

**SIEMENS**



# SITOP power supply:

The standard for reliability, compactness, and functionality

Reliably supplies 24 V DC

[www.usa.siemens.com/sitop](http://www.usa.siemens.com/sitop)



## Always available, always safe: SITOP

A reliable, constant supply of power is indispensable to the efficient operation of any plant – 365 days a year. This is precisely what SITOP represents, our perfectly matched, complete range of products that sets standards in reliability, compactness and functionality. SITOP proves its value a million times a day in practical use – protecting against plant shutdown and production downtimes.



### **Reliable, functional ...**

The product lines of our family of switched mode power supply units cover just about all requirements in automation engineering:

- Innovative: LOGO!Power: the flat power supply unit for low power ratings
- New: SITOP compact, the slim power supply for low power ratings
- SITOP smart for all standard applications, now also as 3-phase version
- SITOP modular for the highest demands
- SITOP in SIMATIC design

In addition, SITOP versions meet special requirements regarding design, ambient conditions, and output voltage. Regardless of which switched-mode power supply you are using: You will profit from the highest quality, reliability, and functionality.

### **... extremely compact ...**

Broad functionality and high performance do not have to take up a lot of space. This is made impressively clear by the innovative 24 V DC basic units 20 A and 40 A from SITOP modular, which are among the most compact in their performance class.

The slimmest switched-mode power supply in the new SITOP compact product range, designed for low rated outputs up to 30 W, requires only 22.5 mm of space on the DIN rail.

### **... and highly efficient**

The compact line is optimally suited for distributed applications – not only because of its small footprint, but also due to its minimal heat generation in the control box. Power loss is low over the entire load range, even in during no-load operation. The new 3-phase SITOP smart 20 A is also characterized by its high efficiency, and like the new SITOP modular 20 and 40 A, its degree of efficiency exceeds 90 %.

### **Tailored safety**

The quality of the 24 V DC power supply unit alone does not guarantee a fault-free power supply. Power failures, extreme supply voltage fluctuations, or a defective load can stop plant operation and cause considerable costs. In answer to this, SITOP offers a unique range of add-on modules to protect faults on the

primary and secondary side – all the way to complete all-round protection. Three SITOP solutions alone for 24 V DC backup are available for protection against power failures, including the completely maintenance-free UPS with innovative capacitor technology.

### **For all networks worldwide**

Thanks to its high level of reliability, SITOP has long become established worldwide – and it can even handle critical network conditions. The wide input voltage range allows a connection to almost any electrical power system worldwide. SITOP units are CE and UL/cUL-certified by default. Many devices have approvals for special applications such as in shipbuilding (GL) or in hazardous areas (ATEX).

**Quick delivery – for highest availability**  
SITOP power supplies increase the availability of your plant, and the units themselves are highly available – because they are all in stock.

### The flat power supply unit for distribution boards

The new miniature power supply units now offer even greater performance in the smallest space. The efficiency has been improved throughout the entire load range and the power loss in no-load operation has been reduced 50%. The wide input voltage range now also allows operation on DC voltage, the switch-on response has been optimized for capacitive loads, and the operating temperature range has been extended to +70 °C. The power supplies with logic module design can now be used extremely flexibly in a number of applications – for example, in distribution boards thanks to their flat, stepped profile.

### Essential product features

- 2 performance classes, each with 5 V DC, 12 V DC, and 15 V DC
- 3 performance classes with 24 V DC
- Flat type of construction in LOGO! design, only 55 mm deep
- Wide input voltage range from 85 V to 264 V AC or 110 V to 300 V DC respectively
- Constant current for connecting loads with high inrush current
- Adjustable output voltage
- Green LED for "Output voltage o. k."
- Temperature range from -20 °C to +70 °C
- Comprehensive certification, e. g. ATEX, FM class 1, div. 2, GL, ABS and UL class 2



### Cost-effective power supply for basic applications

The new range of power supplies is designed for standard requirements in industrial environments and offers all important functions at a favorable price, of course without compromising quality and reliability. The wide input voltage range with manual switchover supports connection to a wide range of 1-phase supply systems. Thanks to the narrow width, the devices require little space on the DIN rail, and the good efficiency results in low thermal losses in the control cabinet. Short-circuit and overload protection as well as UL approval for export ensure problem-free use.

### Essential product features

- 24 V/2.5 A, 5 A and 10 A for industrial applications with standard requirements
- 1-phase wide input voltage range with manual switchover
- Narrow mounting width
- High degree of efficiency
- Green LED for "24 V DC OK"
- Parallel connection possible
- Temperature range of 0 °C to 60 °C (above 45 °C with derating)
- Cooling through natural convection
- Short-circuit and overload protection



## compact

### The slim power supply unit for control boxes

Thanks to the extremely space-saving slim design, the new power supply series for the lower performance range is especially suited to distributed applications in control boxes or in small control cabinets. The switched-mode power supplies are characterized by their low power loss over the entire load range. Power loss is extremely low even during no-load operation, which is why they are ideal, for example, for supplying machinery and equipment that are often in stand-by mode.

The SITOP PSU100C switched-mode power supplies have a wide input voltage range for AC and DC networks, with plug-in terminals allowing a simple electrical connection.

### Essential product features

- 24V DC/0.6 A, 1.3 A, 2.5A, and 4 A and 12V DC/2.0 A and 6.5A
- Small mounting surface thanks to its slim design
- Wide input voltage range from 85 V to 264 V AC or 100 VDC to 300 V DC
- High efficiency over the entire load range. Up to 28 % energy savings compared to similar units
- Low energy consumption during no-load or stand-by operation. Up to 53 % energy savings possible
- Adjustable output voltage
- Green LED for "Output voltage o. k."
- Plug-in terminals
- Temperature range from -20 °C to +70 °C
- Comprehensive certification, e. g. ATEX



## smart

### The powerful standard power supply

SITOP Smart is the ideal choice for all 24 V DC applications. In addition to the proven 1-phase power supplies, 3-phase power supplies are now available as well in 10A, 20A and 40A. Whether 1-phase or 3-phase: they are compact, powerful, and low priced. They offer an outstanding overload response despite their compact dimensions.

Thanks to the Extra Power feature with 1.5 times the rated current for 5 seconds, even high inrush loads can be switched on without any problem. With a continuous rated power of 120 percent, the slim power supply units are among the most reliable of their kind. Numerous certifications facilitate the universal and global use and permit their use in hazardous areas.

### Essential product features

- 24 V DC/2.5, 5, 10 and 20 A for standard single phase applications
- 12V DC/ 7A and 14A units for standard single phase applications
- 24 V DC/ 10A, 20A and 40A for standard 3-phase applications
- 24 V DC/10 A, wall-mounted for high shock and vibration requirements
- Extra Power function for brief operational overload
- Permanent overload capability up to 45 °C ambient temperature
- No lateral installation clearances required
- Output voltage adjustable up to 28 V DC for 24V DC units or 15.5 V DC for 12 V DC units
- Comprehensive certification, GL, ATEX and class 1, div. 2
- Expandable with DC UPS, redundancy module, and the electronic diagnostic module



# modular

# SITOP in special design, for special uses

## Technology power supply for demanding solutions

SITOP modular meets the highest requirements for functionality, e. g. for use in complex plants and machines. The wide input voltage range enables connection to any system in the world and guarantees a high level of safety even in the event of large voltage fluctuations. The power boost function briefly supplies up to three times the rated current. In the case of an overload, you can choose between constant current with automatic restart, or user directed restart.

The innovated 1-phase SITOP PSU100M 20 A and 3-ph SITOP PSU300M 20 and 40 A power supply units now offer even more. With their narrow profile design, they are some of the most compact modules in their power class. Improvements include the integrated signaling contact for "24 V DC o.k.", an expanded input voltage range, high efficiency level of 93%, and a supply of 1.5 times the rated current for up to 5 seconds.

## Essential product features

- For demanding applications of 5 to 40 A
- 48V DC/10A and 20A enables small cable cross-sections
- Compact metal housing
- No installation clearances required at the sides
- Wide input voltage range
- Extra Power for brief operational overload
- Power Boost for triggering protective equipment
- Selectable short-circuit characteristics
- Soft characteristic curve selectable for parallel switching
- High efficiency
- Operating status indicated by 3 LEDs
- Can be combined with SITOP power security components and DC UPS



## Equipped for special tasks and conditions

Restricted installation conditions, harsh environmental conditions, or special input or output voltages – whatever the special conditions, these standard power supplies meet even exceptional requirements.

- SITOP flat design – in flat metal housing
- SITOP 3.7 A Class UL class 2 with power limiting to 100W
- DC/DC converter in narrow design for 12V from the 24V DC
- SITOP dual – with 2 outputs, e. g. for electronic loads that are supplied with ±15 V DC
- SITOP flexi – flexibly adjustable output 3 to 52 V DC for extensive functions such as adjustable output current 2 to 10 A, current monitor and sensor cable
- PSU100D direct mount – for direct wall mounting in various installation positions
- PSU300B – three phase power supplies optimized for battery charging
- PSU300E – 24V/5A, three phase power supply for lower wattage applications



# SITOP power supplies in the SIMATIC design

## The optimal power supply for SIMATIC S7 and more

The design and functionality of the original power supplies of the SIMATIC merge optimally into the PLC network. As well as the following SIMATIC systems, they also supply other loads reliably with 24 V DC:

- SIMATIC S7-1200 – the new micro PLC is supplied by the compact PM1207 power module. The automatic range changeover function ensures that the unit can be easily connected to 1-phase 120 V AC and 230 V line supplies.
- SIMATIC S7-200 – the flat power supply is also in demand for shallow installation depths.
- SIMATIC S7-300 – The innovated system and load power supplies require up to 33 % less space on the S7 mounting rail than the previous PS307. The range changeover to 1-phase 120/230 V AC line supplies is now realized automatically, therefore preventing incorrect operator settings. The connecting comb to the CPU is included in the scope of supply; an optional adapter allows the unit to be snapped onto DIN mounting rails.
- SIMATIC S7-1500 – the new PLC is supplied by two versions of the PM1507. The power modules have automatic range detection for easy connection to 120 and 230 VAC power networks. They also feature extra power of 150% of the rated output current for 5s/min for brief overloads.



# Power security modules

Our extensive range of power security modules offers reliable protection against the most diverse hazard sources.

**Buffer module against brief power failure**  
Power failures usually only last a few 100ms – voltage drops that the buffer module, in combination with the SITOP modular basic units, bridges reliably and cost-effectively. Electrolytic capacitors provide the energy without delay when required.

**Redundancy for even more safety**  
Additional protection against failure of the 24 V DC supply is provided by the redundancy module. Thanks to decoupling via diodes, one failed power supply unit has no influence on the others. In this way, the 24 V DC supply is always secured.

**Innovative solution for electronic diagnostic**  
The SITOP PSE200U selectivity module is specially tailored to the characteristics of switched-mode power supplies. The electronics permit brief current peaks but reliably identify and isolate longer lasting overloads – even on long thin cables and with “creeping” short circuits in which the current is limited by the high resistance. Miniature circuit breakers do not trip here or they trip too late, even if the power supply could provide the current. The electronic diagnostic module switches the faulty load circuit off reliably while non affected load circuits continue to operate normally, so total failure of the plant can be avoided. The fault is reported via a common signaling contact and indicated by an LED on the affected load circuit. The fault can thus be located quickly and standstill times can be minimized.



SITOP modular and expansion modules.

## 1 Signaling module

- Floating signal contacts for “output voltage o.k.” and “operating readiness o.k.”
- Power supply can be turned on and off via remote control
- Simply insert and screw the module onto the basic unit 6EP1xxx-3BA00

## 2 Redundancy module

- 2 integral diodes for decoupling two 5 A to 20 A basic units, or one 40 A basic unit
- Group signals “Infeed 1 and 2 o.k.” via green LED and floating relay contact (CO contact)
- Monitoring via LED on the unit and relay contact to the upper level control system
- Threshold voltage adjustable between 20 to 25 V DC

## 3 Buffer module

- Cost-effective protection against brief power failures up to 10 seconds
- Load current to 40 A
- Load currents up to 40 A can be protected
- Connection to the SITOP modular basic unit via just two cables

## 4 SITOP PSE200U electronic diagnostic module

- Monitoring of up to 4 load circuits
- Each output adjustable between 0.5 and 3 A or 3 and 10 A
- Safe detection of overloads even on high-resistance cables
- Uninterruptible maintenance of the 24 V DC for other loads
- Continued operation of non-affected 24 V DC load circuits
- Floating common signaling contact for remote diagnosis
- Remote reset and reset via pushbutton per circuit
- Sequential startup can significantly reduce the total current required from the power supply
- Easy to configure



The SITOP DC UPS with battery modules protects against long power failures.



The innovative UPS500S with long-life capacitors save on battery replacement.

## Reliable 24 V DC at all times – even when the power fails

Power failures can cause plant standstills, take up time, and generate costs. SITOP offers three solutions to counter this:

- Buffer module for cost-effective supplementation of the SITOP modular. Electrolytic capacitors buffer the 24 V DC for up to 10 s.
- SITOP DC UPS with lead gel batteries for bridging power failures for up to a period of hours to allow processes to continue.
- SITOP UPS500, the totally maintenance-free UPS with double-layer capacitors for 24 V DC buffering up to a period of minutes for backing up data and powering down the application.

Both DC UPS systems can be easily integrated into PC-based automation solutions using a free software tool. It supports further processing of the status messages, safe powering down, and correct restart of the system.

[www.siemens.com/sitop-ups](http://www.siemens.com/sitop-ups)

### SITOP DC UPS with battery modules

Compact DC UPS modules ensure continued operation depending on battery capacity and power requirements, even over a period of hours.

#### High availability through battery management

The sophisticated battery management system ensures optimal charging of the batteries – and thus reliable battery readiness. The active battery test function even checks the age of the battery. That makes preventive replacement of the battery superfluous – and results in significant cost savings.

#### Extremely communicative

All the relevant messages are output via floating contacts, and optionally also via serial interface or USB.

- DC UPS modules 6 A, 15 A and 40 A
- Maintenance-free battery modules up to 12 Ah
- Monitoring of operational readiness, battery feeder, age and charge status
- Long service life of the loads and batteries through battery management
- Interruption-free transition from standby mode to buffer mode

### Maintenance-free DC UPS with capacitors: SITOP UPS500

The high-capacity double-layer capacitors store enough energy for powering down PC-based systems.

#### Completely maintenance-free

Even in high ambient temperatures, the capacitors still have an extremely long service life. There is no need for maintenance or replacement of the energy store so the investment in the DC UPS pays off after a short time. And because the capacitors do not emit any gases, there is also no need for control cabinet ventilation. Short charging times quickly restore buffer readiness after a power failure.

#### Can be used inside and outside the control cabinet

The UPS500S for Din-rail mounting can be supplemented with add-on modules to extend the buffering time.

- SITOP UPS500S 15 A, up to 20 kW
- Long service life even at high temperatures
- No ventilation of the installation site necessary

# Selection table SITOP power supplies

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Input voltage	Output current	LOGO!Power	lite	compact	smart	modular	"Special design, special use"	SIMATIC design	Others
<b>Output voltage 24V DC</b>									
1-phase 120V AC, 230V AC	0.6A			6EP1331-5BA00					
	1.3 A	6EP1331-1SH03		6EP1331-5BA10					
	2 A			6EP1331-1LD00			6ES7307-1BA01-0AA0		
	2.5 A	6EP1332-1SH43	6EP1332-1LB00	6EP1332-5BA00	6EP1332-2BA20	6EP1332-1AA00	6EP1332-1SH71	6EP1332-1SH12	
	3 A					6EP1332-1LD00		6EP1332-4BA00	
	3.5 A						6EP1332-1SH31		
	3.7 A						6EP1332-5BA20		
	4 A	6EP1332-1SH52		6EP1332-5BA10		6EP1232-1AA10		6EP1332-1SH22	
	5 A		6EP1333-1LB00		6EP1333-2BA20	6EP1333-3BA00	6EP1333-1AL12	6ES7307-1EA80-0AA0	
							6EP1333-1AA00	6ES7307-1EA01-0AA0	
	6 A						6EP1233-1LD00		
	6.2 A							6EP1333-4BA00	
	8 A								6EP1333-1AL12
	10 A		6EP1334-1LB00		6EP1334-2BA20	6EP1334-3BA00	6EP1334-1AL12	6EP1334-1KA02-0AA0	6EP1334-1SH01
					6EP1334-2AA01-0AB0				
	12 A					6EP1332-5BA20		6EP1234-1AA00	
	12.5 A						6EP1334-1LD00		
	20 A					6EP1336-2BA10	6EP1336-3BA00		
							6EP1336-3BA10		
	40 A						6EP1337-3BA00		



Input voltage	Output current	smart	modular	"Special design, special use"	SIMATIC design	Others
<b>Output voltage 24V DC</b>						
3-phase 400 to 500V AC	5 A		6EP1333-3BA00 <sup>1)</sup>	6EP1433-0AA00		6EP1434-2BA00
	10 A	6EP1434-2BA10	6EP1334-3BA00 <sup>1)</sup>			
	17 A		6EP1436-2BA10	6EP1436-3BA20		6EP1436-2BA00
	20 A		6EP1436-3BA00			
	30 A		6EP1427-3BA00			6EP1427-2BA00
	40 A	6EP1437-2BA20	6EP1437-3BA10	6EP1437-3BA00		6EP1437-2BA10
48 to 220V DC	0.375 A					6EP1731-2BA00
48 to 110V DC	2 A					6EP1732-0AA0
24 to 110V DC	2 A					6ES7305-1BA80-0AA0
	2.5 A					6EP1332-1SH12
110 – 350V DC	4 A					6EP1332-1SH22
	10 A					6EP1334-1SH01
88 – 350V DC	20 A		6EP1336-3BA10			
<sup>1)</sup> Connection to 2 phases 230 – 500V AC – see data sheet SITOP modular 1-/2-phase						
<b>Output voltage 5, 12, 15, 48, ... VDC</b>						
1-phase 120V AC, 230V AC	5 V/3 A	LOGO!Power	compact	smart	modular	"Special design, special use"
	5 V/6.3 A		6EP1311-1SH03			
	12 V/1.9 A		6EP1311-1SH13			
	12 V/2.0 A		6EP1321-1SH03			
	12 V/3 A		6EP1321-5BA00			
	12 V/4.5 A		6EP1322-1SH03			
	12 V/6.5 A		6EP1322-5BA10			
	12V/7 A		6EP1322-2BA00			
	12 V/8.3 A					6EP1322-1LD00
	12 V/14 A					
	15 V/1.9 A		6EP1351-1SH03			
	15 V/4 A		6EP1352-1SH03			
	3 – 52 V/2 – 10 A					6EP1353-2BA00
	2 x 15V/3.5A					6EP1353-0AA00
24 V DC	12V/2.5 A					6EP1621-2BA00
	12V/20A					6EP1424-3BA00
3-phase 400 to 500V AC	48 V/10 A					6EP1456-3BA00
	48 V/20 A					6EP1457-3BA00

Gray: more information in Catalog KT10.1 or in Online Catalog CA01

# LOGO!Power

## Flat power supply for distribution boards

			
<b>Technical data</b>	<b>54 mm design</b>	<b>72 mm design</b>	<b>90 mm design</b>
<b>SITOP</b>	<b>5 V/3 A</b>	<b>12 V/1.9 A</b>	<b>24 V/1.3 A</b>
Order no.	6EP1311-1SH03	6EP1321-1SH03	6EP1331-1SH03
Rated input voltage	100 – 240 V AC – Range 85...264 V AC/110...300 V DC	6EP1351-1SH03	6EP1352-1SH03
Mains buffering	> 40 ms (at 187 V)	> 40 ms (at 187 V)	> 40 ms (at 187 V)
Rated line frequency	50/60 Hz	50/60 Hz	50/60 Hz
Rated input current	0.36-0.22 A – Intrush current < 26 A	0.53-0.30 A – Recommended miniature circuit breaker < 25 A	0.63-0.33 A From 10 A characteristic C resp. 16 A characteristic B < 25 A
Rated output voltage	5 V DC ± 3 % 4.6...5.4 V DC	12 V DC	15 V DC
Setting range	10.5...16.1 V DC	10.5...16.1 V DC	22.2...26.4 V DC
Rated output current (up to +55 °C)	3.0 A	1.9 A	1.3 A
Efficiency at rated values, approx.	77%	80%	85%
No-load loss	< 1.5 W	< 1.8 W	< 2 W
Switching in parallel	Yes	Yes	Yes
Electronic short-circuit protection	Yes, constant current	Yes, constant current	Yes, constant current
Radio interference suppression (EN 55022)	Class B	Class B	Class B
Supply harmonics limitation (EN 61000-3-2)	Not applicable	Not applicable	Not applicable
Degree of protection (EN 60529)	IP20	IP20	IP20
Ambient temperature	-20...+70 °C	-20...+70 °C	-20...+70 °C
Dimensions (W x H x D) in mm	54 x 90 x 55	72 x 90 x 55	90 x 90 x 55
Weight approx.	0.17 kg	0.25 kg	0.34 kg
Certification	CE, cULus, FM, GL, ABS, ATEX, NEC Class 2, Hazardous Locations Class I Div 2, Groups A, B, C and D, T4	CE, cULus, FM, GL, ABS, ATEX, NEC Class 2, Hazardous Locations Class I Div 2, Groups A, B, C and D, T4	CE, cULus, FM, GL, ABS, ATEX, NEC Class 2, Hazardous Locations Class I Div 2, Groups A, B, C and D, T4
US list price	\$90.00	\$90.00	\$119.00
			\$84.00
			\$115.00

All prices are subject to change  
**Specifications at rated input voltage and ambient temperature +25°C (unless otherwise specified)**

# SITOP compact

## Compact power supply for control boxes

Technical data	Overall width 22.5 mm	Overall width 30 mm	Overall width 45mm	Overall width 52.5 mm
<b>Output voltage/current</b>	<b>24V/0.6 A</b>	<b>24V/1.3 A</b>	<b>24V/2.5A</b>	<b>24V/4 A</b>
Order No.	6EP1331-5BA00	6EP1331-5BA10	6EP1332-5BA00	6EP1332-5BA10
Rated input voltage – Range	100 to 230 VAC 85...264 V AC/110...300 V DC	100 to 230 VAC 85...264 V AC/110...300 V DC	100 to 230 VAC 85...264 V AC/110...300 V DC	100 to 230 VAC 85...264 V AC/110...300 V DC
Mains buffering	Typ. 20 ms (at 120/230V AC)			
Rated line frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Rated input current – Recommended MCB	0.28 to 0.12 A from 10 A characteristic C from 16 A characteristic B	0.63 to 0.31 A from 10 A characteristic C from 16 A characteristic B	0.63 to 0.31 A from 10 A characteristic C from 16 A characteristic B	0.63 to 0.31 A from 10 A characteristic C from 16 A characteristic B
Rated output voltage – Tolerance – Setting range	24V DC ± 3% –	24V DC ± 3% 22.2...26.4V DC	12V DC ± 3% 10.5...12.9V DC	24V DC ± 3% 22.2...26.4V DC
Rated output current – Derating	0.6 A (up to +55 °C) +55°C to 70°C	1.3 A (up to +55 °C) +55°C to 70 °C	2 A (up to +55 °C) +55°C to 70°C	2.5A (up to +50°C) +50°C to 70°C
Efficiency with rated values, approx.	82%	86%	82%	89%
No-load loss	< 0.5 W	< 0.5W	< 0.5W	< 0.75 W
Can be switched in parallel	Yes	Yes	Yes	Yes
Electronic short-circuit protection	Yes, restart	Yes, restart	Yes, restart	Yes, restart
Radio suppression level (EN 55022)	Class B	Class B	Class B	Class B
Supply harmonics limitation (EN 61000-3-2)	Not applicable	Not applicable	Not Applicable	Not Applicable
Degree of protection (EN 60529)	IP 20	IP 20	IP 20	IP 20
Ambient temperature	-20...+70 °C	-20...+70 °C	-20...+70 °C	-20...+70°C
Dimensions (W x H x D) in mm	22.5 x 80 x 100	30 x 80 x 100	45 x 80 x 100	52.5 x 80 x 100
Weight, approx.	0.12kg	0.17kg	0.17kg	0.22 kg
Connections <sup>1)</sup>	removable screw terminals	removable screw terminals	removable screw terminals	removable screw terminals
Certification	CE, cULus, cCSAus, ATEX, GL, Hazardous Locations Class I Div 2, Groups A, B, C and D, T4	CE, cULus, cCSAus, ATEX, GL, Hazardous Locations Class I Div 2, Groups A, B, C and D, T4	CE, cULus, cCSAus, ATEX, GL, Hazardous Locations Class I Div 2, Groups A, B, C and D, T4	CE, cULus, cCSAus, ATEX, GL, Hazardous Locations Class I Div 2, Groups A, B, C and D, T4
US list price	\$51.00	\$66.00	\$86.00	\$124.00
				\$130.00

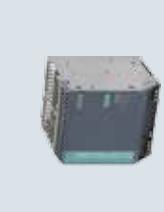
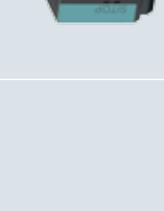
<sup>1)</sup> Can be used with spring loaded terminals instead, part number 6EP1971-5BA00 (100 pieces for 50 units).

# lite

## Cost-effective power supply for basic applications

Technical data		SITOP lite
<b>Output voltage/current</b>	<b>24 V / 2.5 A</b>	<b>24 V / 10 A</b>
Order No.	6EP1332-1LB00	6EP1333-1LB00
Rated input voltage – Range	120 to 230V AC 85...132/170...264 V AC	120 to 230V AC 85...132/170...264 V AC
Mains buffering	> 20 ms (at 93/187 V)	> 20 ms (at 93/187 V)
Rated line frequency	50/60 Hz	50/60 Hz
Rated input current – Inrush current	1.1/0.65 A <27 A	2.1/1.15 A <32 A
– Recommended miniature circuit breaker	3 A Characteristic C	6 A Characteristic C
Rated output voltage – Tolerance – Setting range	24 V DC +3% 22.8...26.4 VDC	24 V DC +3% 22.8...26.4 VDC
Rated output current – Derating	2.5 A from +45°C (2%/K)	5 A from +45°C (2%/K)
Efficiency with rated values, approx.	85%	86%
No-load loss	< 0.5 W	< 0.75 W
Parallel switching	Yes, constant current	Yes, constant current
Electronic short-circuit protection	Class A	Class A
Radio interference suppression (EN 55022)	Not applicable	Yes
Degree of protection (EN 60529)	IP20	IP20
Ambient temperature	0...+60 °C	0...+60 °C
Dimensions (W x H x D) in mm	32.5 x 125 x 125	50 x 125 x 125
Weight, approx.	0.4 kg	0.5 kg
Certification	CE, cULus	CE, cULus
US list price	\$100.00	\$135.00
		\$196.00

# SITOP smart Powerful standard power supply

						
<b>new!</b>						
<b>Technical data</b>						
<b>Output voltage/current</b>	<b>24V/2.5A</b>	<b>24V/5A</b>	<b>12V/7A</b>	<b>24V/10A</b>	<b>12V/14A</b>	<b>24V/10A Wallmount</b>
Order no.	6EP1332-2BA20	6EP1333-2BA20	6EP1322-2BA00	6EP1334-2BA20	6EP1323-2BA00	6EP1334-2AA01-0AB0
Rated input voltage	120/230 VAC	85...132/170...264 VAC, automatic range switching <sup>1)</sup>		120/230 VAC	85...132/170...264 VAC, automatic range switching <sup>1)</sup>	85...132/170...264 VAC, automatic range switching <sup>1)</sup>
Mains buffering	>20 ms (at 93/187 V)	>20 ms (at 93/187 V)	>20 ms (at 93/187 V)	>20 ms (at 93/187 V)	>20 ms (at 93/187 V)	>20 ms (at 93/187 V)
Rated line frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Rated input current	1.25/0.74 A	2.34/1.36 A	1.73 /0.99 A	4.49 A	3.24/1.41 A	4.11/2.0 A
- Inrush current (25 °C)	<33 A	<40 A	<60 A	<65 A	<60	<65 A
- Recommended <sup>1)</sup> miniature circuit breaker	3 A characteristic C	6 A characteristic C	6 A characteristic C	10 A characteristic C	10 A characteristic C	10 A characteristic C
Rated output voltage	24V DC ±3% 22.8...28V DC	24V DC ±3% 22.8...28V DC	12V DC ±3% 11.5...15.5 V DC	4V DC ±3% 22.8...28V DC	12V DC ±3% 11.5...15.5 V DC	24V DC ±3% 22.8...28V DC
- Tolerance range						
- Setting range						
Rated output current	2.5 A (3 A to +45 °C)	5 A (6 A to +45 °C)	7 A (7 A to +45 °C)	10 A (12 A to +45 °C)	14A (14A to +45 °C)	10 A (12 A to +45 °C)
Rated output current	+60-70°C	+60-70°C	+55-70°C	+55-70°C	+55-70°C	+60-70°C
- Derating						
Efficiency at rated values approx.	85 %	88 %	84 %	87 %	87 %	90 %
Switching in parallel	Yes	Yes	Yes	Yes	Yes	Yes
Brief overload characteristics	Extra power: 1.5 x rated output current for 5s/min					
Electronic short-circuit protection	Yes, constant current					
Radio interference suppression (EN 55022)	Class B	Class B	Class B	Class B	Class B	Class B
Line harmonics limitation (EN 61000-3-2)	Not applicable	Yes	Yes	Yes	Yes	Yes
Degree of protection (EN 60529)	IP20	IP20	IP20	IP20	IP20	IP20
Ambient temperature	-10...+70 °C	-10...+70 °C	-10...+70 °C	-10...+70 °C	0...+60 °C	0...+70 °C
Dimensions (W x H x D) in mm	32.5 x 125 x 125	50x125x125	50x125x125	70 x 125 x 125	70 x 125 x 125	115 x 145 x 150
Weight approx.	0.32kg	0.5kg	0.5kg	0.8kg	0.85kg	2.4 kg
Certification	CE, UL, CSA, GL <sup>1)</sup> , ATEX, Hazardous Location Class I Div 2 Groups A, B, C & D, T4					CE, cULus, cCSAus Class 1 Div 2, ATEX, GL
US list price	\$116.00	\$199.00	\$205.00	\$285.00	\$295.00	\$420.00

All prices are subject to change  
**Specifications at rated input voltage and ambient temperature +25°C (unless otherwise specified)**

# SITOP smart Powerful standard power supply

		<b>SITOP smart 3-phase</b>	
<b>Technical data</b>		<b>24 V/10 A</b>	<b>24 V/20 A</b>
<b>Output voltage/current</b>	<b>24 V/10 A</b>	<b>24V/20 A</b>	<b>24 V/40 A</b>
Order no.	6EP1434-2BA10	6EP1436-2BA10	6EP1437-2BA20
Rated input voltage	400...500 V 3 AC		
– Range	340 ... 550 V 3 AC		
Mains buffering	> 6 ms (at 400 V)		
Rated line frequency	50/60 Hz		
Rated input current	0.7-0.5 A	1.2-1.0 A	1.7-1.5 A
– Inrush current (25°C)	< 36 A	< 36 A	< 60 A
– Recommended miniature circuit breaker	from 6 ... 16 A Characteristic C, 3-ph. coupled or 3RV2011-1DA10 or 3RV2711-1DD10	from 10 ... 16 A Characteristic C, 3-ph. coupled or 3RV2011-1DA10 or 3RV2711-1DD10	from 10 ... 16 A Characteristic C, 3-ph. coupled or 3RV2011-1DA10 or 3RV2711-1DD10
Rated output voltage	24 V DC		
– Tolerance	± 3 %		
– Setting range	24 ... 28 V DC		
Rated output current	10 A	20 A	40 A
Efficiency at rated values approx.	91%	91%	91.5%
Switching in parallel	Yes		
Brief overload characteristics	Extra-Power: 1.5 x rated output current for 5 s/min, 120% permanently up to 45°C		
Electronic short-circuit protection	Yes, restart		
Radio interference suppression (EN 55022)	Class B		
Line harmonics limitation (EN 61000-3-2)	Yes		
Degree of protection (EN 60529)	IP20	0...+60 °C	0 ... +60 °C
Ambient temperature	0 ... +70 °C	90 x 145 x 150	90 x 145 x 150
Dimensions (W x H x D) in mm	90 x 145 x 150		150 x 145 x 150
Weight approx.	1.6 kg	1.6 kg	3.7 kg
Certification	CE, cULus, ATEX, GL, Hazardous Locations Class I Div 2, Groups A, B, C and D, T4	CE, cULus, ATEX, GL, Hazardous Locations Class I Div 2, Groups A, B, C and D, T4	CE, cULus, ATEX, GL, Hazardous Locations Class I Div 2, Groups A, B, C and D, T4
US list price	\$340.00	\$370.00	\$580.00

# SITOP modular Technology power supply for demanding solutions

Technical data		SITOP modular 1-phase and 2-phase <sup>1)</sup>			
		24V/10A	24V/20A, PSU100M	24V/20A	24V/40A
Output voltage/current	24V/5A	6EP1334-3BA00	6EP1336-3BA10	6EP1336-3BA00	6EP1337-3BA00
Order no.					
Rated input voltage	120 – 230/230 – 500 V AC	120 – 230/230 – 500 V AC	120/230 V AC	120/230 V AC	120/230 V AC
– Range	85...264/176...550 V AC	85...264/176...550 V AC	AC 85...275 V oder	85...132/176...264 V, start-up 93/183 V	85...132/176...264 V, start-up 95/190 V
Mains buffering	> 25 ms (at 120/230 V)	> 25 ms (at 120/230 V)	> 25 ms (at 120/230 V)	> 20 ms (at 230 V)	> 20 ms (at 230 V)
Rated line frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Rated input current	2.2 to 1.2/1.2 to 0.61 A	4.4 to 2.4/2.4 to 1.1 A	4.6 – 2.5 A	7.1/3.5 A	15.0/8.0 A
– Inrush current (25 °C)	< 35 A	< 35 A	< 20 A	< 60 A	< 125 A
– Recommended miniature circuit breaker	6 A caract. C or 3RV1021-1xA10	6 A caract. C or 3RV1021-1xA10	6 A caract. C or 3RV2411-1xA10	10 A caract. C or 3RV2411-1xA10	20 A caract. C or 3RV1421-xxA10
Rated output voltage	24V DC ± 3 %	24V DC ± 3 %	24V DC ± 3 %	24V DC ± 3 %	24V DC ± 3 %
– Tolerance	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	5A	10A	20A	20A	40A
– Overload behavior	15A (power boost for 25 ms) – Overload behavior (power boost for 5 ms)	30A from +60 °C	30A from +60 °C	30A from +60 °C	120A from +60 °C
– Derating		87 %	87 %	93 %	89 %
Efficiency at rated values, approx.					
Switching in parallel	Yes, output characteristic can be switched to parallel operation				
Electronic short-circuit protection	Yes, constant current or latching shutdown selectable. Constant current: 1.15 × rated output current				
Radio interference suppression (EN 55022)	Class B	Class B	Class B	Class B	Class B
Supply harmonics limitation (EN 61000-3-2)	Yes	Yes	Yes	Yes	No
Degree of protection (EN 60529)	IP20	IP20	IP20	IP20	IP20
Ambient temperature	-25...+70 °C	-25...+70 °C	-25...+70 °C	0...+70 °C	0...+70 °C
Dimensions (W x H x D) in mm	70 x 125 x 125	90 x 125 x 125	90 x 125 x 125	160 x 125 x 125	240 x 125 x 125
Weight approx.	1.2 kg	1.4 kg	1.5 kg	1.2 kg	2.9 kg
Certification	CE, cULus, GL, ABS, SEMI F47 <sup>2)</sup>	CE, cULus, GL, ABS, SEMI F47 <sup>2)</sup>	CE, cULus, GL, ABS, SEMI F47 <sup>3)</sup>	CE, cULus, GL, ABS, SEMI F47 <sup>4)</sup>	CE, cULus, SEMI F47 <sup>4)</sup>
US list price	\$215.00	\$340.00	\$515.00	\$480.00	\$750.00

<sup>1)</sup> Connection to 2 phases of a three-phase supply system  
<sup>2)</sup> At input voltage 208 to 230 V AC

<sup>3)</sup> In conjunction with a buffer module  
<sup>4)</sup> In conjunction with two buffer modules

Technical data		SITOP modular 3-phase		SITOP modular 3-phase, 48 V	
Output voltage/current	24V/20A	24V/40A	24V/40A	48V/10A	48V/20A
Order no.	6EP1436-3BA00	6EP1437-3BA10	6EP1437-3BA00	6EP1456-3BA00	6EP1457-3BA00
Rated input voltage – Range	400 – 500 V 3 AC 320...575 V 3 AC	400 – 500 V 3 AC AC 340...550 V 3 AC	400 – 500 V 3 AC 320...575 V 3 AC	400 – 500 V 3 AC 340...550 V 3 AC	400 – 500 V 3 AC 320...575 V 3 AC
Mains buffering	> 15 ms (at 400 V)	> 15 ms (at 400 V)	> 6 ms (at 400 V)	> 15 ms (at 400 V)	> 6 ms (at 400 V)
Rated line frequency	50/60Hz	50/60Hz	50/60Hz	50/60 Hz	50/60 Hz
Rated input current – Inrush current (25 °C) – Required miniature circuit breaker	1.2-1.0 A <18A 6-16 A Charakt. C 3-ph. coupled or 3RV2011-1DA10 or 3RV2711-1DD10	1.4-0.9 A <35A 6-16 A Charakt. C 3-ph. coupled or 3RV2011-1DA10 or 3RV2711-1DD10	2.6-1.2A <56A 6-16 A Charakt. C 3-ph. coupled or 3RV2011-1DA10 or 3RV2711-1DD10	2.0-1.7A <70A 6-16 A Charakt. C 3-ph. coupled or 3RV2011-1DA10 or 3RV2711-1DD10	1.2-1.0 A <18A 6-16 A Charakt. C 3-ph. coupled or 3RV2011-1DA10 or 3RV2711-1DD10
Rated output voltage – Tolerance – Setting range	24V DC ± 3% 24...28.8V DC	24V DC ± 3% 24...28.8V DC	24V DC 24...28.8V DC	24V DC ± 3% 24...28.8V DC	24V DC ± 3% 24...28.8V DC
Rated output current	20A	20A	40A	40 A	40 A
Efficiency at rated values, approx.	93%	90%	93%	90%	93%
Switching in parallel	Yes, output characteristic can be switched to parallel operation				
25 ms power boost	3 x rated output current	3 x rated output current	3 x rated output current	2.3 x rated output current	3 x rated output current
Extra Power for 5 s/min	1.5 x rated output current	-	1.5 x rated output current	-	1.5 x rated output current
Brief overload characteristics	Power boost: 3 x rated output current for 25 ms, extra power): 1.5 x rated output current for 5 s/min				
Electronic short-circuit protection	Yes, automatic restart or user directed restart selectable. Constant current: approx. 1.15 x rated output current				
Radio interference suppression (EN 55022)	Class B	Class B	Class B	Class B	Class B
Line harmonics limitation (EN 61000-3-2)	Yes	Yes	Yes	Yes	Yes
Degree of protection (EN 60529)	IP20	IP20	IP20	IP20	IP20
Ambient temperature	-25...+60 °C	0...+60 °C	-25...+60 °C	0...+60 °C	0...+60 °C
Dimensions (W x H x D) in mm	70 x 125 x 125	160 x 125 x 125	150 x 125 x 150	240 x 125 x 125	70 x 125 x 125
Weight approx.	1.2kg	2.0kg	3.4kg	3.2kg	1.2 kg
Certification	CE, cULus, SEMI F47, ABS, GL	CE, cULus, SEMI F47, ABS, GL	CE, cULus, SEMI F47, ABS, GL	CE, cULus, ABS, GL	CE, UL, CSA, ABS, GL
US list price	\$440.00	\$450.00	\$690.00	\$715.00	\$475.00
					\$720.00

# SITOP in special design, for special uses

		<b>PSU100D direct mount</b>	
<b>Technical data</b>		<b>12 V/3 A</b>	<b>24 V/2.1 A</b>
Output voltage/current	Order no.	6EP1321-1LD00	6EP1331-1LD00
Rated input voltage	- Range	100-240VAC	100-240V AC
Mains buffering	-	85...264 VAC	85...264 V AC
Rated line frequency	>15ms (at 115/230V)	>15ms (at 115/230V)	>15ms (at 115/230V)
Rated input current	50/60Hz	50/60Hz	50/60Hz
- Inrush current (25°C)	0.65 A	1.1-0.7 A	1.5-1.0 A
- Recommended miniature circuit breaker	< 30 A	< 60 A	< 60 A
Rated output voltage	10A characteristic C, 16 A characteristic B	12V DC	24V DC
- Tolerance	-	± 2%	± 2%
- Setting range	11...14V DC	22...28 V DC	22...28 V DC
Output current – rated value	3 A	2.1 A	3.1 A
- Derating	from +50°C (2.5%/K)	from +50°C (2.5%/K)	from +50°C (2.5%/K)
Efficiency at rated values, approx.	84 %	86 %	86 %
Parallel switching	Yes	Yes	Yes
Electronic short-circuit protection	Yes, restart	Yes, restart	Yes, restart
Radio interference suppression (EN 55022)	Class B	Class B	Class B
Supply harmonics limitation (EN 61000-3-2)	Not applicable	Not applicable	Yes
Degree of protection (EN 60529)	IP20	IP20	IP20
Ambient temperature	-10...+70°C	-10...+70°C	-10...+70°C
Installation	Wall mounting, variable installation position	97 x 98 x 38	97 x 128 x 38
Dimensions (W x H x D) in mm	97 x 98 x 38	97 x 128 x 38	97 x 128 x 38
Weight approx.	0.37kg	0.35kg	0.37kg
Certification	CE, cULus and cURus	CE, cULus and cURus	CE, cULus and cURus
US list price	\$59.00	\$59.00	\$67.00

# SITOP in special design, for special uses

Technical data	PSU1000	PSU1000 direct mount
<b>Output voltage/current</b>	<b>24 V/4.1 A</b>	<b>12 V/8.3 A</b>
Order no.	6EP1332-1LD10	6EP1322-1LD00
Rated input voltage	100...240 V AC	100...240 V AC
- Range	85...264 V AC	85...264 V AC
Mains buffering	> 15 ms (at 115/230V)	> 15 ms (at 115/230V)
Rated line frequency	50/60 Hz	50/60 Hz
Rated input current	2.0-1.1 A	3.1-2.0 A
- Inrush current (25 °C)	< 75 A	< 60 A
- Recommended miniature circuit breaker		10A characteristic C, 16 A characteristic B
Rated output voltage	24V DC	24V DC
- Tolerance	± 2%	± 2%
- Setting range	22...28 V DC	22...28 V DC
Output current – rated value	4.1 A	8.3 A
- Derating	from +50°C (2.5% /K)	from +50°C (2.5% /K)
Efficiency at rated values, approx.	86 %	84 %
Switching in parallel	Yes	Yes
Electronic short-circuit protection	Yes, restart	Yes, restart
Radio interference suppression (EN 55022)	Class B	Class B
Supply harmonics limitation (EN 61000-3-2)	Yes	No
Degree of protection (EN 60529)	IP20	IP20
Ambient temperature	-10...+70 °C	-10...+70 °C
Installation	Wall mounting, variable installation position	
Dimensions (W x H x D) in mm	97 x 158 x 38	97 x 178 x 38
Weight approx.	0.50 kg	0.57 kg
Certification	CE, cULus and cURus	CE, cULus and cURus
US list price	\$74.00	\$80.00
		\$95.00

# SITOP in special design, for special uses

Technical data	Class 2 approval	SITOP DC/DC	SITOP PSU400M	SITOP dual	SITOP flat design
<b>Output voltage/current</b>	24V/3.7A	12V/2.5A	24V/20 A	2 x 15V/3.5 A	24V/10 A
Order no.	6EP1332-5BA20	6EP1621-2BA00	6EP1536-3AA00	6EP1353-0AA00	6EP1333-1AL12
Rated input voltage	110...230V AC 85...264V AC/ 100...300V DC	24 V DC 18.5...30.2V DC	600 V DC 200...900 V DC, start-up from approx. 400 V	120...230V AC 93...264V AC	120/230V AC 85...132/ 170...264V AC
Mains buffering	> 20 ms (at 120/230 V AC)	> 5 ms	—	> 10/40 ms (at 120/187V)	> 20 ms (at 93/187V)
Rated line frequency	50/60 Hz	—	—	50/60Hz	50/60Hz
Rated input current	1.88/0.95 A	1.6 A	0.85 A	1.6/1.0 A	2.2/1.2 A
– Inrush current (25 °C)	< 30 A	< 20 A for 20 ms	< 8 A	< 30 A, < 3 ms	< 32 A
– Recommended miniature circuit breaker	10 A caract. C, 16 A caract. B	10 A caract. B	—	10 A caract. C, 16 A caract. B	From 6A caract. C From 10A caract. C
Rated output voltage	24V DC ± 3% 22.2...26.4 V DC	12V DC ± 3% 12...14V DC	24V DC ± 3% 24...28.8 V DC	2 x 15V DC ± 3% 14.5...17V DC	24V DC ± 1% 24...28.8 V DC
Rated output current	—	20 A	20 A	2 x 3.5A (2 x 2.5A from 45°C)	5 A
– Derating	3.7 A up to 50°C, 1.1A up to 70°C	2.5A	30 A for 5ms from 60°C, (5.5%K), 200...300V DC, 8/20...900 V DC	30 A for 5ms from 60°C, (5.5%K), 200...300V DC, 8/20...900 V DC	10 A
Efficiency at rated values, approx.	87%	80 %	95%	80 %	88 %
Switching in parallel	No	Yes, 2 units	No	Yes	Yes
Electronic short-circuit protection	Yes	Yes, constant current	Yes, constant current or latching shutdown selectable	Yes, restart	Yes, restart
Radio interference suppression (EN 55022)	Class B	Class B	Class A (emission)	Class B	Class B
Line harmonics limitation (EN 61000-3-2)	Yes	Yes	No	No	No
Degree of protection (EN 60529)	IP20	IP20	IP20	IP20	IP20
Ambient temperature	-20...+70 °C	0...+60 °C	-25...+70 °C (Derating from 45 °C)	0...+60 °C (Derating from 45 °C)	0...+60 °C
Installation	DIN rail	DIN rail	DIN rail	Standard mounting rail	Standard mounting rail
Dimensions (W x H x D) in mm	52.5 x 80 x 100	32.5 x 125 x 125	90x125x125	75 x 125 x 125	160 x 130 x 60
Weight approx.	0.32 kg	0.26 kg	1.22 kg	0.75 kg	0.6kg
Certification	CE, cCSAus, cULus, Class 2	CE, cULus	CE, cULus, GL, (ABS in preparation)	CE	CE, cULus
US list price	\$159.00	\$250.00	\$525.00	\$400.00	\$410.00

<sup>1)</sup> Only permissible at an ambient temperature of 0 to 50 °C

All prices are subject to change  
**Specifications at rated input voltage and ambient temperature +25°C (unless otherwise specified)**

# SITOP in special design, for special uses

		<b>SITOP flexi</b>		<b>SITOP PSU300E</b>		<b>SITOP PSU300B for battery charging</b>	
<b>Technical data</b>		<b>Output voltage/current</b>	<b>24 V/5A</b>	<b>12 V/20 A</b>	<b>24 V/17 A</b>	<b>24 V/30 A</b>	
<b>Output voltage/current</b>	3...52 V/10 A	24 V/5A	12 V/20 A	24 V/17 A	24 V/30 A	24 V/30 A	
Order no.	6EP1353-2BA00	6EP1433-0AA00	6EP1424-3BA00	6EP1436-3BA00	6EP1427-3BA00	6EP1427-3BA00	
Rated input voltage	120/230 V AC	400/500V 3 AC	400/500V 3 AC	400/500V 3 AC	400/500V 3 AC	400/500V 3 AC	
– Range	85...132 V/170...264 V AC	320...575V 3 AC	320...575V 3 AC	320...575V 3 AC	320...575V 3 AC	320...575V 3 AC	
Mains buffering	> 10 ms (at 93/187V)	320...550 V 3 AC	> 15 ms (at 400V)	> 20 ms (at 400V)	> 20 ms (at 400V)	> 20 ms (at 400V)	
Rated line frequency	50/60Hz	> 50 ms (at 400 V)	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	
Rated input current	2.2/0.9 A	50/60 Hz	0.7/0.6 A	1.2/1.0 A	1.6/1.3 A	1.6/1.3 A	
– Inrush current (25 °C)	< 32 A	0.36/0.29 A	< 18 A	< 18 A	< 56 A	< 56 A	
– Recommended	From 10 A charact. C	< 15 A	6–16 A charact. C 3-ph. coupled	6–16 A charact. C 3-ph. coupled	10–16 A charact. C 3-ph. coupled	10–16 A charact. C 3-ph. coupled	
miniature circuit breaker	A charact. C or B 3-ph. coupled	or 3RV2011-1DA10	or 3RV2011-1DA10	or 3RV2011-1DA10	or 3RV2011-1DA10	or 3RV2011-1DA10	
Rated output voltage	24 V DC	12 V DC	24 V DC	24 V DC	24 V DC	24 V DC	
– Tolerance	± 1%	± 3%	± 3%	± 3%	± 3%	± 3%	
– Setting range	3...52 V DC	24...29V DC	12...14 V DC	24...28.8V DC	24...28.8V DC	24...28.8V DC	
Rated output current	2 to 10 A (max. 125 W)	5 A	20 A	20 A	30 A	30 A	
– Derating		—	—	from +60°C (3%/K)	from +60°C (3%/K)	from +60°C (1.7%/K)	
Efficiency at rated values, approx.	84% (at 24 V/5A)	90%	88%	93%	93%	93%	
Switching in parallel	Yes	No	Yes	Yes	Yes	Yes	
Electronic short-circuit protection	Yes, constant current	Yes, restart	Yes, constant current or latching shutdown selectable				
Radio interference suppression (EN 55022)	Class B	Class A	Class B	Class B	Class B	Class B	
Line harmonics limitation (EN 61000-3-2)	Yes	No	Yes	Yes	Yes	Yes	
Degree of protection (EN 60529)	IP20	IP20	IP20	IP20	IP20	IP20	
Ambient temperature	0...+60 °C	0...+60 °C	-25°C...+60 °C	-25°C...+70 °C	-25°C...+70 °C	-25°C...+70 °C	
Installation	DIN rail	DIN rail	DIN rail	DIN rail	DIN rail	DIN rail	
Dimensions (W x H x D) in mm	75 x 125 x 125	42 x 125 x 125	70 x 125 x 125	70 x 125 x 125	150 x 125 x 150	150 x 125 x 150	
Weight approx.	0.9 kg	0.6 kg	1.2 kg	1.2 kg	3.4 kg	3.4 kg	
Certification	CE, cULus	CE, cULus	CE, cULus (pending)	CE, cULus	CE, cULus	CE, cULus	
US list price	\$350.00	\$295.00	\$435.00	\$435.00	\$610.00	\$610.00	

All prices are subject to change  
**Specifications at rated input voltage and ambient temperature +25°C (unless otherwise specified)**

# SITOP in SIMATIC design

Technical data	SIMATIC S7-1200 design		SIMATIC S7-200 design		SIMATIC S7-300 design	
<b>Output voltage/current</b>	<b>24V/2.5A - PM1207</b>	<b>24V/3.5A</b>	<b>24V/2A</b>	<b>24V/5A</b>	<b>24V/10A</b>	<b>24V/5A Outdoor<sup>1)</sup></b>
Order no.	6EP1332-1SH71	6EP1332-1SH31	6EP1330-1BA01-0AA0	6EP1330-1EA01-0AA0	6EP1330-1KA02-0AA0	6EP1330-1EA80-0AA0
Rated input voltage	120/230 V AC	120/230 V AC	120/230 V AC automatic range selection	120/230 V AC automatic range selection	120/230 V AC automatic range selection	120/230 V AC
– Range	85...132V/176...264V AC	93...132V/187...264V AC	85...132V/170...264V AC	85...132V/170...264V AC	85...132V/170...264V AC	93...132V/187...264V AC
Mains buffering	> 20 ms (at 93/187V)	> 20 ms (at 93/187V)	> 20 ms (at 93/187V)	> 20 ms (at 93/187V)	> 20 ms (at 93/187V)	> 20 ms (at 93/187V)
Rated line frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Rated input current	1.20/1.67 A	1.65/0.95 A	0.90/0.5 A	2.3/1.2 A	4.2/1.9 A	2.2/1.2 A
– Inrush current (25 °C)	< 13 A	< 33 A	< 22 A	< 20 A	< 55 A	< 45 A
– Recommended miniature circuit breaker	16A charact. B, 10A charact. C	10A charact. C, 6A charact. D	3A charact. C	6A charact. C	10A charact. C	10A charact. C
Rated output voltage	24V DC	24V DC	24V DC	24V DC	24V DC	24V DC
– Tolerance	± 3 %	± 5 %	± 3 %	± 3 %	± 3 %	± 3 %
– Setting range	–	–	–	–	–	–
Rated output current	2.5A	3.5A	2A	5A	10A	5A
Efficiency at rated values, approx.	83%	84%	84%	86%	90%	84 %
Switching in parallel	Yes, 2 units	Yes, up to 5 units	Yes	Yes	Yes	No
Electronic short-circuit protection	Yes, restart	Yes, restart	Yes, restart	Yes, restart	Yes, restart	Yes, restart
Radio interference suppression (EN 55022)	Class B	Class B	Class B	Class B	Class B	Class A
Line harmonics limitation (EN 61000-3-2)	Not applicable	Yes	Not applicable	Yes	Yes	No
Degree of protection (EN 60529)	IP20	IP20	IP20	IP20	IP20	IP20
Ambient temperature	0...+60 °C	0...+60 °C	0...+60 °C	0...+60 °C	0...+60 °C	-25...+70 °C
Installation	DIN rail	DIN rail or wall mounting	Can be mounted on S7 rail. Mounting adapter for DIN rail 35x15 mm: 6EP191-1BA00	Mounting adapter for DIN rail 35x15 mm: 6EP191-1BA00	Mounting adapter: 6EP191-1BA00	Can be mounted on S7 rail. Mounting adapter: 6EP191-1BA00
Dimensions (W x H x D) in mm	70 x 100 x 75	160 x 80 x 62	40 x 125 x 120	60 x 125 x 120	80 x 125 x 120	80 x 125 x 120
Weight approx.	0.3kg	0.5kg	0.4kg	0.6kg	0.8kg	0.57kg
Certification	CE, cULus, ATEX, GL, ABS, Hazardous Location Class I Div 2 Groups A, B, C & D	CE, cULus, ATEX, Hazardous Location Class I Div 2 Groups A, B, C & D, T4	CE, UL, CSA			
US list price	\$123.00	\$160.00	\$172.00	\$230.00	\$295.00	\$265.00

<sup>1)</sup>Condensation permissible, increased vibration and shock resistance

All prices are subject to change

**Specifications at rated input voltage and ambient temperature +25°C (unless otherwise specified)**

	new!		
<b>Technical data</b>	<b>SIMATIC S7-1500 design</b>	<b>24V/3A - PM 1507</b>	<b>24V/8A - PM 1507</b>
Output voltage/current	24V/3A - PM 1507	24V/3A - PM 1507	24V/8A - PM 1507
Order no.	6EP1332-4BA00	6EP1333-4BA00	6EP1333-4BA00
Rated input voltage	120/230 V AC automatic range detection	120/230 V AC automatic range detection	120/230 V AC automatic range detection
– Range	85...132/176...264 V AC	85...132/176...264 V AC	85...132/176...264 V AC
Mains buffering	> 20 ms (at 93/187 V)	> 20 ms (at 93/187 V)	> 20 ms (at 93/187 V)
Rated line frequency	50/60 Hz	50/60 Hz	50/60 Hz
Rated input current	1.4A/0.8A	3.7A/1.7A	3.7A/1.7A
– Inrush current (25 °C)	< 23 A	< 67 A	< 67 A
– Recommended	6A caract. C	10A caract. C	10A caract. C
miniature circuit breaker	10A caract. B	16A caract. B	16A caract. B
Rated output voltage	24V DC	24V DC	24V DC
– Tolerance	± 3 %	± 3 %	± 3 %
– Setting range	–	–	–
Rated output current	3 A (4.5A for 5s/min)	8 A (12 A for 5s/min)	91%
Efficiency at rated values, approx.	87%	91%	91%
Switching in parallel	Yes	Yes	Yes
Electronic short-circuit protection	Yes, restart	Yes, restart	Yes, restart
Radio interference suppression (EN 55022)	Class B	Class B	Class B
Line harmonics limitation (EN 61000-3-2)	Not applicable	Yes	Yes
Degree of protection (EN 60529)	IP20	IP20	IP20
Ambient temperature	0...+60 °C	0...+60 °C	0...+60 °C
Installation	on S7-1500 system carrier	on S7-1500 system carrier	on S7-1500 system carrier
Dimensions (W x H x D) in mm	50 x 147 x 135	75 x 147 x 135	75 x 147 x 135
Weight approx.	0.45 kg	0.74 kg	0.74 kg
Certification	CE, cULus, FM, ATEX, pending: Hazardous Location Class I Div 2 Groups A, B, C & D, T4, GL, and ABS	CE, cULus, FM, ATEX, pending: Hazardous Location Class I Div 2 Groups A, B, C & D, T4, GL, and ABS	CE, cULus, FM, ATEX, pending: Hazardous Location Class I Div 2 Groups A, B, C & D, T4, GL, and ABS
US list price	\$186.00	\$265.00	\$265.00

# Power security components to increase system availability

Technical data		Signaling	Mains buffering	Redundancy
SITOP		Signaling module <sup>1)</sup>	Buffer module <sup>2)</sup>	Redundancy module
Order no.	6EP1961-3BA10	6EP1961-3BA01	6EP1961-3BA21	6EP1964-2BA00
Rated input voltage – Range	240V AC/6A	24 V DC 24...28.8 V DC	24 V DC 24...28.8 V DC	24 V DC 19...29 V DC
Brief description of product/function	Signaling module for snapping onto the side of the basic unit; automatic contacting, with floating signaling contacts for "Output voltage o.k." and "Operating readiness o.k.;" with signal input for switching the basic unit ON/OFF remotely.	Buffer module for mains buffering; connection by parallel switching at the output of the basic unit (6EP1X3X-3BA0X); buffer time <200 ms at 40 A to 1.6 s at 5 A load current; multiplication possible using parallel switching; maximum buffer time 10 s.	Module for redundancy mode. Decoupling of two 5 A to 20 A power supplies or one 40 A power supply per redundancy module. Floating relay contact and green LED for signaling "Infeed I" and 2 o.k.," switching threshold adjustable between 20 to 25 V DC.	Module for redundancy mode Floating relay contact and green LED for signaling, Infeed 1 and 2 o.k.," switching threshold adjustable between 20 to 25 V DC.
Rated output current – Setting range	Not applicable	40 A	40 A (Total output current) – Setting range	10 A (Total output current) 3.5 A <sup>3)</sup>
Efficiency at rated values, approx.	Not applicable	Not applicable	97%	97%
Switching in parallel	Not applicable	Yes	No	No
Electronic short-circuit protection	Not applicable	Yes	No	No
Radio interference suppression (EN 55022)	Class B	Class B	Class B	Class B
Degree of protection (EN 60529)	P20	IP20	IP20	IP20
Ambient temperature	0...+60 °C	0...+60 °C	0...+60 °C	-20...+70 °C -20...+70 °C
Dimensions (W x H x D) in mm	25 x 125 x 125	70 x 125 x 125	70 x 125 x 125	30 x 80 x 100
Weight approx.	0.15kg	1.2 kg	1.0 kg	0.125 kg CE, cULus, CSA, GL, ABS CE, cULus, ATEX, GL, ABS, Hazardous Location Class I Div 2 Groups A, B, C & D, T4
Certification	CE, UL, CSA	CE, UL, CSA, GL, ABS	CE, cULus, NEC Class 2	CE, cULus, NEC Class 2
US list price	\$122.00	\$265.00	\$78.00	\$165.00

<sup>1)</sup>Can only be combined with SITOP modular power supply 6EP1-3BA00

<sup>2)</sup>Can only be combined with SITOP modular power supply 24V DC

<sup>3)</sup>Max. 8 A summation current in fault case in accordance with NEC Class 2

All prices are subject to change  
**Specifications at rated input voltage and ambient temperature +25°C (unless otherwise specified)**

# Power security components to increase system availability

new!

Technical data	SITOP PSE2000 selectivity module	SITOP PSE2000 with single channel signaling	Monitoring	SITOP select diagnosis module
Order no.	6EP1961-2BA11	6EP1961-2BA21	6EP1961-2BA31	6EP1961-2BA00
Rated input voltage – Range	24 V DC 22...30 V DC			24 V DC 22...30 V DC
Brief description of product/ function	Module for distributing the 24 V supply over up to four load circuits and their monitoring for overload; selective shutdown of faulty load circuits, rated current individually adjustable; universal use for all power supplies.	Individual load circuits can be switched on sequentially. Status indication via 3-color LED per channel; remote reset with 24 V signal and reset via pushbutton per channel; common signalling contact.	Individual load circuits can be switched on sequentially. Status indication via 3-color LED per channel; remote reset with 24 V signal and reset via pushbutton per channel; single channel signaling for channel-specific analysis via SIMATIC S7-function block.	Status indication via 2-color LED per channel; common reset via pushbutton, plug-in fuse per channel; status indication via 3-color LED per channel; common signalling contact.
Rated output current – Setting range	4 × 3 A 0.5...3 A	4 × 10 A 3...10 A	4 × 3 A 0.5...3 A	4 × 10 A 2...10 A
Efficiency at rated values, approx.	97%		97%	97%
Parallel switching	No		No	
Electronic short-circuit protection	Yes		Yes	
Radio interference suppression (EN 55022)	Class B		Class B	
Degree of protection (EN 60529)	IP20			
Ambient temperature	0...+60 °C			0...+60 °C
Dimensions (W × H × D) in mm	72 × 80 × 72			72 × 90 × 90
Weight approx.	0.2 kg			0.4 kg
Certification	CE, UL, cURus, CCSAus Class I Div 2, ATEX, GL (ABS pending)			CE, UL, cURus, CCSAus Class I Div 2, ATEX
US list price	\$179.00	\$200.00	\$179.00	\$225.00
Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)				

# Uninterruptible power supplies SITOP DC UPS with battery modules for bridging longer power failures

Technical data		SITOP DC UPS, for longer power failures			
SITOP Output voltage/current	DC UPS module 24 V/6 A	DC UPS module 24 V/15 A	DC UPS module 24 V/40 A	DC UPS battery module 24 V/1.2 Ah <sup>1)</sup>	DC UPS battery module 24 V/3.2 Ah <sup>1)</sup>
Order no. – with serial interface – with USB interface	6EP1931-2DC21 6EP1931-2DC31 6EP1931-2DC42	6EP1931-2EC21 6EP1931-2EC31 6EP1931-2EC42	6EP1931-2FC21 6EP1931-2FC42	6EP1935-6MC01	6EP1935-6MD11
Input voltage	24 V DC, 22...29 V, Infeed from 24 V SITOP power supply: From 24 V/ 0.6 A	From 24 V/5 A	From 24 V/10 A	Recomm. end-of-charge voltage: 26.4...27.3 V DC (>+20 °C), 27.3...29.0 V DC (< +20 °C)	Charging current max. 1.75 A
Rated input current	6 A + approx. 0.85 A with empty battery	15 A + approx. 1 A with empty battery	40 A + approx. 2.6 A with empty battery	Charging current max. 0.3 A	Charging current 0.8 A
Rated output voltage	24 V DC (Upstream SITOP device or battery), charging voltage: 27.0 V	24 V DC, 22 to 27.0 V DC (No-load operation)	24 V DC, 22 to 27.0 V DC (No-load operation)	Charging current 0.8 A	Charging current max. 1.75 A
Rated output current	6 A, Charging current: typ. 0.4 A	15 A, Charging current: typ. 0.7 A	40 A, Charging current: typ. 2 A	15 A	30 A
Efficiency at rated values, approx.	Buffer mode: 94 %, Standby mode: 95 %	Buffer mode: 96 %, Standby mode: 96 %	Buffer mode: 97 %, Standby mode: 97 %	Not applicable	Not applicable
Overload and short-circuit protection	Electronic, automatic restart	Installed battery fuse 7.5 A/32 V	7.5 A/32 V	15 A/32 V	30 A/32 V
Switching in parallel	No	No	Yes	Yes	Yes
Radio interference suppression (EN 55022)	Class B	Class B	Class B	IP00	IP00
Degree of protection (EN 60529)	IP20	IP20	IP20	IP00	IP00
Ambient temperature	-25...+60 °C	-25...+60 °C	-25...+60 °C	-10...+50 °C	-10...+50 °C
Installation	DIN rail				
Dimensions (W x H x D) in mm	50 x 125 x 125	50 x 125 x 125	102 x 125 x 125	96 x 106 x 108	190 x 151 x 82
Weight approx.	0.4 kg	0.4 kg	1.1 kg	1.8 kg	3.2 kg
Certification	CE, cULus, ATEX, GL, ABS, Hazardous Location Class I Div 2 Groups A, B, C, & D, T4	CE, cULus, ATEX, GL, ABS, Hazardous Location Class I Div 2 Groups A, B, C, & D, T4	CE, cURus, ATEX, GL, ABS, Hazardous Location Class I Div 2 Groups A, B, C, & D, T4	CE, cURus, ATEX, GL, ABS, Hazardous Location Class I Div 2 Groups A, B, C, & D, T3	CE, cURus, ATEX, GL, ABS, Hazardous Location Class I Div 2 Groups A, B, C, & D, T3
US list price	\$275.00 \$335.00 \$335.00	\$335.00 \$420.00 \$420.00	\$835.00 \$158.00 \$950.00	\$166.00	\$210.00

<sup>1)</sup> Also available: high-temperature battery module 24 V/2.5 Ah (6EP1935-6MD31) for ambient temperature -40 to +60 °C and battery module 24 V/12 Ah (6EP1935-6MF01)

## Selection table battery modules and buffer times

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Load current	Battery module 1.2 Ah (6EP1935-6MC01)	Battery module 3.2 Ah (6EP1935-6MD11)	Battery module 7 Ah (6EP1935-6ME21)	Battery module 12 Ah (6EP1935-6MF01)	Battery module 2.5 Ah (6EP1935-6MD31)
1A	34.5 min.	2.6 h	5.4 h	9 h	2 h
2A	15.5 min.	1 h	2.6 h	4.6 h	1 h
3A	9 min.	39.3 min.	1.6 h	2.9 h	37.5 min.
4A	6.5 min.	27.1 min.	1.2 h	2.2 h	27 min.
6A	3.5 min.	17.5 min.	41 min.	1.2 h	17.6 min.
8A	—	12.1 min.	28.6 min.	53.3 min.	12.5 min.
10A	—	9 min.	21.8 min.	43.5 min.	8.8 min.
12A	—	—	17.3 min.	33.3 min.	6.8 min.
14A	—	—	15.1 min.	27.5 min.	5.1 min.
16A	—	—	12.5 min.	23.8 min.	4.3 min.
20A	—	—	9.1 min.	20.1 min.	4.3 min.
25A	—	—	—	12.6 min.	—
30A	—	—	—	9.1 min.	—

<sup>1)</sup>High temperature battery module for ambient temperature -40 to +60 °C  
Buffer time determination was based on the discharging time of new and completely charged battery modules with a minimum battery temperature of +25 °C until decrease of the battery voltage to 21 V (with voltage drops in the DC UPS, approx. 20.4 V DC remain for the load)

# Uninterruptible power supplies – SITOP UPS500 maintenance-free DC UPS with capacitor technology

Technical data		Maintenance-free DC UPS		UPS501 – Expansion module
SITOP		UPS500S – Basic unit 15A		
Energy	2.5kW	5 kW	5 kW	5 kW
Order no.	6EP1933-2EC41	6EP1933-2EC51	6EP1935-5PG01	Infeed from basic unit
Input voltage	24 V DC, 22...29 V, Infeed from SITOP 24 V			
Rated input current	15.2 A + approx. 2.3 A in charging mode			Description: expansion module for extending the buffering time, up to 3 units can be switched in parallel with one UPS500S basic unit
Rated output voltage	In buffer mode and normal mode 24 V DC +/-3 %			
Rated output current	15 A, charging current 1 A (factory setting) or 2 A selectable			
Efficiency at rated values, approx.	97.50 %			
Overload and short-circuit protection	Electronic, automatic restart			
Switching in parallel	No	Yes, up to 3 units		
Radio interference suppression (EN 55022)	Class B	Class B	Class B	
Degree of protection (EN 60529)	IP20	IP20	IP20	
Ambient temperature	0...+60 °C	0...+60 °C	0...+60 °C	
Installation	DIN rail	DIN rail	DIN rail	
Dimensions (W x H x D) in mm	120 x 125 x 125	120 x 125 x 125	70 x 125 x 125	
Weight approx.	1.0 kg	1.2 kg	0.7 kg	
Certification	CE, cULus, ATEX, GL, ABS, Hazardous Location Class I Div 2 Groups A, B, C, & D, T4			
US list price	\$630.00	\$800.00	\$545.00	
<sup>1)</sup> Connector set with input and output connector as well as prepared USB cable in 2 m length: Order no. 6EP1975-2ES00				

# Buffer times and charging times SITOP UPS500

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## Buffer times and charging times



SITOP UPS500/501S configurations							
	Basic unit	2.5kW	5kW	2.5kW	5kW	2.5kW	5kW
Expansion modules	–	–	1	1 x 5kW	1 x 5kW	2 x 5kW	3 x 5kW
Total energy	2.5kW	5kW	7.5kW	10kW	12.5kW	15kW	17.5kW

Buffer times							
	Load current	390 sec	478 sec	632 sec	748 sec	851 sec	1007 sec
0.5A	134 sec	236 sec	390 sec	478 sec	632 sec	748 sec	851 sec
0.8A	90 sec	167 sec	266 sec	346 sec	440 sec	527 sec	580 sec
1A	75 sec	138 sec	219 sec	296 sec	365 sec	414 sec	490 sec
2A	38 sec	76 sec	122 sec	156 sec	203 sec	230 sec	265 sec
3A	26 sec	52 sec	82 sec	106 sec	136 sec	159 sec	186 sec
4A	19 sec	39 sec	61 sec	81 sec	101 sec	120 sec	139 sec
5A	15 sec	31 sec	49 sec	65 sec	81 sec	95 sec	111 sec
6A	12 sec	26 sec	40 sec	55 sec	67 sec	80 sec	94 sec
7A	10 sec	21 sec	34 sec	47 sec	58 sec	69 sec	81 sec
8A	8 sec	18 sec	29 sec	40 sec	50 sec	59 sec	69 sec
10A	6 sec	15 sec	23 sec	32 sec	39 sec	47 sec	54 sec
12A	4 sec	12 sec	19 sec	26 sec	32 sec	38 sec	44 sec
15A	3 sec	9 sec	14 sec	20 sec	25 sec	30 sec	35 sec

Charging times							
	Charging current	120 sec	158 sec	223 sec	263 sec	318 sec	355 sec
2A	54 sec	120 sec	158 sec	223 sec	263 sec	318 sec	355 sec
1A	110 sec	205 sec	311 sec	425 sec	503 sec	625 sec	695 sec

# Notes

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