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SITOP power supply

SITOP smart

The high-performance standard power supply for 1-phase and 3-phase networks

Brochure

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SITOP smart is the high-performance standard power supply for automated machinery and plants with 24 V DC or 12 V DC electronics. Thanks to its high overload capability, even loads with high power demand can be connected without difficulty. The 24 V power supplies can continuously manage 120% of the rated power.

Thanks to their slim design and seamless installation next to laterally mounting devices, the power supplies take up hardly any space on the DIN rail. The high degree of efficiency ensures low energy consumption and minimal heat loss in the control cabinet. The flexible input voltage range allows problem-free connection to 1- and 3-phase networks around the world.

Comprehensive certifications also facilitate universal usage, for example in hazardous areas. To further increase the availability, the reliable power supplies can be combined with DC UPS, redundancy and selectivity modules.

In addition to the matching power supply solution, SITOP offers comprehensive support from the planning phase until operation. The SITOP Selection Tool and TIA Selection Tool software make it easy to select and order the power supply including DC UPS.

The tools also provide detailed technical specifications, CAD files and circuit diagram macros for easy designing. You can use the QR code on the power supply units and the Siemens Industry Support app to receive all relevant information on your mobile device.

The benefits at a glance

- Minimum mounting space due to slim design, no lateral installation clearances required
- "Extra Power" with 1.5 times the rated current for 5 s/min for brief overloads
- Can be continuously used with 120% of the rated power at up to 45 °C ambient temperature (24 V versions)
- Signaling contact for "output voltage OK" for easy integration in the plant monitoring system
- Low energy consumption and minimal heat generation inside the control cabinet due to high efficiency
- PSU100S:
  Automatic range switchover 120/230 V AC
- PSU300S:
  Wide-range input 400 – 500 V, 3 AC
- Adjustable output voltage for compensating voltage drops
- Wide temperature range from -25 to +70 °C
- Comprehensive certifications, such as cULus, ATEX, IEC or GL for all standard applications worldwide

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Selection matrix of the DIN rail power supply units according to functions. Classification of the SITOP smart 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 power-ful standard power supply	Technology power supply for demanding solutions	Power supply system SITOP PSU8600 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	0.6 - 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 o.k. Remote on/off	PROFINET, OPC UA
Safety, environment	Explosion pro-tection: 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
24V 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

SITOP smart is the standard power supply for manufacturers of series machines, control cabinets and plants, especially in the automotive, textile, food & beverage and pharma industries, as well as for renewable energies (e.g. solar heating)

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Support from planning to operation

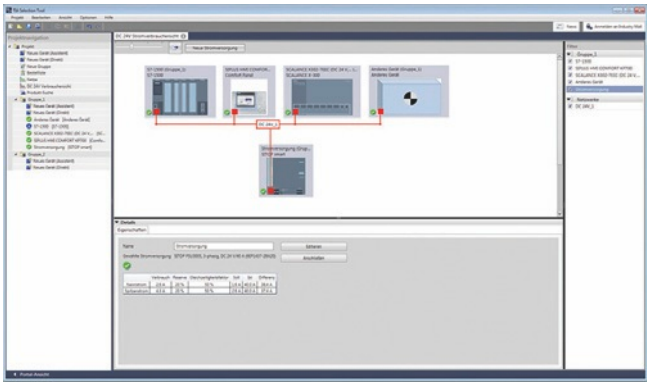
Free software and comprehensive data significantly reduce the time required for planning, dimensioning and ordering the matching power supply, from documentation all the way to operation.

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
- Backup of the selection results or direct transfer 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

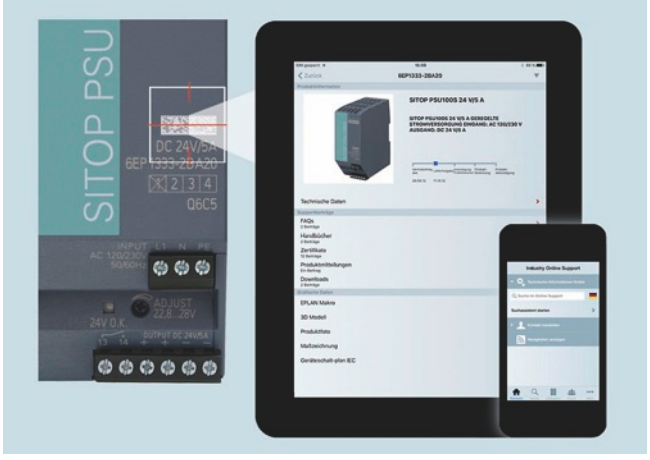


Comprehensive data and documentation

- 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 email
- Technical Support for questions. Photo function for submitting detailed information
- Offline cache function of all favorites saved in mySupport. No network coverage required for retrieval



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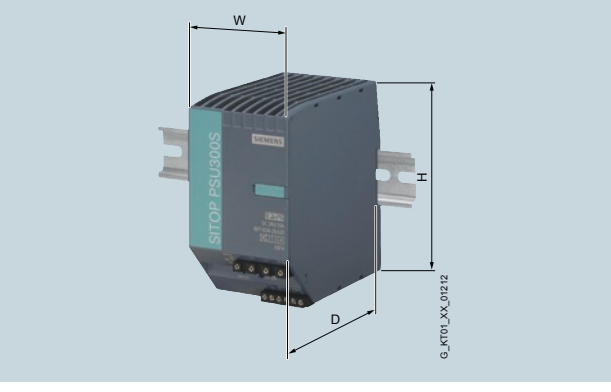
Technical specifications [1]

SITOP smart	SITOP PSU100S, 1-phase				
					
Output voltage/current	**12 V/7 A**	**12 V/14 A**	**24 V/2.5 A**	**24 V/5 A**	**24 V/10 A**
Article No. [2]	6EP1322-2BA00	6EP1323-2BA00	6EP1332-2BA20	6EP1333-2BA20	6EP1334-2BA20
Input voltage					
– Rated value	120/230 V AC			120/230 V AC	
– Range	85 ... 132/170 ... 264 V AC, automatic range selection			85 ... 132/170 ... 264 V AC, automatic range selection	
Line frequency					
– Rated value	50/60 Hz			50/60 Hz	
Mains buffering	20 ms (at 93/187 V AC)			20 ms (at 93/187 V AC)	
Input current					
– Rated value at 120/230 V AC	1.73 A/0.99 A	3.24 A/1.41 A	1.25 A/0.74 A	2.34 A/1.36 A	4.49 A/1.91 A
– Inrush current [3]	< 45 A	< 60 A	< 33 A	< 40 A	< 60 A
– Recommended miniature circuit breaker	From 6 A, C characteristic	From 10 A, C characteristic	From 3 A, C characteristic	From 6 A, C characteristic	From 10 A, C characteristic
Output voltage					
– Rated value	12 V DC		24 V DC		
– Tolerance	±3%		±3%		
– Adjustment range	11.5 ... 15.5 V DC		22.8 ... 28 V DC		
Output current					
– Rated value	7 A	14 A	2.5 A	5 A	10 A
– continuous up to +45 °C	7 A	14 A	3 A	6 A	12 A
– Overload response (Extra power for 5 s/min)	10.5 A	21 A	3.75 A	7.5 A	15 A
– Derating	Above +50 °C (0.75%/K)	Above +50 °C (3.5%/K)	Above +60 °C (3%/K)	Above +60 °C (1.6%/K)	Above +60 °C (3%/K)
Switching in parallel	Yes			Yes	
Efficiency at rated value, approx.	84%	87%	85%	88%	90%
Short-circuit protection	Yes, constant current			Yes, constant current	
Radio interference suppression (EN 55022)	Class B			Class B	
Supply harmonics limitation (EN 61000-3-2)	Yes		Not applicable	Yes	
Degree of protection EN 60529	IP20			IP20	
Ambient temperature	-25 ... +70°C			-25 ... +70°C	
Dimensions (W x H x D) in mm	50 x 125 x 120	70 x 125 x 120	32.5 x 125 x 120	50 x 125 x 120	70 x 125 x 120
Weight, approx.	0.5 kg	0.7 kg	0.32 kg	0.5 kg	0.8 kg
Certifications	CE, cULus, CB, ATEX, IECEx, cCSAus Class I Div 2, DNV GL		CE, cULus, CB, ATEX, IECEx, cCSAus Class I Div 2, DNV GL, BV		

[1] Technical data apply with rated input voltage and +25 °C ambient temperature (if not otherwise specified).
[2] You can find up-to-date ordering data as well as our terms of sale and delivery on the Internet.
[3] The inrush current can be limited to 10 A using the "SITOP inrush current limiter" expansion module, Article Number 6EP1967-2AA00.

Dimensions and installation instructions

W = width, H = height, D = depth:
See Technical Data table for dimensions.
The depth information refers to the enclosure without the DIN rail mounting adapter. To determine the required installation depth "D", you have to add the depth of the DIN rail



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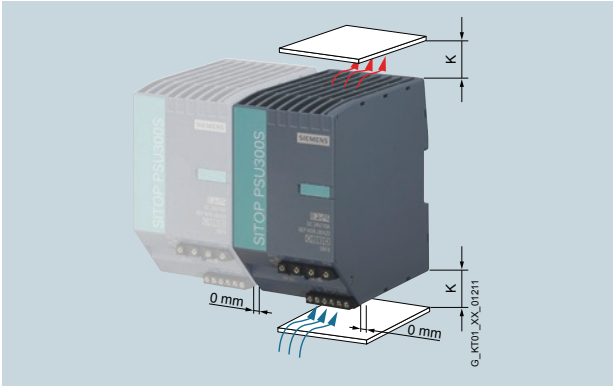
	SITOP PSU300S, 3-phase			
				
24 V/20 A	**24 V/5 A**	**24 V/10 A**	**24 V/20 A**	**24 V/40 A**
6EP1336-2BA10	6EP1433-2BA20	6EP1434-2BA20	6EP1436-2BA10	6EP1437-2BA20
120/230 V AC 85 ... 132/170 ... 264 V AC, automatic range switching	400 – 500 V, 3 AC 340 – 550 V, 3 AC			
50/60 Hz			50/60 Hz	
20 ms (at 120/230 V AC)	> 6 ms (at 400 V)			
7.5 A/3.5 A < 11 A From 10 A, C characteristic	0.45 - 0.4 A < 20 A From 3 ... 16 A C characteristic, 3-phase coupled	0.7 – 0.6 A < 20 A	1.2 – 1.0 A < 36 A From 6 ... 16 A C characteristic, 3-phase coupled	2 – 1.7 A < 60 A From 10 ... 16 A C characteristic, 3-phase coupled
24 V DC ±3% 24 ... 28 V DC			24 V DC ±3% 24 ... 28 V DC	
20 A 20 A 30 A	5 A 6 A 7.5 A	10 A 12 A 15 A	20 A 24 A 30 A	40 A 48 A 60 A
Above +60 °C (5%/K)			Above +60 °C (5%/K)	Above +60 °C (2.5%/K)
Yes			Yes	
90%	89%	91%	91%	91.5%
Yes, restart	Yes, constant current	Yes, constant current	Yes, restart	
Class B			Class B	
Yes			Yes	
IP20			IP20	
0 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C	0 ... +70 °C	0 ... +70 °C
115 x 145 x 150	50 x 125 x 120	70 x 125 x 120	90 x 145 x 150	150 x 145 x 150
2.4 kg	0.5 kg	0.7 kg	1.6 kg	3.7 kg
CE, cULus, CB, ATEX, IECEx, cCSAus Class I Div 2, DNV GL	CE, cULus, CB, ATEX, IECEx, UL Class I Div 2, DNV GL, ABS		CE, cULus, CB, ATEX, IECEx, cCSAus Class I Div 2, DNV GL, ABS	

For operation under challenging ambient conditions, selected SITOP smart power supply units are available in SIPLUS extreme product versions: 100% relative humidity, resistance against biologically, chemically and mechanically active substances according to EN60721.
www.siemens.com/sitop-extreme

Lateral clearance to other devices is not required (applies to the entire temperature range). This is also true for active components, such as PLC CPUs, that develop their own heat. Compared to most other manufacturers, compact SITOP smart power supply units save additional space on the DIN rail.
During installation, clearances (K) must be observed above and below the power supply unit for natural convection.
K = distance for natural convection:
PSU100S: min. 50 mm
PSU300S: min. 40 mm



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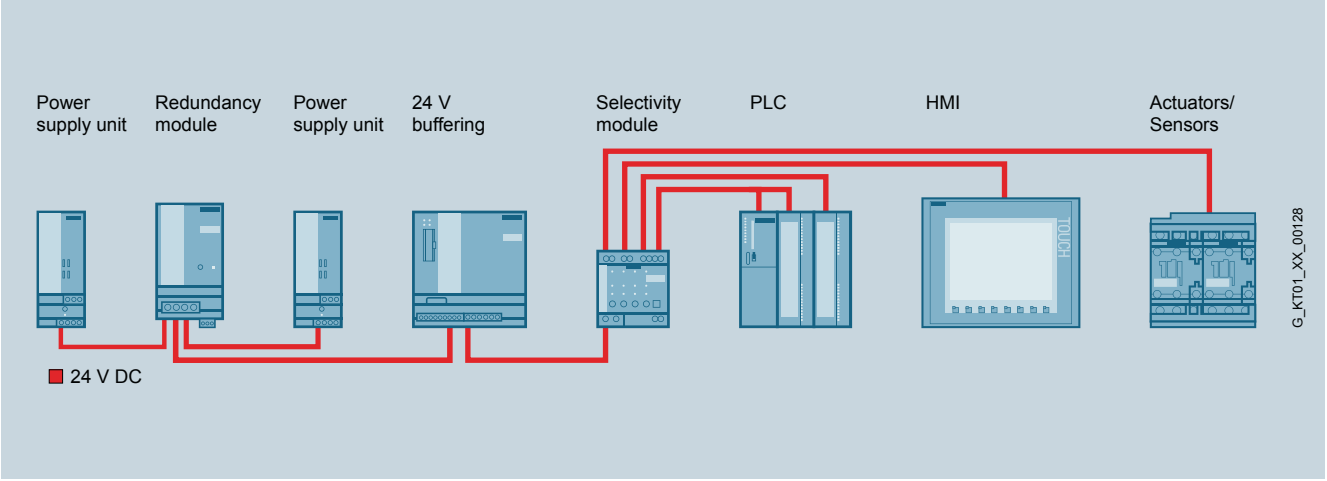
Our answers to the demands made on a reliable power supply:

Use different add-on modules for flexible expansion of SITOP smart 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
- Signaling contact for status signaling 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
- Fast and channel-specific diagnostics through 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 buffering in the seconds range: SITOP PSE201U buffering 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 buffering modules

Buffering in the minutes range: Uninterruptible SITOP UPS500 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: Modular, expandable DIN rail devices and rugged design with IP65 protection
- Easy integration into PC-based automation systems with free SW tool and USB

Buffering in the hours range: Uninterruptible SITOP UPS1600 power supply

- Battery modules on lead and lithium basis offer reliable protection against power failures
- Optimal 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

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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 with the
CAx download manager:
siemens.com/cax

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http://www.siemens.com/industrialsecurity.

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