel switchable units for enhanced performance	-	2	2
Efficiency			
Efficiency at $V_{out rated}$, $I_{out rated}$, approx.	90.2 %	92.8 %	95.5 %
Power loss at $V_{out rated}$, $I_{out rated}$, approx.	13 W	18 W	25 W
power loss [W] during no-load operation maximum	2 W	2.2 W	2.6 W
Closed-loop control			
Dynamic load smoothing (I_{out} : 10/90/10 %), $U_{out} \pm$ typ.	2 %	2 %	3 %
Load step setting time 10 to 90%, typ.	1 ms	2 ms	0.5 ms
Load step setting time 90 to 10%, typ.	1 ms	2 ms	0.5 ms
setting time maximum	2 ms	3 ms	1 ms
Protection and monitoring			
Output overvoltage protection	< 32 V	< 32 V	< 32 V
Current limitation, typ.	6 A	12 A	30 A
property of the output short-circuit proof	Yes	Yes	Yes
Short-circuit protection	Shutdown and periodic restart attempts	Shutdown and periodic restart attempts	Shutdown and periodic restart attempts
overcurrent overload capability in normal operation	overload capability 150 % $I_{out rated}$ up to 5 s/min	overload capability 150 % $I_{out rated}$ up to 5 s/min	overload capability 150 % $I_{out rated}$ up to 5 s/min
Safety			
Primary/secondary isolation	Yes	Yes	Yes
galvanic isolation	Safety extra low output voltage V_{out} according to EN 60950-1	Safety extra low output voltage V_{out} according to EN 60950-1	Safety extra low output voltage V_{out} according to EN 60950-1
Protection class	Class I	Class I	Class I
leakage current			
• maximum	3.5 mA	3.5 mA	3.5 mA
Degree of protection (EN 60529)	IP20	IP20	IP20
Approvals			
CE mark	Yes	Yes	Yes
Explosion protection	ATEX (EX) II 3G Ex ec IIC T3 Gc	ATEX (EX) II 3G Ex ec nC IIC T3 Gc	ATEX (EX) II 3G Ex ec nA nC IIC T4 Gc
certificate of suitability NEC Class 2	No	No	No
EMC			
Emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
Supply harmonics limitation	EN 61000-3-2	EN 61000-3-2	EN 61000-3-2
Noise immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
environmental conditions			
ambient temperature			
• during operation	-30 ... +70 °C	-30 ... +70 °C	-30 ... +70 °C
- Note	with natural convection a monotonically increasing start-up from -25 °C, safe start-up from -40 °C	with natural convection a monotonically increasing start-up from -25 °C, safe start-up from -40 °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
Humidity class according to EN 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation

Technical specifications (continued)

Article number	6EP3333-7SC00-0AX0	6EP3334-7SC00-3AX0	6EP3336-7SC00-3AX0
Product	SITOP PSU6200	SITOP PSU6200	SITOP PSU6200
Power supply, type	24 V/5 A	24 V/10 A	24 V/20 A
Mechanics			
Connection technology	Push-in terminals	Push-in terminals	Push-in terminals
Connections			
• Supply input	L1/+, L2/N/-; PE PushIn for 0.5 ... 4 mm ² single-core/ finely stranded	L1/+, L2/N/-; PE PushIn for 0.5 ... 4 mm ² single-core/ finely stranded	L1/+, L2/N/-; PE PushIn for 0.5 ... 4 mm ² single-core/ finely stranded
• Output	+1, +2, -1, -2, -3: PushIn for 0.5 ... 2.5 mm²	+1, +2, -1, -2, -3: PushIn for 0.5 ... 2.5 mm²	+1, +2, -1, -2, -3: PushIn for 0.5 ... 6 mm²
• Auxiliary	13, 14 (alarm signal): 1 push-in terminal each for 0.2 ... 1.5 mm ²	13, 14 (alarm signal): 1 push-in terminal each for 0.2 ... 1.5 mm ²	13, 14 (alarm signal): 1 push-in terminal each for 0.2 ... 1.5 mm ²
width of the enclosure	35 mm	45 mm	70 mm
height of the enclosure	135 mm	135 mm	135 mm
depth of the enclosure	125 mm	125 mm	155 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
Weight, approx.	0.7 kg	0.9 kg	1.5 kg
product feature of the enclosure housing can be lined up	Yes	Yes	Yes
Installation	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
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
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)

More information

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

<http://www.siemens.com/tst>

Standard power supplies

SITOP PSU6200

1-phase, 48 V DC

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

Ordering data

Article No.

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

Add-on modules

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

Accessories

SIMATIC ET 200SP labels

160 equipment labeling plates, 10 sheets (160 plates)

6ES7193-6LF30-0AW0

Technical specifications

Article number	6EP3344-7SB00-3AX0	6EP3346-7SB00-3AX0
Product	SITOP PSU6200	SITOP PSU6200
Power supply, type	48 V/5 A	48 V/10 A
Input		
Input	1-phase AC or DC	1-phase AC or DC
Rated voltage value $V_{in \text{ rated}}$	120 ... 240 V	120 ... 240 V
Voltage range AC supply voltage	85 ... 264 V	85 ... 264 V
• at DC input voltage	110 ... 240 V	110 ... 240 V
• at DC input voltage	85 ... 275 V	85 ... 275 V
Wide-range input	Yes	Yes
Overvoltage resistance	300 V AC for 30 s	300 V AC for 30 s
Mains buffering	at $V_{in} = 230 \text{ V}$	at $V_{in} = 230 \text{ V}$
Mains buffering at $I_{out \text{ rated}}, \text{ min.}$	46 ms; at $V_{in} = 230 \text{ V}$	25 ms; at $V_{in} = 230 \text{ V}$
Rated line frequency 1	50 Hz	50 Hz
Rated line frequency 2	60 Hz	60 Hz
Rated line range	47 ... 63 Hz	47 ... 63 Hz
input current		
• at rated input voltage 120 V	2.2 A	4.3 A
• at rated input voltage 230 V	1.2 A	2.3 A
Switch-on current limiting (+25 °C), max.	6 A	11 A
Built-in incoming fuse	5 A	10 A
Protection in the mains power input (IEC 898)	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 8 A) or 3RV2711-1HD10 (UL 489)

Technical specifications (continued)

Article number	6EP3344-7SB00-3AX0	6EP3346-7SB00-3AX0
Product	SITOP PSU6200	SITOP PSU6200
Power supply, type	48 V/5 A	48 V/10 A
Output		
Output	Controlled, isolated DC voltage	Controlled, isolated DC voltage
number of outputs	1	1
Rated voltage V_{out} DC	48 V	48 V
• output voltage at output 1 at DC rated value	48 V	48 V
Total tolerance, static ±	3 %	3 %
Static mains compensation, approx.	0.1 %	0.3 %
Static load balancing, approx.	0.1 %	0.2 %
Residual ripple peak-peak, max.	50 mV	70 mV
Residual ripple peak-peak, typ.	30 mV	20 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	60 mV	40 mV
Spikes peak-peak, typ. (bandwidth: 20 MHz)	40 mV	20 mV
Adjustment range	48 ... 56 V	48 ... 56 V
product function output voltage adjustable	Yes	Yes
Output voltage setting	via potentiometer; max. 240 W (288 W up to 45°C)	via potentiometer; max. 480 W (576 W up to 45°C)
Status display	Green LED for 48 V OK	Green LED for 48 V OK
Signaling	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
On/off behavior	Overshoot of $V_{out} < 2$ %	Overshoot of $V_{out} < 2$ %
Startup delay, max.	0.5 s	0.5 s
Voltage rise, typ.	250 ms	200 ms
Rated current value $I_{out rated}$	5 A	10 A
Current range	0 ... 5 A	0 ... 10 A
• Note	6 A up to +45°C; +60 ... +70 °C: Derating 3%/K	12 A up to +45°C; +60 ... +70 °C: Derating 3%/K
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 for enhanced performance	Yes; switchable characteristic	Yes; switchable characteristic
Numbers of parallel switchable units for enhanced performance	2	2
Efficiency		
Efficiency at $V_{out rated}$, $I_{out rated}$, approx.	93.9 %	95.8 %
Power loss at $V_{out rated}$, $I_{out rated}$, approx.	15 W	21 W
power loss [W] during no-load operation maximum	2.4 W	2.5 W
Closed-loop control		
Dynamic load smoothing (I_{out} : 10/90/10 %), $U_{out} \pm$ typ.	1 %	3 %
Load step setting time 10 to 90%, typ.	4 ms	5 ms
Load step setting time 90 to 10%, typ.	4 ms	5 ms
setting time maximum	6 ms	5 ms
Protection and monitoring		
Output overvoltage protection	< 60 V	< 60 V
Current limitation, typ.	6 A	15 A
property of the output short-circuit proof	Yes	Yes
Short-circuit protection	Shutdown and periodic restart attempts	Shutdown and periodic restart attempts
overcurrent overload capability in normal operation	overload capability 150 % $I_{out rated}$ up to 5 s/min	overload capability 150 % $I_{out rated}$ up to 5 s/min

Standard power supplies

SITOP PSU6200

1-phase, 48 V DC

Technical specifications (continued)

Article number	6EP3344-7SB00-3AX0	6EP3346-7SB00-3AX0
Product	SITOP PSU6200	SITOP PSU6200
Power supply, type	48 V/5 A	48 V/10 A
Safety		
Primary/secondary isolation	Yes	Yes
galvanic isolation	Safety extra low output voltage V_{out} according to EN 60950-1	Safety extra low output voltage V_{out} according to EN 60950-1
Protection class	Class I	Class I
leakage current		
• maximum	3.5 mA	3.5 mA
Degree of protection (EN 60529)	IP20	IP20
Approvals		
CE mark	Yes	Yes
UL/cUL (CSA) approval	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)
certificate of suitability NEC Class 2	No	No
CB approval	Yes	Yes
certificate of suitability EAC approval	Yes	Yes
Regulatory Compliance Mark (RCM)	-	No
Marine approval	in process: DNV GL, ABS	in process: DNV GL, ABS
EMC		
Emitted interference	EN 55022 Class B	EN 55022 Class B
Supply harmonics limitation	EN 61000-3-2	EN 61000-3-2
Noise immunity	EN 61000-6-2	EN 61000-6-2
environmental conditions		
ambient temperature		
• during operation	-30 ... +70 °C	-30 ... +70 °C
- Note	with natural convection a monotonically increasing start-up from -25 °C, safe start-up from -40 °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
Humidity class according to EN 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
Mechanics		
Connection technology	Push-in terminals	Push-in terminals
Connections		
• Supply input	L1/+, L2/N/-; PE PushIn for 0.5 ... 4 mm ² single-core/finely stranded	L1/+, L2/N/-; PE PushIn for 0.5 ... 4 mm ² single-core/finely stranded
• Output	+1, +2, -1, -2, -3: PushIn for 0.5 ... 2.5 mm²	+1, +2, -1, -2, -3: PushIn for 0.5 ... 6 mm²
• Auxiliary	13, 14 (alarm signal): 1 push-in terminal each for 0.2 ... 1.5 mm ²	13, 14 (alarm signal): 1 push-in terminal each for 0.2 ... 1.5 mm ²
width of the enclosure	45 mm	70 mm
height of the enclosure	135 mm	135 mm
depth of the enclosure	125 mm	155 mm
required spacing		
• top	45 mm	45 mm
• bottom	45 mm	45 mm
• left	0 mm	0 mm
• right	0 mm	0 mm
Weight, approx.	0.9 kg	1.5 kg
product feature of the enclosure housing can be lined up	Yes	Yes
Installation	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15
electrical accessories	Buffer module, redundancy module	Redundancy module
mechanical accessories	Identification labels SIMATIC ET 200SP 6ES7193-6LF30-0AW0	-
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	

More information

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

<http://www.siemens.com/tst>

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 and 20 A
- 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

Ordering data

Article No.

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 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 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

Add-on modules

SITOP buffer module BUF1200

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

DC UPS modules

SITOP DC UPS¹⁾

See page 8/2

Accessories

SIMATIC ET 200SP labels

160 reference identification labels, 10 sheets (160 labels)

6ES7193-6LF30-0AW0

¹⁾ For more information, visit: <https://www.siemens.com/sitop-ups/mall>

Standard power supplies

SITOP PSU6200

3-phase, 24 V DC

Technical specifications

Article number	6EP3433-7SB00-0AX0	6EP3434-7SB00-3AX0	6EP3436-7SB00-3AX0
Product	SITOP PSU6200	SITOP PSU6200	SITOP PSU6200
Power supply, type	24 V/5 A	24 V/10 A	24 V/20 A
Input			
Input	3-phase AC or DC	3-phase AC or DC	3-phase AC or DC
Rated voltage value $V_{in rated}$	400 ... 500 V	400 ... 500 V	400 ... 500 V
Voltage range AC input voltage	323 ... 576 V	323 ... 576 V	323 ... 576 V
• at DC	450 ... 600 V	450 ... 600 V	450 ... 600 V
Mains buffering	at $V_{in} = 400 V$	at $V_{in} = 400 V$	at $V_{in} = 400 V$
Mains buffering at $I_{out rated, min.}$	20 ms; at $V_{in} = 400 V$	30 ms; at $V_{in} = 400 V$	25 ms; at $V_{in} = 400 V$
Rated line frequency 1	50 Hz	50 Hz	50 Hz
Rated line frequency 2	60 Hz	60 Hz	60 Hz
Rated line range	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
• at rated input voltage 500 V	0.28 A	0.32 A	0.62 A
Switch-on current limiting (+25 °C), max.	22 A	13 A	17 A
Protection in the mains power input (IEC 898)	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)
Output			
Output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
number of outputs	1	1	1
Rated voltage $V_{out DC}$	24 V	24 V	24 V
• output voltage at output 1 at DC rated value	24 V	24 V	24 V
Total tolerance, static ±	3 %	3 %	3 %
Static mains compensation, approx.	0.6 %	0.2 %	0.2 %
Static load balancing, approx.	0.6 %	0.1 %	0.1 %
Residual ripple peak-peak, max.	30 mV	30 mV	30 mV
Residual ripple peak-peak, typ.	20 mV	20 mV	20 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	30 mV	30 mV	30 mV
Spikes peak-peak, typ. (bandwidth: 20 MHz)	20 mV	20 mV	20 mV
Adjustment range	24 ... 28 V	24 ... 28 V	24 ... 28 V
product function output voltage adjustable	Yes	Yes	Yes
Output voltage setting	via potentiometer; max. 120 W (144 W up to 45°C)	via potentiometer; max. 240 W (288 W up to 45°C)	via potentiometer; max. 480 W (576 W up to 45°C)
Status display	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK
Signaling	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
On/off behavior	Overshoot of $V_{out} < 2 \%$	Overshoot of $V_{out} < 2 \%$	Overshoot of $V_{out} < 2 \%$
Startup delay, max.	0.5 s	0.5 s	0.5 s
Voltage rise, typ.	100 ms	100 ms	100 ms
Rated current value $I_{out rated}$	5 A	10 A	20 A
Current range	0 ... 5 A	0 ... 10 A	0 ... 20 A
• Note	6 A up to +45°C; +60 ... +70 °C: Derating 3%/K	12 A up to +45°C; +60 ... +70 °C: Derating 3%/K	24 A up to +45°C; +60 ... +70 °C: Derating 3%/K
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	24 A
• at short-circuit during operation typical	6 A	12 A	24 A

Technical specifications (continued)

Article number	6EP3433-7SB00-0AX0	6EP3434-7SB00-3AX0	6EP3436-7SB00-3AX0
Product	SITOP PSU6200	SITOP PSU6200	SITOP PSU6200
Power supply, type	24 V/5 A	24 V/10 A	24 V/20 A
Parallel switching for enhanced performance	No	Yes; switchable characteristic	Yes; switchable characteristic
Numbers of parallel switchable units for enhanced performance	-	2	2
Efficiency			
Efficiency at V_{out} rated, I_{out} rated, approx.	91.2 %	95.4 %	95.9 %
Power loss at V_{out} rated, I_{out} rated, approx.	11 W	12 W	23 W
power loss [W] during no-load operation maximum	2 W	2.9 W	2.9 W
Closed-loop control			
Dynamic load smoothing (I_{out} : 10/90/10 %), $U_{out} \pm$ typ.	2 %	2 %	3 %
Load step setting time 10 to 90%, typ.	1 ms	1 ms	2 ms
Load step setting time 90 to 10%, typ.	1 ms	1 ms	2 ms
setting time maximum	2 ms	2 ms	3 ms
Protection and monitoring			
Output overvoltage protection	< 32 V	< 32 V	< 32 V
Current limitation, typ.	6 A	12 A	24 A
property of the output short-circuit proof	Yes	Yes	Yes
Short-circuit protection	Shutdown and periodic restart attempts	Shutdown and periodic restart attempts	Shutdown and periodic restart attempts
overcurrent overload capability in normal operation	overload capability 150 % I_{out} rated up to 5 s/min	overload capability 150 % I_{out} rated up to 5 s/min	overload capability 150 % I_{out} rated up to 5 s/min
Safety			
Primary/secondary isolation	Yes	Yes	Yes
galvanic isolation	Safety extra low output voltage V_{out} according to EN 60950-1	Safety extra low output voltage V_{out} according to EN 60950-1	Safety extra low output voltage V_{out} according to EN 60950-1
Protection class	Class I	Class I	Class I
leakage current			
• maximum	3.5 mA	3.5 mA	3.5 mA
Degree of protection (EN 60529)	IP20	IP20	IP20
Approvals			
CE mark	Yes	Yes	Yes
UL/cUL (CSA) approval	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259, cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259, cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259, cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
certificate of suitability NEC Class 2	No	No	No
CB approval	Yes	Yes	Yes
certificate of suitability EAC approval	Yes	Yes	Yes
Regulatory Compliance Mark (RCM)	No	No	No
Marine approval	in process: DNV GL, ABS	in process: DNV GL, ABS	in process: DNV GL, ABS
EMC			
Emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
Supply harmonics limitation	EN 61000-3-2	EN 61000-3-2	EN 61000-3-2
Noise immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
environmental conditions			
ambient temperature			
• during operation	-30 ... +70 °C	-30 ... +70 °C	-30 ... +70 °C
- Note	with natural convection a monotonically increasing start-up from -25 °C, safe start-up from -40 °C	with natural convection a monotonically increasing start-up from -25 °C, safe start-up from -40 °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
Humidity class according to EN 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation

Standard power supplies

SITOP PSU6200

3-phase, 24 V DC

Technical specifications (continued)

Article number	6EP3433-7SB00-0AX0	6EP3434-7SB00-3AX0	6EP3436-7SB00-3AX0
Product	SITOP PSU6200	SITOP PSU6200	SITOP PSU6200
Power supply, type	24 V/5 A	24 V/10 A	24 V/20 A
Mechanics			
Connection technology	Push-in terminals	Push-in terminals	Push-in terminals
Connections			
• Supply input	L1, L2, L3, PE: PushIn for 0.5 ... 6 mm²	L1, L2, L3, PE: PushIn for 0.5 ... 6 mm²	L1, L2, L3, PE: PushIn for 0.5 ... 10 mm²
• Output	+1, +2, -1, -2, -3: PushIn for 0.5 ... 2.5 mm²	+1, +2, -1, -2, -3: PushIn for 0.5 ... 2.5 mm²	+1, +2, -1, -2, -3: PushIn for 0.5 ... 6 mm²
• Auxiliary	13, 14 (alarm signal): 1 push-in terminal each for 0.2 ... 1.5 mm ²	13, 14 (alarm signal): 1 push-in terminal each for 0.2 ... 1.5 mm ²	13, 14 (alarm signal): 1 push-in terminal each for 0.2 ... 1.5 mm ²
width of the enclosure	35 mm	45 mm	70 mm
height of the enclosure	135 mm	135 mm	135 mm
depth of the enclosure	125 mm	155 mm	155 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
Weight, approx.	0.7 kg	0.9 kg	1.5 kg
product feature of the enclosure housing can be lined up	Yes	Yes	Yes
Installation	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
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
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)

More information

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

<http://www.siemens.com/tst>

Standard power supplies

SITOP PSU6200

3-phase, 48 V DC

Overview



SITOP PSU6200 3-phase, 48 V, 5 A and 10 A

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 and 10 A
- Can be expanded with SITOP RED1200 redundancy modules
 - Slim width
 - High dielectric strength
 - In SITOP PSU6200 design

Ordering data

Article No.

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

Add-on modules

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

Accessories

SIMATIC ET 200SP labels

160 equipment labeling plates,
10 sheets (160 plates)

6ES7193-6LF30-0AW0

Technical specifications

Article number	6EP3444-7SB00-3AX0	6EP3446-7SB00-3AX0
Product	SITOP PSU6200	SITOP PSU6200
Power supply, type	48 V/5 A	48 V/10 A
Input		
Input	3-phase AC or DC	3-phase AC or DC
Rated voltage value $V_{in rated}$	400 ... 500 V	400 ... 500 V
Voltage range AC input voltage	323 ... 576 V	323 ... 576 V
• at DC	450 ... 600 V	450 ... 600 V
Mains buffering	at $V_{in} = 400 V$	at $V_{in} = 400 V$
Mains buffering at $I_{out rated, min.}$	30 ms; at $V_{in} = 400 V$	25 ms; at $V_{in} = 400 V$
Rated line frequency 1	50 Hz	50 Hz
Rated line frequency 2	60 Hz	60 Hz
Rated line range	47 ... 63 Hz	47 ... 63 Hz
input current		
• at rated input voltage 400 V	0.39 A	0.77 A
• at rated input voltage 500 V	0.31 A	0.62 A
Switch-on current limiting (+25 °C), max.	12 A	17 A
Protection in the mains power input (IEC 898)	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)

Standard power supplies

SITOP PSU6200

3-phase, 48 V DC

Technical specifications (continued)

Article number	6EP3444-7SB00-3AX0	6EP3446-7SB00-3AX0
Product	SITOP PSU6200	SITOP PSU6200
Power supply, type	48 V/5 A	48 V/10 A
Output		
Output	Controlled, isolated DC voltage	Controlled, isolated DC voltage
number of outputs	1	1
Rated voltage V_{out} DC	48 V	48 V
• output voltage at output 1 at DC rated value	48 V	48 V
Total tolerance, static $\pm$	3 %	3 %
Static mains compensation, approx.	0.2 %	0.3 %
Static load balancing, approx.	0.2 %	0.3 %
Residual ripple peak-peak, max.	40 mV	40 mV
Residual ripple peak-peak, typ.	10 mV	10 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	40 mV	30 mV
Spikes peak-peak, typ. (bandwidth: 20 MHz)	10 mV	20 mV
Adjustment range	48 ... 56 V	48 ... 56 V
product function output voltage adjustable	Yes	Yes
Output voltage setting	via potentiometer; max. 240 W (288 W up to 45°C)	via potentiometer; max. 480 W (576 W up to 45°C)
Status display	Green LED for 48 V OK	Green LED for 48 V OK
Signaling	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
On/off behavior	Overshoot of $V_{out} < 2 \%$	Overshoot of $V_{out} < 2 \%$
Startup delay, max.	0.5 s	0.5 s
Voltage rise, typ.	200 ms	200 ms
Rated current value $I_{out rated}$	5 A	10 A
Current range	0 ... 5 A	0 ... 10 A
• Note	6 A up to +45°C; +60 ... +70 °C: Derating 3%/K	12 A up to +45°C; +60 ... +70 °C: Derating 3%/K
supplied active power typical	240 W	480 W
short-term overload current		
• on short-circuiting during the start-up typical	7.5 A	15 A
• at short-circuit during operation typical	7.5 A	15 A
Parallel switching for enhanced performance	Yes; switchable characteristic	Yes; switchable characteristic
Numbers of parallel switchable units for enhanced performance	2	2
Efficiency		
Efficiency at $V_{out rated}$, $I_{out rated}$, approx.	95.6 %	96.2 %
Power loss at $V_{out rated}$, $I_{out rated}$, approx.	11 W	19 W
power loss [W] during no-load operation maximum	2.9 W	3 W
Closed-loop control		
Dynamic load smoothing (I_{out} : 10/90/10 %), $U_{out} \pm$ typ.	1 %	3 %
Load step setting time 10 to 90%, typ.	5 ms	5 ms
Load step setting time 90 to 10%, typ.	5 ms	5 ms
setting time maximum	5 ms	5 ms
Protection and monitoring		
Output overvoltage protection	< 60 V	< 60 V
Current limitation, typ.	7.5 A	15 A
property of the output short-circuit proof	Yes	Yes
Short-circuit protection	Shutdown and periodic restart attempts	Shutdown and periodic restart attempts
overcurrent overload capability in normal operation	overload capability 150 % $I_{out rated}$ up to 5 s/min	overload capability 150 % $I_{out rated}$ up to 5 s/min

Technical specifications (continued)

Article number	6EP3444-7SB00-3AX0	6EP3446-7SB00-3AX0
Product	SITOP PSU6200	SITOP PSU6200
Power supply, type	48 V/5 A	48 V/10 A
Safety		
Primary/secondary isolation	Yes	Yes
galvanic isolation	Safety extra low output voltage V_{out} according to EN 60950-1	Safety extra low output voltage V_{out} according to EN 60950-1
Protection class	Class I	Class I
leakage current		
• maximum	3.5 mA	3.5 mA
Degree of protection (EN 60529)	IP20	IP20
Approvals		
CE mark	Yes	Yes
UL/cUL (CSA) approval	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)
certificate of suitability NEC Class 2	No	No
CB approval	Yes	Yes
certificate of suitability EAC approval	Yes	Yes
Regulatory Compliance Mark (RCM)	No	No
Marine approval	in process: DNV GL, ABS	in process: DNV GL, ABS
EMC		
Emitted interference	EN 55022 Class B	EN 55022 Class B
Supply harmonics limitation	EN 61000-3-2	EN 61000-3-2
Noise immunity	EN 61000-6-2	EN 61000-6-2
environmental conditions		
ambient temperature		
• during operation	-30 ... +70 °C	-30 ... +70 °C
- Note	with natural convection a monotonically increasing start-up from -25 °C, safe start-up from -40 °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
Humidity class according to EN 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
Mechanics		
Connection technology	Push-in terminals	Push-in terminals
Connections		
• Supply input	L1, L2, L3, PE: PushIn for 0.5 ... 6 mm²	L1, L2, L3, PE: PushIn for 0.5 ... 10 mm²
• Output	+1, +2, -1, -2, -3: PushIn for 0.5 ... 2.5 mm²	+1, +2, -1, -2, -3: PushIn for 0.5 ... 6 mm²
• Auxiliary	13, 14 (alarm signal): 1 push-in terminal each for 0.2 ... 1.5 mm ²	13, 14 (alarm signal): 1 push-in terminal each for 0.2 ... 1.5 mm ²
width of the enclosure	45 mm	70 mm
height of the enclosure	135 mm	135 mm
depth of the enclosure	155 mm	155 mm
required spacing		
• top	45 mm	45 mm
• bottom	45 mm	45 mm
• left	0 mm	0 mm
• right	0 mm	0 mm
Weight, approx.	0.9 kg	1.5 kg
product feature of the enclosure housing can be lined up	Yes	Yes
Installation	Snap onto DIN rail EN 60715 35x7.5/15	Snap onto DIN rail EN 60715 35x7.5/15
electrical accessories	Redundancy module	Redundancy module
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	

More information

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

<http://www.siemens.com/tst>

Standard power supplies

SITOP smart

Introduction

Overview



More information

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

<http://www.siemens.com/tst>

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

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

Ordering data
Article No.
**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
Add-on modules
**SITOP redundancy modules
RED1200¹⁾**

See page 9/3

¹⁾ For more information, visit: <https://www.siemens.com/sitop-redundancy/mall>
Technical specifications

Article number	6EP1322-2BA00	6EP1323-2BA00
Product	SITOP PSU100S	SITOP PSU100S
Power supply, type	12 V/7 A	12 V/14 A
Input		
Input	1-phase AC	1-phase AC
• Note	Automatic range selection	Automatic range selection
supply voltage		
• 1 at AC rated value	120 V	120 V
• 2 at AC rated value	230 V	230 V
input voltage		
• 1 at AC	85 ... 132 V	85 ... 132 V
• 2 at AC	170 ... 264 V	170 ... 264 V
Wide-range input	No	No
Overvoltage resistance	$2.3 \times V_{in \text{ rated}}, 1.3 \text{ ms}$	$2.3 \times V_{in \text{ rated}}, 1.3 \text{ ms}$
Mains buffering	at $V_{in} = 93/187 \text{ V}$	at $V_{in} = 93/187 \text{ V}$
Mains buffering at $I_{out \text{ rated}}, \text{ min.}$	20 ms; at $V_{in} = 93/187 \text{ V}$	20 ms; at $V_{in} = 93/187 \text{ V}$
Rated line frequency 1	50 Hz	50 Hz
Rated line frequency 2	60 Hz	60 Hz
Rated line range	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
Switch-on current limiting (+25 °C), max.	45 A	60 A
Built-in incoming fuse	T 3,15 A/250 V (not accessible)	T 6.3 A/250 V (not accessible)
Protection in the mains power input (IEC 898)	Recommended miniature circuit breaker: from 6 A characteristic C	Recommended miniature circuit breaker: from 10 A characteristic C

Standard power supplies

SITOP smart

1-phase, 12 V DC

Technical specifications (continued)

Article number	6EP1322-2BA00	6EP1323-2BA00
Product	SITOP PSU100S	SITOP PSU100S
Power supply, type	12 V/7 A	12 V/14 A
Output		
Output	Controlled, isolated DC voltage	Controlled, isolated DC voltage
Rated voltage V_{out} DC	12 V	12 V
• output voltage at output 1 at DC rated value	12 V	12 V
Total tolerance, static $\pm$	3 %	3 %
Static mains compensation, approx.	0.1 %	0.1 %
Static load balancing, approx.	1 %	1 %
Residual ripple peak-peak, max.	150 mV	150 mV
Residual ripple peak-peak, typ.	20 mV	20 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	240 mV	240 mV
Spikes peak-peak, typ. (bandwidth: 20 MHz)	100 mV	100 mV
Adjustment range	11.5 ... 15.5 V	11.5 ... 15.5 V
product function output voltage adjustable	Yes	Yes
Output voltage setting	via potentiometer	via potentiometer
Status display	Green LED for 12 V OK	Green LED for 12 V OK
Signaling	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for 12 V OK	
On/off behavior	Overshoot of $V_{out} < 3 \%$	Overshoot of $V_{out} < 3 \%$
Startup delay, max.	0.3 s	0.3 s
Voltage rise, typ.	10 ms	10 ms
Rated current value $I_{out rated}$	7 A	14 A
Current range	0 ... 7 A	0 ... 14 A
• Note	+50 ... +70 °C: Derating 0.75%/K	+50 ... +70 °C: Derating 3.5%/K
supplied active power typical	84 W	168 W
short-term overload current		
• on short-circuiting during the start-up typical	25 A	40 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
Parallel switching for enhanced performance	Yes	Yes
Numbers of parallel switchable units for enhanced performance	2	2
Efficiency		
Efficiency at $V_{out rated}$, $I_{out rated}$, approx.	84 %	87 %
Power loss at $V_{out rated}$, $I_{out rated}$, approx.	15 W	24 W
Closed-loop control		
Dynamic load smoothing (I_{out} : 10/90/10 %), $U_{out} \pm$ typ.	5 %	5 %
Load step setting time 10 to 90%, typ.	1 ms	1 ms
Load step setting time 90 to 10%, typ.	1 ms	1 ms
Protection and monitoring		
Output overvoltage protection	< 20 V	< 20 V
Current limitation	7 ... 8.8 A	14 ... 16.4 A
property of the output short-circuit proof	Yes	Yes
Short-circuit protection	Constant current characteristic	Constant current characteristic
enduring short circuit current RMS value		
• typical	8.8 A	16.4 A
overcurrent overload capability in normal operation	overload capability 150 % $I_{out rated}$ up to 5 s/min	overload capability 150 % $I_{out rated}$ up to 5 s/min

Technical specifications (continued)

Article number	6EP1322-2BA00	6EP1323-2BA00
Product	SITOP PSU100S	SITOP PSU100S
Power supply, type	12 V/7 A	12 V/14 A
Overload/short-circuit indicator	-	-
Safety		
Primary/secondary isolation	Yes	Yes
galvanic isolation	Safety extra-low output voltage U_{out} acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage U_{out} acc. to EN 60950-1 and EN 50178
Protection class	Class I	Class I
leakage current		
• maximum	3.5 mA	3.5 mA
• typical	0.4 mA	0.8 mA
Degree of protection (EN 60529)	IP20	IP20
Approvals		
CE mark	Yes	Yes
UL/cUL (CSA) approval	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259, cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259, cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
certificate of suitability NEC Class 2	No	No
CB approval	Yes	Yes
certificate of suitability EAC approval	Yes	Yes
Marine approval	DNV GL	DNV GL
EMC		
Emitted interference	EN 55022 Class B	EN 55022 Class B
Supply harmonics limitation	EN 61000-3-2	EN 61000-3-2
Noise immunity	EN 61000-6-2	EN 61000-6-2
environmental conditions		
ambient temperature		
• during operation	-25 ... +70 °C	-25 ... +70 °C
- Note	with natural convection	with natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C
Humidity class according to EN 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
Mechanics		
Connection technology	screw-type terminals	screw-type terminals
Connections		
• Supply input	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm ² single-core/finely stranded	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm ² single-core/finely stranded
• Output	+, -: 2 screw terminals each for 0.5 ... 2.5 mm ²	+, -: 2 screw terminals each for 0.5 ... 2.5 mm ²
• Auxiliary	Alarm signals: 2 screw terminals for 0.5 ... 2.5 mm ²	Alarm signals: 2 screw terminals for 0.5 ... 2.5 mm ²
• signaling contact	2 screw terminals for 0.5 ... 2.5 mm ²	2 screw terminals for 0.5 ... 2.5 mm ²
width of the enclosure	50 mm	70 mm
height of the enclosure	125 mm	125 mm
depth of the enclosure	120 mm	120 mm
required spacing		
• top	50 mm	50 mm
• bottom	50 mm	50 mm
• left	0 mm	0 mm
• right	0 mm	0 mm
Weight, approx.	0.5 kg	0.7 kg
product feature of the enclosure housing can be lined up	Yes	Yes
Installation		
MTBF at 40 °C	Snaps onto DIN rail EN 60715 35x7.5/15 1 998 441 h	Snaps onto DIN rail EN 60715 35x7.5/15 1 614 510 h
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)

More information

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

<http://www.siemens.com/tst>

Standard power supplies

SITOP smart

1-phase, 24 V DC

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

Ordering data

Article No.

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

Add-on modules

SITOP redundancy modules¹⁾

See 9/3

SITOP selectivity modules²⁾

See 9/6

SITOP buffer modules³⁾

See 9/17

DC UPS modules

SITOP DC-UPS⁴⁾

See page 8/2

Accessories

Unit labeling plate

3RT2900-1SB20

¹⁾ For more information, visit: <https://www.siemens.com/sitop-redundancy/mall>

²⁾ For more information, visit: <https://www.siemens.com/sitop-selectivity/mall>

³⁾ For more information, visit: <https://www.siemens.com/sitop-buffering/mall>

⁴⁾ For more information, visit: <https://www.siemens.com/sitop-ups/mall>

Technical specifications

Article number	6EP1332-2BA20	6EP1333-2BA20	6EP1334-2BA20	6EP1336-2BA10
Product	SITOP PSU100S	SITOP PSU100S	SITOP PSU100S	SITOP PSU100S
Power supply, type	24 V/2.5 A	24 V/5 A	24 V/10 A	24 V/20 A
Input				
Input	1-phase AC	1-phase AC	1-phase AC	1-phase AC
• Note	Automatic range selection	Automatic range selection	Automatic range selection	Automatic range selection
supply voltage				
• 1 at AC rated value	120 V	120 V	120 V	120 V
• 2 at AC rated value	230 V	230 V	230 V	230 V
input voltage				
• 1 at AC	85 ... 132 V	85 ... 132 V	85 ... 132 V	85 ... 132 V
• 2 at AC	170 ... 264 V	170 ... 264 V	170 ... 264 V	176 ... 264 V
Wide-range input	No	No	No	No
Overvoltage resistance	$2.3 \times V_{in \text{ rated}}, 1.3 \text{ ms}$	$2.3 \times V_{in \text{ rated}}, 1.3 \text{ ms}$	$2.3 \times V_{in \text{ rated}}, 1.3 \text{ ms}$	$2.3 \times V_{in \text{ rated}}, 1.3 \text{ ms}$
Mains buffering	at $V_{in} = 93/187 \text{ V}$	at $V_{in} = 93/187 \text{ V}$	at $V_{in} = 93/187 \text{ V}$	at $V_{in} = 120/230 \text{ V}$
Mains buffering at $I_{out \text{ rated}}, \text{ min.}$	20 ms; at $V_{in} = 93/187 \text{ V}$	20 ms; at $V_{in} = 93/187 \text{ V}$	20 ms; at $V_{in} = 93/187 \text{ V}$	20 ms; at $V_{in} = 120/230 \text{ V}$
Rated line frequency 1	50 Hz	50 Hz	50 Hz	50 Hz
Rated line frequency 2	60 Hz	60 Hz	60 Hz	60 Hz
Rated line range	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz

Technical specifications (continued)

Article number	6EP1332-2BA20	6EP1333-2BA20	6EP1334-2BA20	6EP1336-2BA10
Product	SITOP PSU100S	SITOP PSU100S	SITOP PSU100S	SITOP PSU100S
Power supply, type	24 V/2.5 A	24 V/5 A	24 V/10 A	24 V/20 A
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
Switch-on current limiting (+25 °C), max.	33 A	40 A	60 A	11 A
I _{pt} , max.	0.4 A ² ·s	1 A ² ·s	5.6 A ² ·s	10 A ² ·s
Built-in incoming fuse	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)
Protection in the mains power input (IEC 898)	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				
Output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
Rated voltage V _{out} DC	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
Total tolerance, static ±	3 %	3 %	3 %	3 %
Static mains compensation, approx.	0.1 %	0.1 %	0.1 %	0.5 %
Static load balancing, approx.	1 %	1 %	1 %	1 %
Residual ripple peak-peak, max.	150 mV	150 mV	150 mV	150 mV
Residual ripple peak-peak, typ.	30 mV	30 mV	30 mV	-
Spikes peak-peak, max. (bandwidth: 20 MHz)	240 mV	240 mV	240 mV	240 mV
Spikes peak-peak, typ. (bandwidth: 20 MHz)	70 mV	140 mV	160 mV	-
Adjustment range	22.8 ... 28 V	22.8 ... 28 V	22.8 ... 28 V	24 ... 28 V
product function output voltage adjustable	Yes	Yes	Yes	Yes
Output voltage setting	via potentiometer	via potentiometer	via potentiometer	via potentiometer; max. 480 W
Status display	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK
Signaling	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"
On/off behavior	Overshoot of V _{out} < 3 %	Overshoot of V _{out} < 3 %	Overshoot of V _{out} < 3 %	No overshoot of V _{out} (soft start)
Startup delay, max.	0.3 s	0.3 s	0.3 s	1.5 s
Voltage rise, typ.	15 ms	15 ms	20 ms	50 ms
voltage increase time of the output voltage maximum	-	-	-	500 ms
Rated current value I _{out rated}	2.5 A	5 A	10 A	20 A
Current range	0 ... 3 A	0 ... 6 A	0 ... 12 A	0 ... 20 A
• Note	3 A up to +45°C; +60 ... +70 °C: Derating 3%/K	6 A up to +45°C; +60 ... +70 °C: Derating 1.6%/K	12 A up to +45°C; +60 ... +70 °C: Derating 3%/K	24 A up to +45°C; +60 ... +70 °C: Derating 5%/K
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	9 A	18 A	32 A	35 A
duration of overloading capability for excess current				
• on short-circuiting during the start-up	100 ms	800 ms	1 000 ms	100 ms
• at short-circuit during operation	800 ms	800 ms	1 000 ms	100 ms
Parallel switching for enhanced performance	Yes	Yes	Yes	Yes
Numbers of parallel switchable units for enhanced performance	2	2	2	2

Standard power supplies

SITOP smart

1-phase, 24 V DC

Technical specifications (continued)

Article number	6EP1332-2BA20	6EP1333-2BA20	6EP1334-2BA20	6EP1336-2BA10
Product	SITOP PSU100S	SITOP PSU100S	SITOP PSU100S	SITOP PSU100S
Power supply, type	24 V/2.5 A	24 V/5 A	24 V/10 A	24 V/20 A
Efficiency				
Efficiency at V_{out} rated, I_{out} rated, approx.	85 %	88 %	90 %	90 %
Power loss at V_{out} rated, I_{out} rated, approx.	10 W	16 W	25 W	53 W
Closed-loop control				
Dynamic mains compensation (V_{in} rated ± 15 %), max.	0.3 %	0.3 %	0.3 %	1 %
Dynamic load smoothing (I_{out} : 50/100/50 %), $U_{out} \pm$ typ.	-	-	-	3 %
Dynamic load smoothing (I_{out} : 10/90/10 %), $U_{out} \pm$ typ.	5 %	3 %	3 %	-
Load step setting time 10 to 90%, typ.	1 ms	1 ms	1 ms	-
Load step setting time 90 to 10%, typ.	1 ms	1 ms	1 ms	-
setting time maximum	-	-	-	10 ms
Protection and monitoring				
Output overvoltage protection	protection against overvoltage in case of internal fault $V_{out} < 33$ V	protection against overvoltage in case of internal fault $V_{out} < 33$ V	protection against overvoltage in case of internal fault $V_{out} < 33$ V	Yes, according to EN 60950-1
Current limitation	3 ... 3.4 A	6 ... 7.1 A	12 ... 14.6 A	-
Current limitation, typ.	-	-	-	21 A
property of the output short-circuit proof	Yes	Yes	Yes	Yes
Short-circuit protection	Constant current characteristic	Constant current characteristic	Constant current characteristic	Electronic shutdown, automatic restart
enduring short circuit current RMS value	-	-	-	7 A
• maximum	-	-	-	-
• typical	3.4 A	7.1 A	14.6 A	-
overcurrent overload capability in normal operation	overload capability 150 % I_{out} rated up to 5 s/min	overload capability 150 % I_{out} rated up to 5 s/min	overload capability 150 % I_{out} rated up to 5 s/min	overload capability 150 % I_{out} rated up to 5 s/min
Overload/short-circuit indicator	-	-	-	-
Safety				
Primary/secondary isolation	Yes	Yes	Yes	Yes
galvanic isolation	Safety extra-low output voltage U_{out} acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage U_{out} acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage U_{out} acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage U_{out} acc. to EN 60950-1 and EN 50178
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
Degree of protection (EN 60529)	IP20	IP20	IP20	IP20
Approvals				
CE mark	Yes	Yes	Yes	Yes
UL/cUL (CSA) approval	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259, cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259, cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259, cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259, cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
certificate of suitability NEC Class 2	No	No	No	No
CB approval	Yes	Yes	Yes	Yes
certificate of suitability EAC approval	Yes	Yes	Yes	Yes
Marine approval	BV, DNV GL	BV, DNV GL	BV, DNV GL	DNV GL

Technical specifications (continued)

Article number	6EP1332-2BA20	6EP1333-2BA20	6EP1334-2BA20	6EP1336-2BA10
Product	SITOP PSU100S	SITOP PSU100S	SITOP PSU100S	SITOP PSU100S
Power supply, type	24 V/2.5 A	24 V/5 A	24 V/10 A	24 V/20 A
EMC				
Emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
Supply harmonics limitation	not applicable	EN 61000-3-2	EN 61000-3-2	EN 61000-3-2
Noise immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
environmental conditions				
ambient temperature				
• during operation	-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C	0 ... 70 °C
- Note	with natural convection	with natural convection	with natural convection	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
Humidity class according to EN 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
Mechanics				
Connection technology	screw-type terminals	screw-type terminals	screw-type terminals	screw-type terminals
Connections				
• Supply 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
• 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
• Auxiliary	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
• 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	-
width of the enclosure	32.5 mm	50 mm	70 mm	115 mm
height of the enclosure	125 mm	125 mm	125 mm	145 mm
depth of the enclosure	120 mm	120 mm	120 mm	150 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
Weight, approx.	0.32 kg	0.5 kg	0.8 kg	2.4 kg
product feature of the enclosure housing can be lined up	Yes	Yes	Yes	Yes
Installation	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
electrical accessories	Buffer module	Buffer module	Buffer module	Buffer module
mechanical accessories	Device identification label 20 mm x 7 mm, pale turquoise 3RT1900-1SB20	Device identification label 20 mm x 7 mm, pale turquoise 3RT1900-1SB20	Device identification label 20 mm x 7 mm, pale turquoise 3RT1900-1SB20	Device identification label 20 mm x 7 mm, pale turquoise 3RT1900-1SB20
MTBF at 40 °C	1 804 044 h	1 998 441 h	1 614 510 h	1 778 916 h
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)			

More information

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

<http://www.siemens.com/tst>

Standard power supplies

SITOP smart

3-phase, 24 V DC

Overview



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

Ordering data

Article No.

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

Add-on modules

SITOP redundancy modules¹⁾

See page 9/3

SITOP selectivity modules²⁾

See page 9/6

SITOP buffer modules³⁾

See page 9/17

Accessories

Unit labeling plate

3RT2900-1SB20

¹⁾ For more information, visit: <https://www.siemens.com/sitop-redundancy/mall>

²⁾ For more information, visit: <https://www.siemens.com/sitop-selectivity/mall>

³⁾ For more information, visit: <https://www.siemens.com/sitop-buffering/mall>

Technical specifications

Article number	6EP1433-2BA20	6EP1434-2BA20	6EP1436-2BA10	6EP1437-2BA20
Product	SITOP PSU300S	SITOP PSU300S	SITOP PSU300S	SITOP PSU300S
Power supply, type	24 V/5 A	24 V/10 A	24 V/20 A	24 V/40 A
Input				
Input	3-phase AC	3-phase AC	3-phase AC	3-phase AC
Rated voltage value $V_{in rated}$	400 ... 500 V	400 ... 500 V	400 ... 500 V	400 ... 500 V
Voltage range AC	340 ... 550 V	340 ... 550 V	340 ... 550 V	340 ... 550 V
Wide-range input	Yes	Yes	Yes	Yes
Mains buffering	at $V_{in} = 400 V$	at $V_{in} = 400 V$	at $V_{in} = 400 V$	at $V_{in} = 400 V$
Mains buffering at $I_{out rated, min.}$	18 ms; at $V_{in} = 400 V$	7 ms; at $V_{in} = 400 V$	6 ms; at $V_{in} = 400 V$	6 ms; at $V_{in} = 400 V$
Rated line frequency 1	50 Hz	50 Hz	50 Hz	50 Hz
Rated line frequency 2	60 Hz	60 Hz	60 Hz	60 Hz
Rated line range	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
Switch-on current limiting (+25 °C), max.	20 A	20 A	36 A	60 A
I^2t , max.	0.5 A²·s	0.5 A²·s	0.9 A²·s	3.4 A²·s
Built-in incoming fuse	none	none	none	none
Protection in the mains power input (IEC 898)	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)

Technical specifications (continued)

Article number	6EP1433-2BA20	6EP1434-2BA20	6EP1436-2BA10	6EP1437-2BA20
Product	SITOP PSU300S	SITOP PSU300S	SITOP PSU300S	SITOP PSU300S
Power supply, type	24 V/5 A	24 V/10 A	24 V/20 A	24 V/40 A
Output				
Output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
Rated voltage V_{out} DC	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
Total tolerance, static $\pm$	3 %	3 %	3 %	3 %
Static mains compensation, approx.	0.1 %	0.1 %	0.5 %	1 %
Static load balancing, approx.	0.1 %	0.15 %	1 %	2 %
Residual ripple peak-peak, max.	200 mV	200 mV	150 mV	150 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	240 mV	240 mV	240 mV	240 mV
Adjustment range	24 ... 28 V	24 ... 28 V	24 ... 28 V	24 ... 28 V
product function output voltage adjustable	Yes	Yes	Yes	Yes
Output voltage setting	via potentiometer; max. 120 W	via potentiometer; max. 240 W	via potentiometer; max. 480 W	via potentiometer; max. 960 W
Status display	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK
Signaling	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"
On/off behavior	Overshoot of $V_{out} < 5 \%$	Overshoot of $V_{out} < 5 \%$	No overshoot of V_{out} (soft start)	No overshoot of V_{out} (soft start)
Startup delay, max.	1.5 s	1.5 s	1.5 s	1.5 s
Voltage rise, typ.	60 ms	50 ms	30 ms	15 ms
voltage increase time of the output voltage maximum	500 ms	500 ms	500 ms	500 ms
Rated current value $I_{out rated}$	5 A	10 A	20 A	40 A
Current range	0 ... 5 A	0 ... 10 A	0 ... 20 A	0 ... 40 A
• Note	6 A up to +45°C; +60 ... +70 °C: Derating 5%/K	12 A up to +45°C; +60 ... +70 °C: Derating 5%/K	24 A up to +45°C; +60 ... +70 °C: Derating 2%/K	48 A up to +45°C; +60 ... +70 °C: Derating 3%/K
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
Parallel switching for enhanced performance	Yes	Yes	Yes	Yes
Numbers of parallel switchable units for enhanced performance	2	2	2	2
Efficiency				
Efficiency at $V_{out rated}$, $I_{out rated}$, approx.	89.5 %	91 %	91 %	91.5 %
Power loss at $V_{out rated}$, $I_{out rated}$, approx.	14 W	23 W	47 W	89 W
Closed-loop control				
Dynamic mains compensation ($V_{in rated} \pm 15 \%$), max.	1 %	1 %	3 %	3 %
Dynamic load smoothing (I_{out} : 50/100/50 %), $U_{out} \pm$ typ.	1 %	1 %	3 %	1.5 %
Load step setting time 50 to 100%, typ.	3 ms	3 ms	2 ms	1 ms
Load step setting time 100 to 50%, typ.	3 ms	3 ms	2 ms	1 ms
Dynamic load smoothing (I_{out} : 10/90/10 %), $U_{out} \pm$ typ.	3 %	3 %	3 %	3 %
Load step setting time 10 to 90%, typ.	4 ms	4 ms	2 ms	1 ms
Load step setting time 90 to 10%, typ.	4 ms	4 ms	2 ms	1 ms
setting time maximum	10 ms	10 ms	10 ms	10 ms

Standard power supplies

SITOP smart

3-phase, 24 V DC

Technical specifications (continued)

Article number	6EP1433-2BA20	6EP1434-2BA20	6EP1436-2BA10	6EP1437-2BA20
Product	SITOP PSU300S	SITOP PSU300S	SITOP PSU300S	SITOP PSU300S
Power supply, type	24 V/5 A	24 V/10 A	24 V/20 A	24 V/40 A
Protection and monitoring				
Output overvoltage protection	protection against overvoltage in case of internal fault $V_{out} < 35\text{ V}$	protection against overvoltage in case of internal fault $V_{out} < 35\text{ V}$	protection against overvoltage in case of internal fault $V_{out} < 35\text{ V}$	protection against overvoltage in case of internal fault $V_{out} < 35\text{ V}$
Current limitation, typ.	6.6 A	13 A	25.5 A	50 A
property of the output short-circuit proof	Yes	Yes	Yes	Yes
Short-circuit protection	Constant current characteristic	Constant current characteristic	Electronic shutdown, automatic restart	Electronic shutdown, automatic restart
enduring short circuit current RMS value				
• maximum	8 A	16 A	7 A	14 A
overcurrent overload capability in normal operation	overload capability 150 % $I_{out\ rated}$ up to 5 s/min	overload capability 150 % $I_{out\ rated}$ up to 5 s/min	overload capability 150 % $I_{out\ rated}$ up to 5 s/min	overload capability 150 % $I_{out\ rated}$ up to 5 s/min
Safety				
Primary/secondary isolation	Yes	Yes	Yes	Yes
galvanic isolation	Safety extra-low output voltage U_{out} acc. to EN 60950-1 and EN 50178, transformer acc. to EN 61558-2-16	Safety extra-low output voltage U_{out} acc. to EN 60950-1 and EN 50178, transformer acc. to EN 61558-2-16	Safety extra-low output voltage U_{out} acc. to EN 60950-1 and EN 50178, transformer acc. to EN 61558-2-16	Safety extra-low output voltage U_{out} acc. to EN 60950-1 and EN 50178, transformer acc. to EN 61558-2-16
Protection class	Class I	Class I	Class I	Class I
leakage current				
• maximum	-	-	3.5 mA	-
• typical	-	-	1 mA	-
Degree of protection (EN 60529)	IP20	IP20	IP20	IP20
Approvals				
CE mark	Yes	Yes	Yes	Yes
UL/cUL (CSA) approval	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
certificate of suitability NEC Class 2	No	No	No	No
CB approval	Yes	Yes	Yes	Yes
certificate of suitability EAC approval	Yes	Yes	Yes	Yes
Marine approval	ABS, DNV GL	ABS, DNV GL	ABS, DNV GL	ABS, DNV GL
EMC				
Emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
Supply harmonics limitation	EN 61000-3-2	EN 61000-3-2	EN 61000-3-2	EN 61000-3-2
Noise immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
environmental conditions				
ambient temperature				
• during operation	-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C
- Note	with natural convection	with natural convection	with natural convection	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
Humidity class according to EN 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

Technical specifications (continued)

Article number	6EP1433-2BA20	6EP1434-2BA20	6EP1436-2BA10	6EP1437-2BA20
Product	SITOP PSU300S	SITOP PSU300S	SITOP PSU300S	SITOP PSU300S
Power supply, type	24 V/5 A	24 V/10 A	24 V/20 A	24 V/40 A
Mechanics				
Connection technology	screw-type terminals	screw-type terminals	screw-type terminals	screw-type terminals
Connections				
• Supply input	L1, L2, L3, PE: 1 screw terminal each for 0.05 ... 2.5 mm ² single-core/ finely stranded	L1, L2, L3, PE: 1 screw terminal each for 0.05 ... 2.5 mm ² single-core/ finely stranded	L1, L2, L3, PE: 1 screw terminal each for 0.5 ... 4 mm ² single-core/ finely stranded	L1, L2, L3, PE: 1 screw terminal each for 0.5 ... 4 mm ² single-core/ finely stranded
• Output	+, - : 2 screw terminals each for 0.2 ... 2.5 mm ²	+, - : 2 screw terminals each for 0.2 ... 2.5 mm ²	+, - : 2 screw terminals each for 0.2 ... 4 mm ²	+, - : 2 screw terminals each for 0.5 ... 10 mm ²
• Auxiliary	13, 14 (alarm signal): 1 screw terminal each for 0.2 ... 2.5 mm ²	13, 14 (alarm signal): 1 screw terminal each for 0.2 ... 2.5 mm ²	13, 14 (alarm signal): 1 screw terminal each for 0.05 ... 2.5 mm ²	13, 14 (alarm signal): 1 screw terminal each for 0.05 ... 2.5 mm ²
width of the enclosure	50 mm	70 mm	90 mm	145 mm
height of the enclosure	125 mm	125 mm	145 mm	145 mm
depth of the enclosure	120 mm	120 mm	150 mm	150 mm
required spacing				
• top	-	-	40 mm	40 mm
• bottom	-	-	40 mm	40 mm
• left	-	-	0 mm	0 mm
• right	-	-	0 mm	0 mm
Weight, approx.	0.5 kg	0.7 kg	1.6 kg	3.1 kg
product feature of the enclosure housing can be lined up	Yes	Yes	Yes	Yes
Installation	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
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
MTBF at 40 °C	500 000 h	500 000 h	500 000 h	500 000 h
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)			

More information

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

<http://www.siemens.com/tst>

Overview***The low-cost basic power supply***

The single-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 supplies can be combined with the **buffer module BUF1200**, **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>

Basic power supplies

SITOP lite

1-phase, 24 V DC

Overview



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

To further increase 24 V availability, the SITOP lite power supplies can be combined with the **buffer module BUF1200**, **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

Ordering data

Article No.

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

Add-on modules

SITOP redundancy modules¹⁾

See 9/3

SITOP selectivity modules²⁾

See 9/6

SITOP buffer module BUF1200³⁾

See 9/17

DC UPS modules

SITOP DC UPS⁴⁾

See page 8/2

¹⁾ For more information, visit: <https://www.siemens.com/sitop-redundancy/mall>

²⁾ For more information, visit: <https://www.siemens.com/sitop-selectivity/mall>

³⁾ For more information, visit: <https://www.siemens.com/sitop-buffering/mall>

⁴⁾ For more information, visit: <https://www.siemens.com/sitop-ups/mall>

Technical specifications

Article number	6EP1332-1LB00	6EP1333-1LB00	6EP1334-1LB00	6EP1336-1LB00
Product	SITOP PSU100L	SITOP PSU100L	SITOP PSU100L	SITOP PSU100L
Power supply, type	24 V/2.5 A	24 V/5 A	24 V/10 A	24 V/20 A
Input				
Input	1-phase AC	1-phase AC	1-phase AC	1-phase AC or DC
Rated voltage value $V_{in rated}$	-	-	-	100 ... 240 V
• Note	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				
• 1 at AC rated value	120 V	120 V	120 V	-
• 2 at AC rated value	230 V	230 V	230 V	-
• at DC	-	-	-	100 ... 240 V
input voltage				
• 1 at AC	93 ... 132 V	93 ... 132 V	93 ... 132 V	85 ... 264 V
• 2 at AC	187 ... 264 V	187 ... 264 V	187 ... 264 V	-
• at DC	-	-	-	88 ... 370 V
Wide-range input	No	No	No	Yes
Overvoltage resistance	$2.3 \times V_{in rated}$, 1.3 ms	$2.3 \times V_{in rated}$, 1.3 ms	$2.3 \times V_{in rated}$, 1.3 ms	-
Mains buffering	at $V_{in} = 93/187$ V	at $V_{in} = 93/187$ V	at $V_{in} = 93/187$ V	at $V_{in} = 93/187$ V
Mains buffering at $I_{out rated}$, min.	20 ms; at $V_{in} = 93/187$ V	20 ms; at $V_{in} = 93/187$ V	20 ms; at $V_{in} = 93/187$ V	20 ms; at $V_{in} = 93/187$ V
Rated line frequency 1	50 Hz	50 Hz	50 Hz	50 Hz
Rated line frequency 2	60 Hz	60 Hz	60 Hz	60 Hz
Rated line range	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
Switch-on current limiting (+25 °C), max.	27 A	32 A	65 A	45 A

Technical specifications (continued)

Article number	6EP1332-1LB00	6EP1333-1LB00	6EP1334-1LB00	6EP1336-1LB00
Product	SITOP PSU100L	SITOP PSU100L	SITOP PSU100L	SITOP PSU100L
Power supply, type	24 V/2.5 A	24 V/5 A	24 V/10 A	24 V/20 A
Input (continued)				
duration of inrush current limiting at 25 °C				
• typical	3 ms	3 ms	3 ms	15 ms
I^2t , max.	0.3 A²s	0.8 A²s	3.3 A²s	3.3 A²s
Built-in incoming fuse	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)
Protection in the mains power input (IEC 898)	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				
Output	Controlled, isolated DC voltage			
Rated voltage V_{out} DC	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
Total tolerance, static ±	3 %	3 %	3 %	3 %
Static mains compensation, approx.	0.1 %	0.1 %	0.1 %	0.1 %
Static load balancing, approx.	0.5 %	0.5 %	0.5 %	1 %
Residual ripple peak-peak, max.	150 mV	150 mV	150 mV	150 mV
Residual ripple peak-peak, typ.	10 mV	50 mV	50 mV	50 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	240 mV	240 mV	240 mV	240 mV
Spikes peak-peak, typ. (bandwidth: 20 MHz)	50 mV	150 mV	150 mV	100 mV
Adjustment range	22.8 ... 26.4 V	22.8 ... 26.4 V	22.8 ... 26.4 V	22.8 ... 26.4 V
product function output voltage adjustable	Yes	Yes	Yes	Yes
Output voltage setting	via potentiometer	via potentiometer	via potentiometer	via potentiometer
Status display	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK
On/off behavior	Overshoot of V_{out} approx. 4 %	Overshoot of V_{out} approx. 4 %	Overshoot of V_{out} approx. 4 %	No overshoot of V_{out} (soft start)
Startup delay, max.	1.5 s	1.5 s	1.5 s	1.5 s
Voltage rise, typ.	150 ms	130 ms	170 ms	20 ms
Rated current value $I_{out rated}$	2.5 A	5 A	10 A	20 A
Current range	0 ... 2.5 A	0 ... 5 A	0 ... 10 A	0 ... 20 A
• Note	+45 ... +60 °C: Derating 2%/K	+45 ... +60 °C: Derating 2%/K	+45 ... +60 °C: Derating 2%/K	+45 ... +70 °C: Derating 2.5%/K
supplied active power typical	60 W	120 W	240 W	480 W
Parallel switching for enhanced performance	Yes	Yes	Yes	Yes
Numbers of parallel switchable units for enhanced performance	2	2	2	2
Efficiency				
Efficiency at $V_{out rated}$, $I_{out rated}$, approx.	85 %	86 %	89 %	92 %
Power loss at $V_{out rated}$, $I_{out rated}$, approx.	9 W	17 W	34 W	45 W
Closed-loop control				
Dynamic mains compensation ($V_{in rated} \pm 15 \%$), max.	0.3 %	0.3 %	0.3 %	0.5 %
Dynamic load smoothing (I_{out} : 10/90/10 %), $U_{out} \pm$ typ.	2 %	2 %	2 %	3 %
Load step setting time 10 to 90%, typ.	0.5 ms	0.4 ms	0.5 ms	0.7 ms
Load step setting time 90 to 10%, typ.	0.7 ms	0.4 ms	0.7 ms	6 ms
Protection and monitoring				
Output overvoltage protection	< 33 V	< 33 V	< 33 V	< 33 V
Current limitation, typ.	2.6 A	5.25 A	16 A	24 A
property of the output short-circuit proof	Yes	Yes	Yes	Yes
Short-circuit protection	Constant current characteristic			
enduring short circuit current RMS value				
• typical	4 A	8 A	12.6 A	24 A
Overload/short-circuit indicator	-	-	-	-

Basic power supplies

SITOP lite

1-phase, 24 V DC

Technical specifications (continued)

Article number	6EP1332-1LB00	6EP1333-1LB00	6EP1334-1LB00	6EP1336-1LB00
Product	SITOP PSU100L	SITOP PSU100L	SITOP PSU100L	SITOP PSU100L
Power supply, type	24 V/2.5 A	24 V/5 A	24 V/10 A	24 V/20 A
Safety				
Primary/secondary isolation galvanic isolation	Yes	Yes	Yes	Yes
	Safety extra-low output voltage U_{out} acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage U_{out} acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage U_{out} acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage U_{out} acc. to EN 60950-1 and EN 50178
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
Degree of protection (EN 60529)	IP20	IP20	IP20	IP20
Approvals				
CE mark	Yes	Yes	Yes	Yes
UL/cUL (CSA) approval	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
certificate of suitability NEC Class 2	No	No	No	No
CB approval	Yes	Yes	Yes	Yes
certificate of suitability EAC approval	Yes	Yes	Yes	Yes
Marine approval	-	-	-	-
EMC				
Emitted interference	EN 55022 Class A	EN 55022 Class A	EN 55022 Class A	EN 55022 Class B
Supply harmonics limitation	not applicable	-	-	EN 61000-3-2
Noise immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
environmental conditions				
ambient temperature				
• during operation	0 ... 60 °C	0 ... 60 °C	0 ... 60 °C	-25 ... +70 °C
- Note	with natural convection	with natural convection	with natural convection	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
Humidity class according to EN 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
Mechanics				
Connection technology	screw-type terminals	screw-type terminals	screw-type terminals	screw-type terminals
Connections				
• Supply input	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm ² single-core/finely stranded	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm ² single-core/finely stranded	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm ² single-core/finely stranded	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm ² single-core/finely stranded
• Output	+, -: 2 screw terminals each for 0.5 ... 2.5 mm ²	+, -: 2 screw terminals each for 0.5 ... 2.5 mm ²	+, -: 2 screw terminals each for 0.5 ... 2.5 mm ²	+, -: 2 screw terminals each for 0.5 ... 2.5 mm ²
• Auxiliary	-	-	-	-
width of the enclosure	32.5 mm	50 mm	70 mm	110 mm
height of the enclosure	125 mm	125 mm	125 mm	125 mm
depth of the enclosure	120 mm	120 mm	120 mm	125 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
Weight, approx.	0.3 kg	0.5 kg	0.75 kg	1.8 kg
product feature of the enclosure housing can be lined up	Yes	Yes	Yes	Yes
Installation	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
MTBF at 40 °C	3 153 082 h	3 076 166 h	2 333 396 h	-
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)			

DC/DC converter



6/2	Introduction
6/3	SITOP PSU3400
6/12	SITOP PSU400M
6/14	Other DC/DC converters
6/14	48–220 V DC/24 V DC/0.375 A

DC/DC converter

Introduction

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.

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
- 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 (available soon)

Ordering data

Article No.

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

DC/DC converter

SITOP PSU3400

Technical specifications

Article number	6EP3133-0TA00-0AY0	6EP3233-0TA00-0AY0	6EP3123-0TA00-0AY0
Product	SITOP PSU3400	SITOP PSU3400	SITOP PSU3400
Power supply, type	24 V/5 A	24 V/5 A	12 V/8 A
Input			
Input	DC voltage	DC voltage	DC voltage
• Note	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 resistance	-	-	-
Mains buffering	at $V_{in} = 24 V$	at $V_{in} = 48 V$	at $V_{in} = 24 V$
Mains buffering at $I_{out rated}$, min.	5 ms; at $V_{in} = 24 V$	5 ms; at $V_{in} = 48 V$	5 ms; at $V_{in} = 24 V$
input current			
• at rated input voltage 24 V	5.5 A	-	4.5 A
• at rated input voltage 48 V	-	2.7 A	-
Switch-on current limiting (+25 °C), max.	15 A	15 A	15 A
I^2t , max.	0.18 A²s	0.12 A²s	0.18 A²s
Built-in incoming fuse	25 A (not accessible), breaking capacity 300 A	15 A (not accessible), breaking capacity 100 A	15 A (not accessible), breaking capacity 100 A
Protection in the mains power input (IEC 898)	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			
Output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
Rated voltage V_{out} DC	24 V	24 V	12 V
• output voltage at output 1 at DC rated value	24 V	24 V	12 V
Total tolerance, static ±	1 %	1 %	2 %
Static mains compensation, approx.	0.1 %	0.1 %	0.2 %
Static load balancing, approx.	0.3 %	0.3 %	1.3 %
Residual ripple peak-peak, max.	150 mV	150 mV	150 mV
Residual ripple peak-peak, typ.	15 mV	70 mV	10 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	250 mV	250 mV	250 mV
Spikes peak-peak, typ. (bandwidth: 20 MHz)	40 mV	220 mV	30 mV
Adjustment range	24 ... 28 V	24 ... 28 V	12 ... 15.5 V
product function output voltage adjustable	Yes	Yes	Yes
Output voltage setting	via potentiometer	via potentiometer	via potentiometer
Status display	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 12 V OK
On/off behavior	No overshoot of V_{out} (soft start)	No overshoot of V_{out} (soft start)	No overshoot of V_{out} (soft start)
Startup delay, max.	0.5 s	0.5 s	0.5 s
Voltage rise, typ.	10 ms	10 ms	10 ms
voltage increase time of the output voltage maximum	20 ms	20 ms	20 ms
Rated current value $I_{out rated}$	5 A	5 A	8 A
Current range	0 ... 6 A	0 ... 6 A	0 ... 8 A
• Note	6 A up to +40°C; +60 ... +70 °C: Derating 2%/K	6 A up to +40°C; +60 ... +70 °C: Derating 2%/K	+60 ... +70 °C: Derating 2%/K
supplied active power typical	130 W	130 W	107 W
Parallel switching for enhanced performance	Yes	Yes	Yes
Numbers of parallel switchable units for enhanced performance	2	2	2

Technical specifications (continued)

Article number	6EP3133-0TA00-0AY0	6EP3233-0TA00-0AY0	6EP3123-0TA00-0AY0
Product	SITOP PSU3400	SITOP PSU3400	SITOP PSU3400
Power supply, type	24 V/5 A	24 V/5 A	12 V/8 A
Efficiency			
Efficiency at V_{out} rated, I_{out} rated, approx.	93 %	92 %	90 %
Power loss at V_{out} rated, I_{out} rated, approx.	10 W	10 W	11 W
power loss [W] during no-load operation maximum	1.5 W	1.5 W	1.5 W
Closed-loop control			
Dynamic mains compensation (V_{in} rated ± 15 %), max.	0.3 %	0.3 %	0.3 %
Dynamic load smoothing (I_{out} : 50/100/50 %), $U_{out} \pm$ typ.	2 %	2 %	4 %
Load step setting time 50 to 100%, typ.	1 ms	1 ms	2 ms
Load step setting time 100 to 50%, typ.	1 ms	1 ms	2 ms
Protection and monitoring			
Output overvoltage protection	$U_a < 35$ V	$U_a < 35$ V	$U_a < 22$ V
Current limitation, typ.	6.5 A	6.5 A	9 A
property of the output short-circuit proof	Yes	Yes	Yes
Short-circuit protection	Electronic shutdown, automatic restart	Electronic shutdown, automatic restart	Electronic shutdown, automatic restart
Overload/short-circuit indicator	Yellow LED overload	Yellow LED overload	Yellow LED overload
Safety			
Primary/secondary isolation	Yes	Yes	Yes
galvanic isolation	Safety extra low output voltage V_{out} according to EN 60950-1	Safety extra low output voltage V_{out} according to EN 60950-1	Safety extra low output voltage V_{out} according to EN 60950-1
Protection class	Class III	Class III	Class III
Degree of protection (EN 60529)	IP20	IP20	IP20
Approvals			
CE mark	Yes	Yes	Yes
UL/cUL (CSA) approval	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
certificate of suitability NEC Class 2	No	No	No
CB approval	Yes	Yes	Yes
certificate of suitability EAC approval	Yes	Yes	Yes
Regulatory Compliance Mark (RCM)	Yes	Yes	Yes
Marine approval	ABS, DNV GL	ABS, DNV GL	ABS, DNV GL
EMC			
Emitted interference	EN 61000-6-3	EN 61000-6-3	EN 61000-6-3
Supply harmonics limitation	not applicable	not applicable	not applicable
Noise immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
environmental conditions			
ambient temperature			
• during operation	-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C
- Note	with natural convection	with natural convection	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
Humidity class according to EN 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation

DC/DC converter

SITOP PSU3400

Technical specifications (continued)

Article number	6EP3133-0TA00-0AY0	6EP3233-0TA00-0AY0	6EP3123-0TA00-0AY0
Product	SITOP PSU3400	SITOP PSU3400	SITOP PSU3400
Power supply, type	24 V/5 A	24 V/5 A	12 V/8 A
Mechanics			
Connection technology	screw-type terminals	screw-type terminals	screw-type terminals
Connections			
• Supply input	L, N, FE: 1 screw terminal each for 0.5 ... 2.5 mm ² single-core/finely stranded	L, N, FE: 1 screw terminal each for 0.5 ... 2.5 mm ² single-core/finely stranded	L, N, FE: 1 screw terminal each for 0.5 ... 2.5 mm ² single-core/finely stranded
• Output	+, -: 2 screw terminals each for 0.5 ... 2.5 mm ²	+, -: 2 screw terminals each for 0.5 ... 2.5 mm ²	+, -: 2 screw terminals each for 0.5 ... 2.5 mm ²
width of the enclosure	32 mm	32 mm	32 mm
height of the enclosure	100 mm	100 mm	100 mm
depth of the enclosure	100 mm	100 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
Weight, approx.	0.32 kg	0.32 kg	0.32 kg
product feature of the enclosure housing can be lined up	Yes	Yes	Yes
Installation	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
electrical accessories	Buffer module	Buffer module	Buffer module
MTBF at 40 °C	1 953 545 h	1 965 061 h	1 934 648 h
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)		
Article number	6EP3233-0TA10-0AY0	6EP3133-0TA10-0AY0	6EP3332-0TA00-0AY0
Product	SITOP PSU3400	SITOP PSU3400	SITOP PSU3400
Power supply, type	24 V/3.5 A	24 V/4 A	24 V/2.5 A
Input			
Input	DC voltage	DC voltage	1-phase AC or DC
Rated voltage value $V_{in rated}$	-	-	120 ... 240 V
Voltage range AC	-	-	88 ... 264 V
• Note	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 resistance	-	-	-
Mains buffering	at $V_{in} = 48 V$	at $V_{in} = 12 V$	at $V_{in rated}$
Mains buffering at $I_{out rated, min.}$	5 ms; at $V_{in} = 48 V$	2 ms; at $V_{in} = 12 V$	5 ms; at $V_{in rated}$
Rated line frequency 1	-	-	50 Hz
Rated line frequency 2	-	-	60 Hz
Rated line range	-	-	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	-	-
Switch-on current limiting (+25 °C), max.	15 A	15 A	15 A
I^2t , max.	0.09 A²·s	0.08 A²·s	0.09 A²·s
Built-in incoming fuse	15 A (not accessible), breaking capacity 100 A	25 A (not accessible), breaking capacity 300 A	15 A (not accessible), breaking capacity 100 A
Protection in the mains power input (IEC 898)	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

Technical specifications (continued)

Article number	6EP3233-0TA10-0AY0	6EP3133-0TA10-0AY0	6EP3332-0TA00-0AY0
Product	SITOP PSU3400	SITOP PSU3400	SITOP PSU3400
Power supply, type	24 V/3.5 A	24 V/4 A	24 V/2.5 A
Output			
Output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
Rated voltage V_{out} DC	24 V	24 V	24 V
• output voltage at output 1 at DC rated value	24 V	24 V	24 V
Total tolerance, static $\pm$	1 %	2 %	1 %
Static mains compensation, approx.	0.1 %	0.1 %	0.1 %
Static load balancing, approx.	0.2 %	0.6 %	0.2 %
Residual ripple peak-peak, max.	150 mV	150 mV	150 mV
Residual ripple peak-peak, typ.	30 mV	20 mV	30 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	250 mV	250 mV	250 mV
Spikes peak-peak, typ. (bandwidth: 20 MHz)	70 mV	40 mV	70 mV
Adjustment range	24 ... 28 V	24 ... 28 V	24 ... 28 V
product function output voltage adjustable	Yes	Yes	Yes
Output voltage setting	via potentiometer	via potentiometer	via potentiometer
Display	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK
On/off behavior	No overshoot of V_{out} (soft start)	No overshoot of V_{out} (soft start)	No overshoot of V_{out} (soft start)
Startup delay, max.	0.5 s	0.5 s	0.5 s
Voltage rise, typ.	10 ms	10 ms	10 ms
voltage increase time of the output voltage maximum	20 ms	20 ms	20 ms
Rated current value $I_{out rated}$	3.5 A	4 A	2.5 A
Current range	0 ... 3.5 A	0 ... 4 A	0 ... 3.5 A
• Note	+60 to +70 °C: without derating	+60 ... +70 °C: Derating 2%/K	+60 to +70 °C: without derating
supplied active power typical	91 W	108 W	85 W
Parallel switching for enhanced performance	Yes	Yes	Yes
Numbers of parallel switchable units for enhanced performance	2	2	2
Efficiency			
Efficiency at $V_{out rated}$, $I_{out rated}$, approx.	90 %	89 %	85 %
Power loss at $V_{out rated}$, $I_{out rated}$, approx.	7 W	12 W	7 W
power loss [W] during no-load operation maximum	1.5 W	1.5 W	1.5 W
Closed-loop control			
Dynamic mains compensation ($V_{in rated} \pm 15 \%$), max.	0.3 %	0.3 %	0.3 %
Dynamic load smoothing (I_{out} : 50/100/50 %), $U_{out} \pm$ typ.	2 %	2 %	2 %
Load step setting time 50 to 100%, typ.	1 ms	1 ms	1 ms
Load step setting time 100 to 50%, typ.	1 ms	1 ms	1 ms
Protection and monitoring			
Output overvoltage protection	$U_a < 35 V$	$U_a < 35 V$	$U_a < 35 V$
Current limitation, typ.	3.8 A	4.5 A	3.8 A
property of the output short-circuit proof	Yes	Yes	Yes
Short-circuit protection	Electronic shutdown, automatic restart	Electronic shutdown, automatic restart	Electronic shutdown, automatic restart
Overload/short-circuit indicator	Yellow LED overload	Yellow LED overload	Yellow LED overload

DC/DC converter

SITOP PSU3400

Technical specifications (continued)

Article number	6EP3233-0TA10-0AY0	6EP3133-0TA10-0AY0	6EP3332-0TA00-0AY0
Product	SITOP PSU3400	SITOP PSU3400	SITOP PSU3400
Power supply, type	24 V/3.5 A	24 V/4 A	24 V/2.5 A
Safety			
Primary/secondary isolation	Yes	Yes	Yes
galvanic isolation	Safety extra low output voltage V_{out} according to EN 60950-1	Safety extra low output voltage V_{out} according to EN 60950-1	Safety extra low output voltage V_{out} according to EN 60950-1
Protection class	Class III	Class III	Class III
Degree of protection (EN 60529)	IP20	IP20	IP20
Approvals			
CE mark	Yes	Yes	Yes
UL/cUL (CSA) approval	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
certificate of suitability NEC Class 2	No	No	No
CB approval	Yes	Yes	Yes
certificate of suitability EAC approval	Yes	Yes	No
Regulatory Compliance Mark (RCM)	Yes	Yes	Yes
Marine approval	ABS, DNV GL	ABS, DNV GL	-
EMC			
Emitted interference	EN 61000-6-3	EN 61000-6-3	EN 61000-6-3
Supply harmonics limitation	not applicable	not applicable	not applicable
Noise immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
environmental conditions			
ambient temperature			
• during operation	-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C
- Note	with natural convection	with natural convection	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
Humidity class according to EN 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
Mechanics			
Connection technology	screw-type terminals	screw-type terminals	screw-type terminals
Connections			
• Supply input	L, N, FE: 1 screw terminal each for 0.5 ... 2.5 mm ² single-core/finely stranded	L, N, FE: 1 screw terminal each for 0.5 ... 2.5 mm ² single-core/finely stranded	L, N, FE: 1 screw terminal each for 0.5 ... 2.5 mm ² single-core/finely stranded
• Output	+, -: 2 screw terminals each for 0.5 ... 2.5 mm ²	+, -: 2 screw terminals each for 0.5 ... 2.5 mm ²	+, -: 2 screw terminals each for 0.5 ... 2.5 mm ²
width of the enclosure	32 mm	32 mm	32 mm
height of the enclosure	100 mm	100 mm	100 mm
depth of the enclosure	100 mm	100 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
Weight, approx.	0.32 kg	0.32 kg	0.32 kg
product feature of the enclosure housing can be lined up	Yes	Yes	Yes
Installation	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
electrical accessories	Buffer module	Buffer module	Buffer module
MTBF at 40 °C	1 934 648 h	1 868 914 h	1 934 648 h
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)		

Technical specifications (continued)

Article number	6EP3134-0TA00-0AY0	6EP3124-0TA00-0AY0	6EP3234-0TA00-0AY0
Product	SITOP PSU3400	SITOP PSU3400	SITOP PSU3400
Power supply, type	24 V/10 A	12 V/15 A	24 V/10 A
Input			
Input	DC voltage	DC voltage	DC voltage
• Note	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
Overtolerance resistance	-	-	-
Mains buffering	at $V_{in} = 24 V$	at $V_{in} = 24 V$	at $V_{in} = 48 V$
Mains buffering at $I_{out rated}$, min.	5 ms; at $V_{in} = 24 V$	5 ms; at $V_{in} = 24 V$	5 ms; at $V_{in} = 48 V$
input current			
• at rated input voltage 24 V	10.8 A	8.4 A	-
• at rated input voltage 48 V	-	-	5.4 A
Switch-on current limiting (+25 °C), max.	15 A	15 A	15 A
I^2t , max.	0.6 A²·s	0.6 A²·s	0.5 A²·s
Built-in incoming fuse	25 A (not accessible), breaking capacity 300 A	25 A (not accessible), breaking capacity 300 A	15 A (not accessible), breaking capacity 100 A
Protection in the mains power input (IEC 898)	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			
Output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
Rated voltage V_{out} DC	24 V	12 V	24 V
• output voltage at output 1 at DC rated value	24 V	12 V	24 V
Total tolerance, static ±	1 %	2 %	1 %
Static mains compensation, approx.	0.1 %	0.2 %	0.1 %
Static load balancing, approx.	0.3 %	1 %	0.3 %
Residual ripple peak-peak, max.	150 mV	150 mV	150 mV
Residual ripple peak-peak, typ.	30 mV	30 mV	50 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	250 mV	250 mV	250 mV
Spikes peak-peak, typ. (bandwidth: 20 MHz)	50 mV	50 mV	70 mV
Adjustment range	24 ... 28 V	12 ... 15.5 V	24 ... 28 V
product function output voltage adjustable	Yes	Yes	Yes
Output voltage setting	via potentiometer	via potentiometer	via potentiometer
Status display	Green LED for 24 V OK	Green LED for 12 V OK	Green LED for 24 V OK
Signaling	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.
On/off behavior	No overshoot of V_{out} (soft start)	No overshoot of V_{out} (soft start)	No overshoot of V_{out} (soft start)
Startup delay, max.	0.5 s	0.5 s	0.5 s
Voltage rise, typ.	10 ms	5 ms	10 ms
voltage increase time of the output voltage maximum	20 ms	10 ms	20 ms
Rated current value $I_{out rated}$	10 A	15 A	10 A
Current range	0 ... 12.5 A	0 ... 15 A	0 ... 12.5 A
• Note	12 A up to +40°C; +60 ... +70 °C: Derating 2%/K	+60 ... +70 °C: Derating 2%/K	12 A up to +40°C; +60 ... +70 °C: Derating 2%/K
supplied active power typical	260 W	200 W	256 W
Parallel switching for enhanced performance	Yes	Yes	Yes
Numbers of parallel switchable units for enhanced performance	2	2	2

DC/DC converter

SITOP PSU3400

Technical specifications (continued)

Article number	6EP3134-0TA00-0AY0	6EP3124-0TA00-0AY0	6EP3234-0TA00-0AY0
Product	SITOP PSU3400	SITOP PSU3400	SITOP PSU3400
Power supply, type	24 V/10 A	12 V/15 A	24 V/10 A
Efficiency			
Efficiency at V_{out} rated, I_{out} rated, approx.	93 %	91 %	93.5 %
Power loss at V_{out} rated, I_{out} rated, approx.	20 W	21 W	17 W
power loss [W] during no-load operation maximum	1.5 W	0.5 W	1.5 W
Closed-loop control			
Dynamic mains compensation (V_{in} rated ± 15 %), max.	0.3 %	0.3 %	0.3 %
Dynamic load smoothing (I_{out} : 50/100/50 %), U_{out} $\pm$ typ.	2 %	4 %	2 %
Load step setting time 50 to 100%, typ.	1 ms	2 ms	1 ms
Load step setting time 100 to 50%, typ.	1 ms	2 ms	1 ms
Protection and monitoring			
Output overvoltage protection	$U_a < 35$ V	$U_a < 22$ V	$U_a < 35$ V
Current limitation, typ.	13 A	16 A	13 A
property of the output short-circuit proof	Yes	Yes	Yes
Short-circuit protection	Electronic shutdown, automatic restart	Electronic shutdown, automatic restart	Electronic shutdown, automatic restart
Overload/short-circuit indicator	Yellow LED overload	Yellow LED overload	Yellow LED overload
Safety			
Primary/secondary isolation	Yes	Yes	Yes
galvanic isolation	Safety extra low output voltage V_{out} according to EN 60950-1	Safety extra low output voltage V_{out} according to EN 60950-1	Safety extra low output voltage V_{out} according to EN 60950-1
Protection class	Class III	Class III	Class III
Degree of protection (EN 60529)	IP20	IP20	IP20
Approvals			
CE mark	Yes	Yes	Yes
UL/cUL (CSA) approval	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
certificate of suitability NEC Class 2	No	No	No
CB approval	Yes	Yes	Yes
certificate of suitability EAC approval	Yes	Yes	Yes
Regulatory Compliance Mark (RCM)	Yes	Yes	Yes
Marine approval	ABS, DNV GL	ABS, DNV GL	ABS, DNV GL
EMC			
Emitted interference	EN 61000-6-3	EN 61000-6-3	EN 61000-6-3
Supply harmonics limitation	not applicable	not applicable	not applicable
Noise immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
environmental conditions			
ambient temperature			
• during operation	-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C
- Note	with natural convection	with natural convection	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
Humidity class according to EN 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation

Technical specifications (continued)

Article number	6EP3134-0TA00-0AY0	6EP3124-0TA00-0AY0	6EP3234-0TA00-0AY0
Product	SITOP PSU3400	SITOP PSU3400	SITOP PSU3400
Power supply, type	24 V/10 A	12 V/15 A	24 V/10 A
Mechanics			
Connection technology	screw-type terminals	screw-type terminals	screw-type terminals
Connections			
• Supply input	L, N, FE: 1 screw terminal each for 0.5 ... 2.5 mm ² single-core/finely stranded	L, N, FE: 1 screw terminal each for 0.5 ... 2.5 mm ² single-core/finely stranded	L, N, FE: 1 screw terminal each for 0.5 ... 2.5 mm ² single-core/finely stranded
• Output	+, -: 2 screw terminals each for 0.5 ... 2.5 mm ²	+, -: 2 screw terminals each for 0.5 ... 2.5 mm ²	+, -: 2 screw terminals each for 0.5 ... 2.5 mm ²
• Auxiliary	Alarm signals: 2 screw terminals for 0.5 ... 2.5 mm ²	Alarm signals: 2 screw terminals for 0.5 ... 2.5 mm ²	Alarm signals: 2 screw terminals for 0.5 ... 2.5 mm ²
• signaling contact	2 screw terminals for 0.5 ... 2.5 mm ²	2 screw terminals for 0.5 ... 2.5 mm ²	2 screw terminals for 0.5 ... 2.5 mm ²
width of the enclosure	42 mm	42 mm	42 mm
height of the enclosure	125 mm	125 mm	125 mm
depth of the enclosure	120 mm	120 mm	120 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
Weight, approx.	0.6 kg	0.6 kg	0.6 kg
product feature of the enclosure housing can be lined up	Yes	Yes	Yes
Installation	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
electrical accessories	Buffer module	Buffer module	Buffer module
MTBF at 40 °C	1 579 080 h	1 411 273 h	1 552 337 h
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)		

More information

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

<http://www.siemens.com/tst>

DC/DC converter

SITOP PSU400M

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.

Ordering data

Article No.

SITOP PSU400M 1-phase, 24 V DC/20 A

Stabilized power supply
Input: 600 V AC
Output: 24 V DC/20 A

6EP1536-3AA00

Accessories

Unit labeling plate

3RT2900-1SB20

SITOP PSU400M voltage surge limiter

6EP1566-3AA00

Technical specifications

Article number	6EP1536-3AA00
Product	SITOP PSU400M
Power supply, type	24 V/20 A
Input	
Input	DC voltage
• Note	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 resistance	Shutdown at $V_{in} > 900$ V DC
input current	
• at DC at rated input voltage 600 V	0.85 A
Switch-on current limiting (+25 °C), max.	8 A
I^2t , max.	0.02 A ² ·s
Built-in incoming fuse	yes, cut-off capacity 20 kA; L/R < 2 ms ("+" and "-" input)
Output	
Output	Controlled, isolated DC voltage
Rated voltage V_{out} DC	24 V
• output voltage at output 1 at DC rated value	24 V
Total tolerance, static ±	3 %
Static mains compensation, approx.	0.3 %
Static load balancing, approx.	0.3 %
Residual ripple peak-peak, max.	150 mV
Residual ripple peak-peak, typ.	30 mV

Article number	6EP1536-3AA00
Product	SITOP PSU400M
Power supply, type	24 V/20 A
Spikes peak-peak, max. (bandwidth: 20 MHz)	200 mV
Spikes peak-peak, typ. (bandwidth: 20 MHz)	100 mV
Adjustment range	24 ... 28.8 V
product function output voltage adjustable	Yes
Output voltage setting	via potentiometer; max. 480 W
Status display	Green LED for 24 V OK, green flashing LED for start delay
Signaling	Relay contact (NO contact, rating 60 V DC/ 0.3 A; 30 V DC/1 A) for 24 V OK
On/off behavior	No overshoot of V_{out} (soft start)
Startup delay, max.	0.1 s; 10 s adjustable using switch
voltage increase time of the output voltage maximum	150 ms
Rated current value $I_{out rated}$	20 A
Current range	0 ... 20 A
• Note	+60 ... +70 °C: Derating 5.5%/K
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

Technical specifications (continued)

Article number	6EP1536-3AA00	Article number	6EP1536-3AA00
Product	SITOP PSU400M	Product	SITOP PSU400M
Power supply, type	24 V/20 A	Power supply, type	24 V/20 A
duration of overloading capability for excess current		EMC	
• on short-circuiting during the start-up	150 ms	Emitted interference	EN 55022 Class A (emission)
• at short-circuit during operation	25 ms	Supply harmonics limitation	-
constant overload current		Noise immunity	EN 61000-6-2
• on short-circuiting during the start-up typical	23 A	environmental conditions	
Parallel switching for enhanced performance	Yes; switchable characteristic	ambient temperature	
Numbers of parallel switchable units for enhanced performance	2	• during operation	-25 ... +70 °C
Efficiency		- Note	with natural convection
Efficiency at $V_{out rated}$, $I_{out rated}$, approx.	95 %	• during transport	-40 ... +85 °C
Power loss at $V_{out rated}$, $I_{out rated}$, approx.	25 W	• during storage	-40 ... +85 °C
Closed-loop control		Humidity class according to EN 60721	Climate class 3K3, 5 ... 95% no condensation
Dynamic mains compensation ($V_{in rated} \pm 15\%$), max.	1.5 %	Mechanics	
Dynamic load smoothing (I_{out} : 50/100/50 %), $U_{out} \pm$ typ.	1.5 %	Connection technology	screw-type terminals
Load step setting time 50 to 100%, typ.	1 ms	Connections	
Load step setting time 100 to 50%, typ.	1 ms	• Supply input	DC input, +, -, PE: 1 screw terminal each for 0.2 ... 6/4 mm ² single-core/finely stranded
setting time maximum	5 ms	• Output	+, -: 2 screw terminals each for 0.2 ... 6/4 mm ² single-core/finely stranded
Protection and monitoring		• Auxiliary	Alarm signals: 2 screw terminals for 0.14 ... 1.5 mm ² single-core/finely stranded
Output overvoltage protection	< 33 V	width of the enclosure	90 mm
Current limitation, typ.	22 A	height of the enclosure	125 mm
property of the output short-circuit proof	Yes	depth of the enclosure	125 mm
Short-circuit protection	Alternatively, constant current characteristic approx. 22 A or latching shutdown	required spacing	
enduring short circuit current RMS value		• top	50 mm
• typical	22 A	• bottom	50 mm
overcurrent overload capability in normal operation	overload capability 150 % $I_{out rated}$ up to 5 s/min	• left	0 mm
Overload/short-circuit indicator	LED yellow for "overload", LED red for "latching shutdown", red LED flashing for "Overtemperature"	• right	0 mm
Safety		Weight, approx.	1.2 kg
Primary/secondary isolation	Yes	product feature of the enclosure housing can be lined up	Yes
galvanic isolation	Protective extra low output voltage V_{out} according to EN 60950-1 and EN 50178	Installation	Snap onto DIN rail EN 60715 35x7.5/15
Protection class	Class I	mechanical accessories	Device identification label 20 mm x 7 mm, pale turquoise 3RT1900-1SB20 622 277 h
Degree of protection (EN 60529)	IP20	MTBF at 40 °C	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
Approvals		other information	
CE mark	Yes		
UL/cUL (CSA) approval	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259		
certificate of suitability NEC Class 2	No		
CB approval	Yes		
certificate of suitability EAC approval	Yes		
Marine approval	DNV GL		

DC/DC converter

Other DC/DC converters

48–220 V DC/24 V DC/0.375 A**Overview**

The optimal power supply for automation solutions in the lowest performance range.

The advantages at a glance:

- Wide-range input for 48-220 V DC
- Compact and slim design
- Especially suited for solutions where space is limited and in combination with low-voltage switchgear.

Ordering data**SITOP power 0.375 A**

DC/DC stabilized power supply
Input: 48 ... 220 V DC
Output: 24 V DC/0.375 A

Article No.**6EP1731-2BA00****6****Technical specifications**

Article number	6EP1731-2BA00
Product	SITOP power
Power supply, type	24 V/0.375 A
Input	
Input	DC voltage
Voltage range AC supply voltage	30 ... 187 V
• at DC input voltage	48 ... 220 V
• at DC	30 ... 264 V
Wide-range input	Yes
Overvoltage resistance	-
Mains buffering	at $V_{in} = 220\text{ V}$
Mains buffering at $I_{out\text{ rated}}$, min. input current	10 ms; at $V_{in} = 220\text{ V}$
• at rated input voltage 48 V	0.3 A
• at rated input voltage 220 V	0.06 A
Switch-on current limiting (+25 °C), max.	35 A
duration of inrush current limiting at 25 °C	
• typical	3 ms
I^2t , max.	1.2 A ² ·s
Built-in incoming fuse	F 4 A/250 V (not accessible)
Protection in the mains power input (IEC 898)	Recommended miniature circuit breaker: from 6 A characteristic C, suitable for DC

Article number	6EP1731-2BA00
Product	SITOP power
Power supply, type	24 V/0.375 A
Output	
Output	Controlled, isolated DC voltage
Rated voltage V_{out} DC	24 V
• output voltage at output 1 at DC rated value	24 V
Total tolerance, static $\pm$	3 %
Static mains compensation, approx.	0.1 %
Static load balancing, approx.	0.1 %
Residual ripple peak-peak, max.	150 mV
Residual ripple peak-peak, typ.	50 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	240 mV
Spikes peak-peak, typ. (bandwidth: 20 MHz)	50 mV
product function output voltage adjustable	No
Output voltage setting	-
Status display	Green LED for 24 V OK
On/off behavior	No overshoot of V_{out} (soft start)
Startup delay, max.	2.5 s
Voltage rise, typ.	90 ms
Rated current value $I_{out\text{ rated}}$	0.375 A
Current range	0 ... 0.375 A
• Note	+60 ... +70 °C: Derating 3%/K
supplied active power typical	9 W
short-term overload current	
• at short-circuit during operation typical	2.7 A
duration of overloading capability for excess current	
• at short-circuit during operation	200 ms
Parallel switching for enhanced performance	No

Technical specifications (continued)

Article number	6EP1731-2BA00
Product	SITOP power
Power supply, type	24 V/0.375 A
Efficiency	
Efficiency at V_{out} rated, I_{out} rated, approx.	66 %
Power loss at V_{out} rated, I_{out} rated, approx.	4.6 W
Closed-loop control	
Dynamic mains compensation (V_{in} rated ± 15 %), max.	0.3 %
Dynamic load smoothing (I_{out} : 50/100/50 %), $U_{out} \pm$ typ.	0.4 %
Load step setting time 50 to 100%, typ.	2 ms
Load step setting time 100 to 50%, typ.	2 ms
Protection and monitoring	
Output overvoltage protection	Yes, according to EN 60950-1
Current limitation	0.41 ... 0.49 A
property of the output short-circuit proof	Yes
Short-circuit protection	Electronic shutdown, automatic restart
enduring short circuit current RMS value	
• maximum	0.9 A
Overload/short-circuit indicator	-
Safety	
Primary/secondary isolation	Yes
galvanic isolation	Safety extra-low output voltage U_{out} acc. to EN 60950-1 and EN 50178
Protection class	Class I
leakage current	
• maximum	3.5 mA
Degree of protection (EN 60529)	IP20
Approvals	
CE mark	Yes
UL/cUL (CSA) approval	cULus-Listed (UL 508, CSA C22.2 No. 142), File E143289, cURus-Recognized (UL 60950, CSA C22.2 No. 60950), File E151273
certificate of suitability NEC Class 2	No
CB approval	No
certificate of suitability EAC approval	Yes
Marine approval	-
EMC	
Emitted interference	EN 55022 Class B
Supply harmonics limitation	not applicable
Noise immunity	EN 61000-6-2
environmental conditions	
ambient temperature	
• during operation	-25 ... +70 °C
- Note	with natural convection
• during transport	-40 ... +70 °C
• during storage	-40 ... +70 °C
Humidity class according to EN 60721	Climate class 3K3, 5 ... 95% no condensation

Article number	6EP1731-2BA00
Product	SITOP power
Power supply, type	24 V/0.375 A
Mechanics	
Connection technology	screw-type terminals
Connections	
• Supply input	L+1, M1, PE: 1 screw terminal each for 0.5 ... 2.5 mm ² single-core/finely stranded
• Output	+ : 1 screw terminal for 0.5 ... 2.5 mm ² ; - : 2 screw terminals for 0.5 ... 2.5 mm ²
• Auxiliary	-
width of the enclosure	22.5 mm
height of the enclosure	80 mm
depth of the enclosure	91 mm
required spacing	
• top	50 mm
• bottom	50 mm
• left	0 mm
• right	0 mm
Weight, approx.	0.14 kg
product feature of the enclosure housing can be lined up	Yes
Installation	Snap onto DIN rail EN 60715 35x7.5/15
MTBF at 40 °C	1 466 123 h
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)

DC/DC converter

Notes