SIEMENS

SITOP power supply

SITOP modular

The technology power supply for demanding solutions

Brochure

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siemens.com/sitop-modular

The one, two and three-phase SITOP modular power supply units are the technology power supplies for demanding solutions. They offer maximum functionality and reliability for use in complex plants and machines. The wide-range input allows connection to almost any electrical power system worldwide and ensures a high degree of safety even if there are large voltage fluctuations.

These high-performance power supply units offer outstanding overload characteristics: Power Boost delivers up to three-times the rated current for short periods of time in order to trigger protective equipment, and with 50% Extra Power, loads with high inrush current can be connected without any problems. In case of overload, you can choose between constant current or latching shutdown.

The extremely high degree of efficiency ensures low energy consumption and minimal heat loss in the control cabinet.
The compact metal enclosure, which requires no spacing at either side, also saves space on the DIN rail. To further increase availability, SITOP modular power supply units can be combined with buffer, DC UPS, redundancy and selectivity modules.

The benefits at a glance

- Technology power supply units from 5 – 40 A for demanding applications
- Compact, rugged metal housing
- No lateral installation clearances required
- Power boost for tripping protective devices
- Extra power for high inrush currents
- Selectable short-circuit response
- Symmetrical load distribution can be selected for parallel operation
- Extremely high efficiency up to 94%
- Remote On/Off allows energy savings by means of standby mode
- Operating status via 3 LEDs and signaling contact
- Wide ambient temperature range from -25 to +70 °C
- Comprehensive certifications, such as cULus, ATEX, ClassI Div2, IECEx, GL and ABS
- Can be expanded with buffer, redundancy, selectivity and DC UPS modules for enhancing availability

High functionality for every application
SITOP modular offers special functions that facilitate universal use and flexible adaptation to the application:

Protection of overvoltages caused by consumers
When connecting inductances such as DC motors or contactors, voltages in excess of the rated voltage can be created. During this period, the 24 V power supply units enter the standby mode, after which they then supply the set voltage again. This ensures that the application is continuously supplied.

Parallel connection for performance enhancement
For the **parallel connection** of 2 or more power supply units of the same type, each be set to “soft characteristics”. This ensures a symmetrical load distribution that prevents one power supply being subjected to an unevenly high load and thus its service life being reduced.
In the **individual mode** the "hard characteristic" (delivery status) ensures a constant output voltage, regardless of the output current.

Adjustable overload response
In the **constant current** mode (delivery status) the output current is limited to 1.15 times the rated current. With a larger load, the output voltage is reduced to just a few volts.
The constant current also permits the dimensioning of the cables according to this maximum current.

If the 24 V output should become de-energized, the **latching shutdown** operating mode is the correct choice. The power supply shuts down if overloaded by 1.15 times the rated current.
To restart, a targeted activation of the power supply is necessary, e.g. by means of the Remote On/Off function.

Selection matrix for the power supply units according to function. Classification of the SITOP modular product line within the SITOP product range:

			SITOP compact	LOGO! Power	SITOP lite	SITOP smart	SITOP modular	
			The slim power supply unit for control boxes	The flat power supply unit for distribution boards	The cost-effective basic power supply	The powerful standard power supply	Technology power supply for demanding solutions	SITOP PSU8600 power supply system with complete TIA integration
								
Input/output	Input	AC/DC	1 ~ =	1 ~ =	1 ~	1,3 ~	1,2,3 ~ =	3 ~
	Rated power up to approx.	P	100 W	100 W	480 W	960 W	960 W	960 W
	Rated output voltages	U	12/24 V DC	5/12/15/24 V DC	24 V DC	12/24 V DC	24/36/48 V DC	5 - 28 V DC
	Rated output currents (24 V)	I	0.6 - 4.0 A	1.3 - 4.0 A	2.5 - 20 A	2.5 - 40 A	5 - 40 A	20 - 40 A
Properties	Overload behavior	P_{max}				Extra Power	Extra Power, Power Boost	Extra Power
	Energy efficiency		+ +	+	+	+ +	+ + +	+ + +
	Automation integration					DC ok	DC ok, Remote On/Off	PROFINET
Safety, environment	Explosion protection: ATEX, IECEx or FM		•	•		•	•	•
	Marine approval: GL or ABS			•		•	•	•
	Ambient temperature range		-20 ... +70 °C	-20 ... +70 °C	0 ... +60 °C	-25 ... +70 °C	-25 ... +70 °C	-25 ... +60 °C
24 V power supply units expandable with ...	Redundancy module		•	•	•	•	•	•
	Selectivity module	I >	•	•	•	•	•	Integrated
	Buffer module	s				•	•	Integrated
	DC UPS with ultracaps	min	•	•	•	•	•	Integrated
	DC UPS with batteries	h	•	•	•	•	•	•

● = applicable

The SITOP technological power supply unit meets the highest demands in terms of reliability, functionality and universal use. Typical applications are special-purpose machines and systems in manufacturing and factory automation.

Support from planning to operation

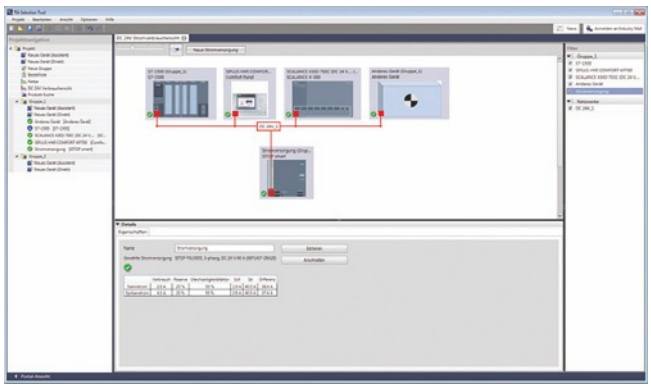
Free software and comprehensive data significantly reduce the time required for planning, dimensioning and ordering the matching power supply, from documentation all the way to operation.

SITOP Selection Tool

- Simple and intuitive handling: Find the appropriate power supply or DC UPS faster
- Product selection based on essential technical characteristics with a more detailed comparison afterwards
- Export of the selection results or redirection to the Industry Mall
- Fast access to specific product information such as CAx data or product data sheets
- Available online and in CA01 Catalog (DVD)

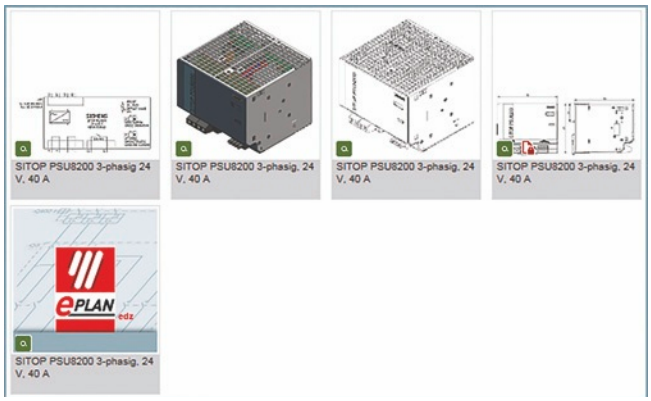
TIA Selection Tool

- Easy selection of the required power supply for selected automation products, e.g. SIMATIC S7, SIMATIC HMI or SCALANCE
- Intuitive handling and assignment of 24 V DC consumers with drag and drop
- Selection of the power supply according to power consumption (rated current as well as peak current) of the consumers
- Redundant configuration of the power supply units possible



Comprehensive data and documentation

- Additional information such as 3D data, circuit diagram macros, certificates and operating instructions make configuration and documentation easier (available via CAx download manager)
- Mechanical and electrical engineering data can be downloaded in DXF, STEP and EPLAN format and can be used directly in the CAD or CAE system
- The manual configurator supports individual compilation of the plant documentation consisting of manuals, data sheets or certificates



Industry Online Support App

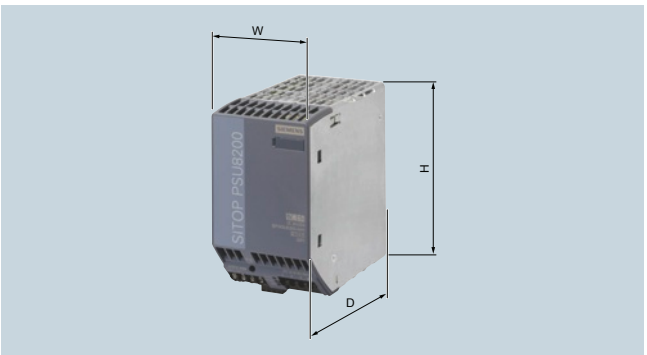
- Scanning of product codes/EAN codes with direct display of all technical information for this product including graphical data (CAx data)
- Product information or entries can be sent by e-mail
- Technical Support for questions. Photo function for submitting detailed information
- Offline cache functions of all favorites saved in mySupport. No network coverage required for retrieval

				NEW 		
Technical specifications	**SITOP modular, 1-phase**				**SITOP modular, 1-phase and 2-phase [1]**	
Typical output voltage/current	**24 V/5 A, PSU8200**	**24 V/10 A, PSU8200**	**24 V/20 A, PSU8200**	**24 V/40 A, PSU8200**	**24 V/5 A, PSU200M**	**24 V/10 A, PSU200M**
Article No.	6EP3333-8SB00-0AY0	6EP3334-8SB00-0AY0	6EP1336-3BA10	6EP3337-8SB00-0AY0	6EP1333-3BA10	6EP1334-3BA10
Input voltage range	120/230 V AC		120/230 V AC		120 – 230/230 – 500 V AC	
– Range	85 ... 138/170 ... 264 V AC, automatic range selection		85 ... 275 V AC or 88 ... 350 V DC	85 ... 132/ 170 ... 264 V AC, automatic range selection	85 ... 264/176 ... 550 V AC, manual switchover	
Mains buffering	>35 ms (at 120/230 V)		> 20 ms (at 120/230 V)	> 25 ms (at 230 V)	> 25 ms (at 120/230 V)	> 25 ms (at 120/230 V)
Line frequency Rated value	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Rated input current	2.1/1.2 – 10 A	4/1.9 – 10 A	4.6 – 2.5A	15.0/8.0 A	2.2 – 1.2/1.2 – 0.61 A	4.4 – 2.4/2.4 – 1.1 A
– Inrush current (25 °C)	< 10 A	< 10 A	< 20 A	< 35 A	< 35 A	< 35 A
– Recommended miniature circuit breaker	6 A charact. C or 3RV1021-1xA10	10 A charact. C or 3RV1021-1xA10		20 A charact. C or 3RV2411-xxA10	6 A charact. C or 3RV2011-1xA10	
Rated output voltage	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC
– Tolerance	±3%	±3%	±3%	±3%	±3%	±3%
– Adjustment range	24 ... 28.8 V DC	24 ... 28.8 V DC	24 ... 28.8 V DC	24 ... 28.8 V DC	24 ... 28.8 V DC	24 ... 28.8 V DC
Rated output current	5 A	10 A	20 A	40 A	5 A	10 A
– Overload response (Power Boost for 25 ms)	15 A	30 A	60 A	120 A	15 A	30 A
– Overload behavior (Extra Power for 5 s/min)	7.5 A	15 A	30 A	60 A	–	–
– Derating	–	Above +60°C (2%/K)	Above +60°C (3 %/K)	Above +60°C (2.5%/K)	Above +60°C (2%/K)	Above +60°C (2 %/K)
Signaling via LEDs	DC ok, overload (constant current), Shutdown (latching shutdown)		DC ok, overload (constant current), Shutdown (latching shutdown)		DC ok, overload (constant current), shutdown (latching shutdown)	
Signaling via a signaling contact	DC ok	DC ok	DC ok	DC ok	DC ok	DC ok
Switching on/off via Remote On/ Off contact	Yes	Yes	No	No	No	No
Efficiency at rated values, approx.	93%	94%	93%	92%	88%	87%
Switching in parallel	Yes, output characteristic can be set for parallel operation			Yes, output characteristic can be set for parallel operation		
Electronic short-circuit protection	Yes, choice of constant current or latching shutdown Constant current: Approx. 1.15 x rated output current					
Radio interference suppression (EN 55022)	Class B	Class B	Class B	Class B	Class B	Class B
Supply harmonics limitation (EN 61000-3-2)	Yes	Yes	Yes	Yes	Yes	Yes
Degree of protection EN 60529	IP20	IP20	IP20	IP20	IP20	IP20
Ambient temperature	-25 ... +70°C	-25 ... +70°C	-25 ... +70°C	-25 ... +70°C	-25 ... +70°C	-25 ... +70°C
Dimensions (W x H x D) in mm	45 x 125 x 125	55 x 125 x 125	90 x 125 x 125	145 x 145 x 150	70 x 125 x 121	70 x 125 x 121
Weight, approx.	0.8 kg	1 kg	1.5 kg	3.1 kg	0.6 kg	1.4 kg
Certifications	CE, cULus, ATEX, IECEx, cCSAus Class I Div 2, SEMI F47 [2], GL, ABS		CE, cULus, ATEX, IECEx, UL Class I Div 2, GL, ABS	CE, cULus, ATEX, IECEx, cCSAus Class I Div 2, SEMI F47 [3], GL, available soon: ABS	CE, cULus, ATEX, IECEx, UL Class I Div 2, SEMI F47 [2], GL, ABS	
Accessories	Device labeling plate 20 mm x 7 mm, 340 units. Article No. 3RT1900-1SB20 (pale turquoise), 3RT2900-1SB20 (titanium gray)					

[1] Connection to two phases of a 3-phase supply network [2] For 208-230 V AC input voltage [3] In connection with two buffer modules

Dimensions and installation instructions

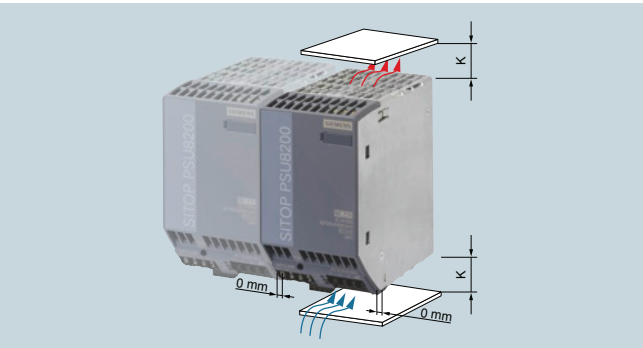
W = width, H = height, D = depth:
See "Technical Specifications" for dimensions.
The depth measurement refers to the enclosure without the DIN rail mounting adapter holder. To determine the required installation depth, the depth of the DIN rail should be added to "D".



				
SITOP modular, 3-phase		**SITOP modular, 3-phase, 36 V**	**SITOP modular, 3-phase, 48 V**	
24 V/20 A, PSU8200	**24 V/40 A, PSU8200**	**36 V/13 A, PSU8200**	**48 V/10 A, PSU300M**	**48 V/20 A**
6EP3436-8SB00-0AY0	6EP1437-3BA10	6EP3446-8SB10-0AY0	6EP1457-3BA00	6EP1457-3BA00
400 – 500 V 3 AC 320 ... 575 V 3 AC	400 – 500 V 3 AC 320 ... 575 V 3 AC	400 – 500 V 3 AC 320 ... 575 V 3 AC	400 – 500 V 3 AC 320 ... 575 V 3 AC	400 – 500 V 3 AC 340 ... 550 V 3 AC
> 15 ms (at 400 V)	> 15 ms (at 400 V)	> 15 ms (at 400 V)	> 15 ms (at 400 V)	> 6 ms (at 400 V)
50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
1.2 – 1.0 A	2.6 – 2.1 A	1.2 – 1.0 A	1.2 – 1.0 A	2.2 A (at 400 V)
< 18 A	< 56 A	< 18 A	< 18 A	< 70 A
6 – 16 A charact. C, 3-ph. coupled or 3RV2011-1DA10 or 3RV2711-1DD10	10 – 16 A charact. C, 3-ph. coupled or 3RV2011-1DA10 or 3RV2711-1DD10	6 – 16 A charact. C, 3-ph. coupled or 3RV2011-1DA10 or 3RV2711-1DD10	6 – 16 A charact. C, 3-ph. coupled or 3RV2011-1DA10 or 3RV2711-1DD10	10 – 16 A charact. C, 3-ph. coupled or 3RV2011-1DA10 or 3RV2711-1DD10
24 V DC	24 V DC	36 V DC	48 V DC	48 V DC
±3%	±3%	±3%	±3%	±3%
24 ... 28.8 V DC	24 ... 28.8 V DC	32 ... 40 V DC	42 ... 56 V DC	42 ... 56 V DC
20 A 60 A 30 A Above +60°C (3%/K)	40 A 120 A 60 A Above +60°C (3.8%/K)	13 A 39 A 19.5 A Above +60°C (3%/K)	10 A 23 A 15 A Above +60°C (3%/K)	20 A 60 A – –
DC ok, overload (constant current), shutdown (latching shutdown), phase failure, overtemperature	DC ok, overload (constant current), shutdown (latching shutdown), overtemperature	DC ok, overload (constant current), shutdown (latching shutdown), phase failure	DC ok, overload (constant current), shutdown (latching shutdown), phase failure, overtemperature	DC ok, overload (constant current), shutdown (latching shutdown)
DC ok	DC ok	DC ok	DC ok	no, via signaling module (6EP1961-3BA10)
Yes	No	Yes	No	no, via signaling module (6EP1961-3BA10)
94%	92%	94%	94%	90%
Yes, output characteristic can be set for parallel operation			Yes, output characteristic can be set for parallel operation	
Yes, choice of constant current or latching shutdown Constant current: Approx. 1.15 x rated output current				
Class B	Class B	Class B	Class B	Class B
Yes	Yes	Yes	Yes	Yes
IP 20	IP 20	IP 20	IP 20	IP 20
-25 ... +70 °C	-25 ... +70 °C	-10 ... +70 °C	-10 ... +70 °C	0 ... +60 °C
70 x 125 x 125	150 x 125 x 150	70 x 125 x 125	70 x 125 x 125	240 x 125 x 125
1.2 kg	3.4 kg	1.2 kg	1.2 kg	3.2 kg
CE, cULus, ATEX, IECEx, UL Class I Div 2, SEMI F47, GL, ABS	CE; cULus, CB, ATEX, IECEx, cCSAus Class I Div 2, SEMI F47, GL, ABS	CE; cULus, CB, cCSAus Class I Div 2, GL, ABS	CE; cULus, CB, ATEX, IECEx, cCSAus Class I Div 2, GL, ABS	CE, UL, CSA, GL, ABS

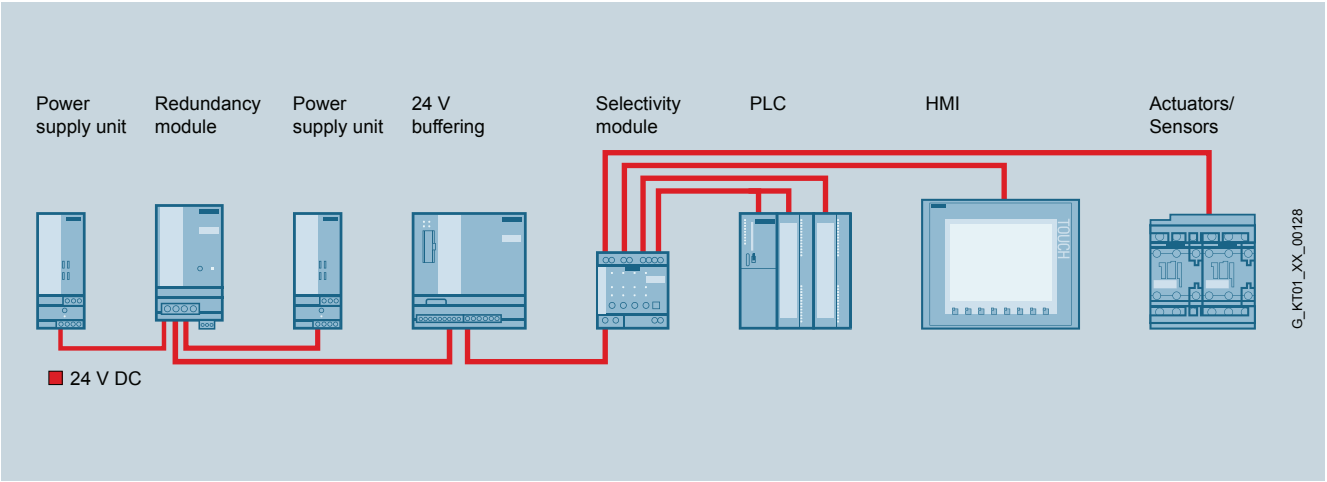
Technical specifications apply for rated input voltage and +25 °C ambient temperature (if not otherwise specified).

Lateral clearance to other devices is not required (applies across the entire temperature range). This also applies to active components such as PLC CPUs which generate their own heat. Compared to most other manufacturers, compact SITOP modular power supply units save additional space on the DIN rail.
During installation, clearances (K) must be observed both above and below the power supply unit for natural convection. K = Spacing for natural convection:
All SITOP modular units: min. 50 mm,
except 6EP3337-8SB00-0AY0: min. 40 mm



Our answers to the demands made on a reliable power supply:

Use different add-on modules for flexible expansion of SITOP modular power supply units to build up all-round protection!



Protection against power supply unit failure:
SITOP PSE202U redundancy module

- Reliable 24 V supply even when a power supply fails
- Less space required due to compact redundancy modules for power supplies up to 40 A
- Version with power limitation to 100 VA according to NEC Class 2
- Signalling contact for status signalling to controller, PC or process control system

Protection of 24 V feeders:
SITOP PSE200U selectivity module

- Reliable protection for up to 4 consumer feeders per module
- Reliable tripping regardless of cable lengths or cross-sections
- Sequential connection of feeds is possible to reduce inrush current
- Multicolored LEDs for status signalling of each output
- Fast channel-specific diagnostics via single-channel signaling (evaluation by means of free SIMATIC S7 function blocks for S7-1200/1500/300/400)
- Simple commissioning thanks to manual switch on/off of outputs

24 V buffering in case of power failures:
For the seconds range:
SITOP PSE201U buffer module

- Long-lasting, maintenance-free electrolyte capacitors even at high ambient temperatures
- Buffering for up to 10 s, depending on load current and number of buffer modules

For the minutes range:
SITOP UPS500 uninterruptible power supply

- Long-lasting, maintenance-free double-layer capacitors (ultracaps) even at high ambient temperatures
- No battery replacement and no ventilation of control cabinet required
- Available in 2 versions: Standard DIN rail device for modular expansion and rugged design with IP65 protection
- Easy integration into PC-based automation systems by means of USB port and free software tool

For the hours range:
SITOP UPS1600 uninterruptible power supply

- Battery modules on lead and lithium basis offer reliable protection against long power failures
- Optimum charging and continuous monitoring of energy storage device
- Comprehensive operating and diagnostics information
- Direct integration into open communication networks: Ethernet or PROFINET
- Comprehensive TIA integration saves time and money in planning and operation

Additional information on SITOP:

SITOP Selection Tool:
siemens.com/sitop-selection-tool

TIA Selection Tool:
siemens.com/sitop-tst

Downloadable operating instructions:
siemens.com/sitop/manuals

Requesting CAx data via the CAx download manager:
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Security information

Siemens provides products and solutions with industrial security functions that support the secure operation of plants, systems, machines and networks.

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens' products and solutions only form one element of such a concept.

Customer is responsible to prevent unauthorized access to its plants, systems, machines and networks. Systems, machines and components should only be connected to the enterprise network or the internet if and to the extent necessary and with appropriate security measures (e.g. use of firewalls and network segmentation) in place.

Additionally, Siemens' guidance on appropriate security measures should be taken into account. For more information about industrial security, please visit **http://www.siemens.com/industrialsecurity.**

Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends to apply product updates as soon as available and to always use the latest product versions. Use of product versions that are no longer supported, and failure to apply latest updates may increase customer's exposure to cyber threats.

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