Year in, year out ...

... 24 V DC reliability – nonstop.

SITOP Power Supplies

Answers for industry.

SIEMENS

Regardless of the task at hand and your individual power requirements, you can find the perfect power pack in the SITOP modular, SITOP smart and LOGO!Power product lines.

Always available, always safe: SITOP

For a plant to operate efficiently, a dependable, stable power supply is imperative – 365 days a year. This is precisely what SITOP embodies, our perfectly-coordinated, all-in-one package which sets the pace in reliability, compactness and functionality. Day in, day out, SITOP proves its worth in millions of applications – protecting plants from standstills and loss of production around the world.

The unique range of SITOP add-on modules guarantees a constant 24 V in case of total power loss, voltage dips and many other disturbances.

Reliable, functional ...
Our family of DIN rail power packs consists of three product lines: SITOP modular for sophisticated demands, SITOP smart featuring all standard functions, and LOGO!Power for the lower performance range. Our SITOP facets fulfill special requirements in harsh environmental conditions and are ideal for unconventional output voltages. No matter which of the switched-mode power supplies in the SITOP family you opt for, you are always assured superior quality, reliability, and functionality.

... and unbeatably compact
The new 3-phase 20 A basic unit in the SITOP modular line is impressive proof that high functionality and performance do not automatically occupy a large amount of space. It is one of the slimmest and most compact devices in its class.

Made-to-measure safety
The quality of the 24 V power pack alone does not guarantee uninterrupted power. Total loss of power, extreme line voltage fluctuations, or a single faulty load can cause system downtime and considerable financial loss. SITOP's answer to this challenge is a unique range of add-on modules to guard against a variety of safety hazards – up to and including all-round protection. These optional add-ons can be quickly and easily combined with SITOP modular or smart to protect your 24 V DC supply against any external disturbances.

For all networks – worldwide
Thanks to its outstanding reliability, SITOP has long since established itself around the globe. It can even master critical network conditions such as prevail in India, South America or Southeast Asia. Due to their wide input range, the power packs can be connected to almost any network worldwide. Certifications in accordance with CE and UL/cUL are standard SITOP features. For special applications, such as in shipbuilding (GL) or in hazardous areas (ATEX), SITOP offers the universal solution. All this facilitates export.

modular

The answer to all challenges: SITOP modular

No matter where and under which conditions: SITOP modular can be adjusted to power any network in the world. A high degree of safety is provided by the wide input range, compensating for extreme voltage fluctuations and even bridging short network interruptions. The integrated Power Boost feature temporarily supplies up to three times the nominal current. In overload situations, you can choose between constant current with automatic restart of the output voltage or switch-off with storage. The fully innovated, three-phase 20 A power supply occupies less than half the usual mounting space. All versions featuring a PCB coated with protective lacquer can also be used in high humidity, or in dusty or corrosive environments.

smart

Slim-line universal power supplies: SITOP smart

High performance comes in a small package. The SITOP smart range of power supplies doesn't require significant space on the mounting rail. Despite this compactness, SITOP still delivers outstanding overload characteristics. Thanks to the Extra Power function with 1.5 times the rated current for a duration of 5 seconds, even high loads can be switched on easily. And with a continuous rated power of 120 percent, the 24 V power packs cannot be topped for reliability. Numerous certifications facilitate universal and worldwide applications, as well as use in hazardous areas. The new 48 V power supply is also suitable for lines that only have a small core cross section.

DC UPS and other add-ons

The number one choice for extreme requirements: SITOP add-ons

Network irregularities in the millisecond range are competently compensated for by all our power packs. Larger fluctuations or even complete power failures, however, require special measures: The SITOP buffer module offers optimum protection for temporary failures, whereas the compact SITOP DC UPS modules maintain operation in case of prolonged power failures – up to several hours! To completely avoid the impact of power failures, applications should be equipped with the redundancy module. The diagnosis module monitors individual 24 V load feeders and facilitates fast fault analysis. Using the signaling module, the basic unit in the SITOP modular line can be switched on and off remotely.

Facets/SIMATIC power supplies

Equipped for special applications: SITOP

- SITOP in SIMATIC S7-300 design – with PS-CPU connecting comb for mounting on an S7 rail; the 5 A outdoor model even handles temperatures as low as –25°C as well as increased vibration and shock
- SITOP power 0.5 – just 22.5 mm wide mini power packs up to 0.5 A for AC or DC systems
- SITOP flat design – in a flat metal housing for restricted mounting depths
- SITOP 3.7 A Class II with power limiting to 100 W

LOGO!Power

High power in a compact housing for the lower performance range: LOGO!Power

LOGO!Power is a series of miniature power packs that – thanks to its low step profile – can be flexibly adapted to a whole host of applications. It is even suitable for small distribution boards. With its wide input voltage range, RI class B, extensive operating temperature range, and comprehensive certifications, it fits into almost any application in the low performance range.

Further product features

- For demanding applications from 5 to 40 A
- Compact design in rugged metal housing
- Functionally expandable with all SITOP add-ons
- Printed circuit board can be optionally coated with protective lacquer

Further product features

- For standard applications with 2.5, 5 and 10 A
- 48 V/10 A for small core cross sections
- Expandable with DC UPS, redundancy and the SITOP select diagnosis module
- 24 V/10 A Wall mount for high shock and vibration impacts

Add-ons at a glance

- Signaling module
- Redundancy module
- Buffer module
- DC UPS and Battery module
- SITOP select diagnosis module

- SITOP flexi – flexible output voltage from 3 to 52 V DC for even the most extravagant applications. With extensive functionality such as adjustable 2 to 10 A output current, current monitor, and sense cable
- SITOP PSA 100E – the affordable entry-level model among controlled power supplies; suitable for mounting in various positions

... want more special models?
Simply click www.siemens.com/sitop

Further product features

- 2 output classes, each with 5 V, 12 V, and 15 V
- 3 output classes with 24 V
- Wide input voltage range from 85 V to 264 V assures compatibility with almost any power system worldwide

SITOP modular 20 A, enhanced with a DC UPS, guarantees high availability even if the power system fails.

Guaranteed reliable 24 V – even if the power system fails ...

SITOP DC UPS

Total loss of power can cause system downtime that ends up costing considerable time and money. Compact DC UPS modules and maintenance-free battery pack modules round off the SITOP 24 V power pack series with uninterruptible DC power supplies. They facilitate reliable operation even if the power failure lasts a long time – possibly up to several hours, depending on the battery capacity and power consumption. An innovative circuitry concept guarantees the transition from AC power line to buffer operation without interruption.

High availability thanks to battery management

Despite their small dimensions with a width of only 50 or 102 mm, the UPS modules offer a sophisticated battery management system for optimum battery charging, thus providing constant buffer readiness. Comprehensive monitoring functions ensure high availability at all times. The active battery test function even checks the battery's aging status, dispensing with the usual preventive battery replacement and saving considerable costs.

Excellent communicators

All relevant signals are output via isolated contacts. The optional PC interfaces turn any DC UPS into a real communication expert that integrates easily into the PC world with the help of software tools.

- DC UPS module 6 A, 15 A and 40 A, optionally with serial or USB interface
- Maintenance-free battery modules 1.2/2.5/3.2/7/12 Ah
- High degree of safety and availability through monitoring of availability, battery cable, aging status and charge status
- Long service life of the 24 V loads and batteries thanks to integrated battery management
- Uninterrupted transition from standby to buffer mode
- Software tool supports postprocessing and PC response. Software tools can be downloaded from www.siemens.com/sitop

... or other threats arise

Add-ons

In addition to the DC UPS modules, our wide range of add-ons provide reliable protection against numerous other risk factors.

Buffer module for short power failures

The majority of power failures only last a few hundred milliseconds. These temporary voltage dips can be bridged reliably and inexpensively with our buffer module. Electrolytic capacitors release the energy again immediately if necessary. By connecting several modules in parallel, the bridging time can be extended to up to three seconds.

The innovative solution for selective switching

SITOP select, our electronic diagnostic module specially tailored to the behavior of switched-mode power supply units, decides how fast your system can resume operation after a failure. The electronics ignore brief current peaks but isolate prolonged overloads or short circuits. In the event of a fault, SITOP disconnects the load feeder concerned – while maintaining the supply to the remaining loads. Thanks to on-site signaling, the defect can be rapidly localized.

Redundancy for extra protection

The redundancy module provides extra protection against a failure of the 24 V supply. It decouples the power supplies connected in parallel with the help of diodes. The failure of one power pack does not affect the other packs. Thus, 24 V supply is ensured at all times.

SITOP modular and add-ons.

1 Signaling module
- Extremely easy installation: Simply insert and screw-fit the module onto the basic device
- Optimum integration of the power supply into the automation system
- Floating signal contacts for "output voltage o.k." and "operating readiness o.k."
- Timely avoidance of potential damage
- The power supply can be turned on/off via remote control

2 Basic device
- 5 A and 10 A for 1- and 2-phase connection
- 20 A and 40 A in 1-phase or 3-phase version
- Vibration-proof DIN rail mounting
- Indication of operating status via 3 LED displays
- Voltage drop compensation with long lines
- Selectable short-circuit behavior: automatic restart or switch-off
- Up to three times nominal current thanks to Power Boost
- Identical-type SITOP devices can be operated in parallel
- Wide range input

3 Redundancy module
- Fast and easy DIN rail mounting
- 2 integrated diodes for decoupling two basic devices of 5 A to 20 A or one basic device of 40 A
- Group signals "Feed-in 1 and 2 o.k." via green LED and floating relay contact (NO contact)
- Settable LED and relay switching threshold from 20 to 25 V

4 Buffer module
- Fast and easy DIN rail mounting
- Connection to the basic module with only 2 lines
- Compensation of system interruptions in the millisecond range that can have serious effects on the operation of machinery and plant
- Bridging ensured for up to 3 seconds

5 SITOP select electronic diagnosis module
- Monitoring of up to 4 load feeders
- Each output can be set to provide between 2 and 10 A
- Trouble-free, sequential connection of loads with high inrush current
- Reliable switch-off of overcurrents in case of load short circuits
- Maintenance of the 24 V supply for the remaining loads
- Multicolored LED per output for immediate fault localization
- Floating group signaling contact for remote diagnosis

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SITOP Power Supplies

Technical specifications

SITOP Power Supplies

Answers for industry.

SIEMENS

Selection table
SITOP power supplies

Input voltage	Output current	modular	smart	LOGO!Power	Facets	
24 V output voltage						
1-phase 120 V AC, 230 V AC	0.5 A				6EP1331-2BA10	SITOP power 0.5
	1.3 A			6EP1331-1SH02		
	2 A				6ES7307-1BA00-0AA0	SIMATIC S7-300 design
	2.5 A		6EP1332-2BA10	6EP1332-1SH42	6EP1232-1AA00	SITOP PSA 100E
					6EP1332-1SH12	The universal type
	3.5 A				6EP1332-1SH31	SIMATIC S7-200 design
	3.7 A				6EP1332-2BA00	The Class2 version
	4 A			6EP1332-1SH51	6EP1232-1AA10	SITOP PSA 100E
					6EP1332-1SH22	The universal type
	5 A	6EP1333-3BA00	6EP1333-2AA01		6EP1333-1AL12	Flat design
		6EP1333-3BA00-8AC0	6EP1333-2BA01		6ES7307-1EA80-0AA0	Outdoor
					6ES7307-1EA00-0AA0	SIMATIC S7-300 design
	6 A				6EP1233-1AA00	SITOP PSA 100E
	10 A	6EP1334-3BA00	6EP1334-2AA01		6EP1334-1AL12	Flat design
		6EP1334-3BA00-8AB0	6EP1334-2BA01		6ES7307-1KA01-0AA0	SIMATIC S7-300 design
			6EP1334-2AA01-0AB0		6EP1334-1SH01	The universal type
	12 A				6EP1234-1AA00	SITOP PSA 100E
	20 A	6EP1336-3BA00				
		6EP1336-3BA00-8AA0				
	40 A	6EP1337-3BA00				

Input voltage	Output current	modular	smart	LOGO!Power	Facets	
24 V output voltage						
3-phase 400–500 V AC	5 A	6EP1333-3BA00 [1]				
	10 A	6EP1334-3BA00 [1]			6EP1434-2BA00	The well-proven
	20 A	6EP1436-3BA01				
		6EP1436-3BA00				
		6EP1436-3BA00-8AA0				
	30 A				6EP1437-2BA00	The well-proven
	40 A	6EP1437-3BA00			6EP1437-2BA10	The well-proven
		6EP1437-3BA00-8AA0				
48–220 V DC	0.375 A				6EP1331-2BA10	SITOP power 0.5
48–110 V DC	2 A				6EP1732-0AA0	The DC/DC converter
24–110 V DC	2 A				6ES7305-1BA80-0AA0	Outdoor
					6EP1334-1SH01	The universal type
110–350 V DC	2.5 A				6EP1332-1SH12	The universal type
	4 A				6EP1332-1SH22	The universal type
	10 A				6EP1334-1SH01	The universal type

Input voltage	Output current	modular	smart	LOGO!Power	Facets	
1-phase 120 V AC, 230 V AC	5 V/3 A			6EP1311-1SH02		
	5 V/6.3 A			6EP1311-1SH12		
	12 V/1.9 A			6EP1321-1SH02		
	12 V/4.5 A			6EP1322-1SH02		
	15 V/1.9 A			6EP1351-1SH02		
	15 V/4 A			6EP1352-1SH02		
	3–52 V/2–10 A				6EP1353-2BA00	SITOP flexi
	2 x 15 V/3.5 A				6EP1353-0AA00	SITOP dual
3-phase 400–500 V AC	48 V/10 A		6EP1456-2BA00			
	48 V/20 A	6EP1457-3BA00				

[1] Connection to 2-phase 230–500 V AC – see technical specifications of SITOP modular 1-/2-phase

Green: more information in the catalog KT10.1 or in the online catalog CA01

SITOP modular
The modular power supply




Technical specifications	SITOP modular 1-phase and 2-phase[1]			
SITOP	**Basic unit 24 V/5 A**	**Basic unit 24 V/10 A**	**Basic unit 24 V/20 A**	**Basic unit 24 V/40 A**
Order No.	6EP1333-3BA00	6EP1334-3BA00	6EP1336-3BA00	6EP1337-3BA00
– PCB with protective coating	6EP1333-3BA00-8AC0	6EP1334-3BA00-8AB0	6EP1336-3BA00-8AA0	
Input voltage rated value – range	120–230/230–500 V AC 85...264/176...550 V AC	120–230/230–500 V AC 85...264/176...550 V AC	120/230 V AC 93...132/183...264 V AC	120/230 V AC 95...132/190...264 V AC
Mains buffering	> 25 ms (at 120/230 V)	> 25 ms (at 120/230 V)	> 20 ms (at 230 V)	> 20 ms (at 230 V)
Line frequency rated value	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Input current rated value – Inrush current (25°C) – Recommended primary side protection	2.2–1.2/1.2–0.61 A < 35 A 6 A char. C or 3RV1021-1xA10	4.4–2.4/2.4–1.1 A < 35 A 6 A char. C or 3RV1021-1xA10	7.7/3.5 A < 60 A 10 A char. C or 3RV1421-1xA10	15.0/8.0 A < 125 A 20 A char. C or 3RV1421-xxA10
Output voltage rated value – Tolerance – Setting range	24 V DC ± 3 % 24...28.8 V DC	24 V DC ± 3 % 24...28.8 V DC	24 V DC ± 3 % 24...28.8 V DC	24 V DC ± 3 % 24...28.8 V DC
Output current rated value	5 A	10 A	20 A	40 A
Efficiency at rated value approx.	87 %	87 %	89 %	88 %
Parallel operation for higher performance	Yes, output characteristics can be switched to parallel operation			
Brief overload characteristics	Power Boost: 3 x output current for 25 ms			
Electronic short-circuit protection	Yes, constant current or latching shutdown selectable; constant current: approx. 1.15 x rated output current			
RI specification (EN 55022)	Class B	Class B	Class B	Class B
Line harmonic limitation (EN 61000-3-2)	Yes	Yes	Yes	No
Degree of protection (EN 60529)	IP20	IP20	IP20	IP20
Ambient temperature	0...+60°C	0...+60°C	0...+60°C	0...+60°C
Dimensions (W x H x D) in mm	70 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	2.2 kg	2.9 kg
Approvals	CE, cULus, SEMI F47[2]	CE, cULus, SEMI F47[2]	CE, cULus, SEMI F47[3]	CE, cULus, SEMI F47[4]

[1] Connection to 2 phases of a 3-phase power system
[2] For 208–240 V input voltage or with buffer module
[3] In conjunction with a buffer module
[4] In conjunction with two buffer modules

				
Technical specifications	**SITOP modular 3-phase**			**SITOP modular 3-phase, 48 V DC**
SITOP	**Basic unit 24 V/20 A**	**Basic unit 24 V/20 A**	**Basic unit 24 V/40 A**	**Basic unit 48 V/20 A**
Order No.	6EP1436-3BA01	6EP1436-3BA00	6EP1437-3BA00	6EP1457-3BA00
– PCB with protective coating		6EP1436-3BA00-8AA0	6EP1437-3BA00-8AA0	
Input voltage rated value – range	400–500 V 3 AC 360...550 V 3 AC[1)]	400–500 V 3 AC 340...550 V 3 AC	400–500 V 3 AC 340...550 V 3 AC	400–500 V 3 AC 340...550 V 3 AC
Mains buffering	> 15 ms (at 400 V)	> 6 ms (at 400 V)	> 6 ms (at 400 V)	> 6 ms (at 400 V)
Line frequency rated value	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Input current rated value – Inrush current (25°C) – Recommended primary side protection	1.1–0.9 A < 18 A 6–16 A char. C, 3-ph coupled or 3RV1021-1DA10, 3RV1721-1DD10	1.1–0.9 A < 35 A 6–16 A char. C, 3-ph coupled or 3RV1021-1DA10, 3RV1721-1DD10	2.0–1.7 A < 70 A 10–16 A char. C, 3-ph coupled or 3RV1021-1DA10, 3RV1721-1DD10	approx. 2.2 A (at 400 V) < 70 A 10–16 A char. C, 3-ph coupled or 3RV1021-1DA10, 3RV1721-1DD10
Output voltage rated value – Tolerance – Setting range	24 V DC ± 3 % 24...28.8 VDC	24 V DC ± 3 % 24...28.8 VDC	24 V DC ± 3 % 24...28.8 VDC	48 V DC ± 3 % 42...56 VDC
Output current rated value	20 A	20 A	40 A	20 A
Efficiency at rated value approx.	93 %	90 %	90 %	90 %
Parallel operation for higher performance	Yes, output characteristics can be switched to parallel operation			
Brief overload characteristics	Power Boost: 3 x output current for 25 ms, Extra Power[2)]: 1.5 x rated output current for 5 s/min			
Electronic short-circuit protection	Yes, constant current or latching shutdown selectable; constant current: approx. 1.15 x rated output current			
RI specification (EN 55022)	Class B	Class B	Class B	Class B
Line harmonic limitation (EN 61000-3-2)	Yes	Yes	Yes	Yes
Degree of protection (EN 60529)	IP20	IP20	IP20	IP20
Ambient temperature	–10...+60°C	0...+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	240 x 125 x 125	240 x 125 x 125
Weight approx.	1.2 kg	2.0 kg	3.2 kg	3.2 kg
Approvals	CE, cULus	CE, UL, CSA, SEMI F47	CE, UL, CSA, SEMI F47	CE, UL, CSA

[1)] Extension to 320...575 V in preparation

[2)] Extra Power only available with 6EP1436-3BA01

SITOP smart
The slim-line universal power supply





Technical specifications	SITOP smart 1-phase						SITOP smart 3-phase, 48 V
SITOP	**24 V/2.5 A**	**24 V/5 A**	**24 V/5 A**	**24 V/10 A**	**24 V/10 A**	**24 V/10 A Wallmount**	**48 V/10 A**
Order No.	6EP1332-2BA10	6EP1333-2AA01	6EP1333-2BA01	6EP1334-2AA01	6EP1334-2BA01	6EP1334-2AA01-0AB0	6EP1456-2BA00
Input voltage rated value – range	120/230 V AC 85...132/170...264 V AC	120/230 V AC 85...132/170...264 V AC	120/230 V AC 85...132/170...264 V AC	120/230 V AC 85...132/170...264 V AC	120/230 V AC 85...132/170...264 V AC	120/230 V AC 85...132/170...264 V AC	400–500 V 3 AC 360...550 V 3 AC
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)	> 7 ms (at 400 V)
Line frequency rated value	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Input current rated value – Inrush current (25°C) – Recommended primary side protection[1)]	1.1/0.65 A < 14 A 3 A characteristic C	2.1/1.15 A < 32 A 6 A characteristic C	2.1/1.15 A < 32 A 6 A characteristic C	4.1/2.4 A < 65 A 10 A characteristic C	4.1/2.0 A < 65 A 10 A characteristic C	4.1/2.0 A < 65 A 10 A characteristic C	1.1–0.9 A < 18 A from 6–16 A char. C, 3-ph. coupled or 3 RV1021-1DA10 or 3 RV1721-1DD10
Output voltage rated value – Tolerance – Setting range	24 V DC ± 3 % 22.8...28 V DC	24 V DC ± 3 % 22.8...28 V DC	24 V DC ± 3 % 22.8...28 V DC	24 V DC ± 3 % 22.8...28 V DC	24 V DC ± 3 % 22.8...28 V DC	24 V DC ± 3 % 22.8...28 V DC	48 V DC ± 3 % 42...56 V DC
Output current rated value	2.5 A (3 A up to +45°C)	5 A (6 A up to +45°C)	5 A (6 A up to +45°C)	10 A (12 A up to +45°C)	10 A (12 A up to +45°C)	10 A (12 A up to +45°C)	10 A
Efficiency at rated value approx.	85 %	87 %	87 %	90 %	91 %	90 %	93 %
Parallel operation for higher performance	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Brief overload characteristics	Extra-Power: 1.5 x rated output current for 5 s/min						
Electronic short-circuit protection	Yes, constant current						
RI specification (EN 55022)	Class B	Class B	Class B	Class B	Class B	Class B	Class B
Line harmonic limitation (EN 61000-3-2)	Not applicable	No	Yes	No	Yes	Yes	Yes
Degree of prot. (EN 60529)	IP20	IP20	IP20	IP20	IP20	IP20	IP20
Ambient temperature	0...+60°C	0...+60°C	0...+60°C	0...+60°C	0...+60°C	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	50 x 125 x 125	70 x 125 x 125	70 x 125 x 125	70 x 125 x 125	70 x 125 x 125
Weight approx.	0.4 kg	0.5 kg	0.5 kg	0.75 kg	0.8 kg	0.85 kg	1.2 kg
Approvals	CE, UL, CSA, GL, ATEX, Hazardous Location Class I Div 2 Groups A, B, C & D, T4						CE, cULus

[1)] 6EP1456-2BA00: fusing necessary

SITOP Add-ons
All-round protection offer

				
Technical specifications	**Signaling**	**Power failure bridging**	**Redundancy**	**Monitoring**
SITOP	**Signaling module**[1)]	**Buffer module**[1)]	**Redundancy module**	**Diagnosis module SITOP select**
Order No.	6EP1961-3BA10	6EP1961-3BA00	6EP1961-3BA20	6EP1961-2BA00
Input voltage rated value – range	Contact rating 240 V AC/6 A	24 V DC 24...28.8 V DC	24 V DC 24...28.8 V DC	24 V DC 22...30 V DC
Brief product/function description	Signaling module for lateral snapping onto the basic unit (6EP1xxx-3BA00); automatic contacting; with floating signaling contacts for "Output voltage o.k." and "Operating readiness o.k."; with signal input for remote ON/OFF switching of the basic unit.	Buffer module for bridging power failures; connected in parallel to basic unit's output (6EP1x3x-3BA0x); buffering time 100 ms at 40 A or up to 800 ms at 5 A load current; multiplication through paralleling possible; maximum buffering time 3 s.	Module for redundancy mode. Decoupling of two 5 A to 20 A power supplies or of one 40 A power supply per redundancy module. Floating relay contact and green LEDs for signaling "Feed-in 1 and 2 o.k."; operating point settable from 20 to 25 V DC.	Diagnosis module for monitoring up to four 24 V load feeders; selective disabling of faulty feeders, rated current of between 2 and 10 A individually selectable, with common signal contact and LEDs in multiple colors; universal diagnosis module for all power supplies.
Output current rated value	Not applicable	40 A	40 A (total output current)	4 x 10 A
Efficiency at rated values approx.	Not applicable	Not applicable	97 %	97 %
Parallel operation	Not applicable	Yes	No	No
Electronic short-circuit protection	Not applicable	Yes	No	Yes
RI specification (EN 55022)	Class B	Class B	Class B	Class B
Degree of protection (EN 60529)	IP20	IP20	IP20	IP20
Ambient temperature	0...+60°C	0...+60°C	0...+60°C	0...+60°C
Dimensions (W x H x D) in mm	25 x 125 x 125	70 x 125 x 125	70 x 125 x 125	72 x 90 x 90
Weight approx.	0.15 kg	1.2 kg	1.0 kg	0.4 kg
Approvals	CE, UL, CSA	CE, UL, CSA	CE, cULus, ATEX	CE, cULus

[1)] Only in combination with SITOP modular power supply

Uninterruptible power supplies
SITOP DC UPS for long-term power failures





Technical specifications	SITOP DC UPS for long-term power failures					
SITOP	**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[1)]**	**DC UPS Battery module 24 V/3.2 Ah[1)]**	**DC UPS Battery module 24 V/7 Ah[1)]**
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	6EP1935-6ME21
Input voltage	24 V, 22...29 V DC, feed via 24 V SITOP power supply:			Rec. final charging level: 26.4...27.3 V DC (> +20°C), 27.3...29.0 V DC (< +20°C)		
	Any	From 24 V/5 A	From 24 V/10 A			
Mains buffering	Depending on battery	Depending on battery	Depending on battery	Approx. 2 minutes at 4 A	Approx. 1.5 minutes at 10 A	Approx. 2 minutes at 20 A
Input current rated value	6 A + approx. 0.6 A for empty battery	15 A + approx. 1 A for empty battery	40 A + approx. 2.6 A for empty battery	Max. charging current 0.3 A	Charging current 0.7 A	Max. charging current 2.5 A
Overload and short-circuit protection	Electronic, automatic restarting			Built-in battery fuse 7.5 A/32 V	15 A/32 V	20 A/32 V
Output voltage rated value	24 V DC (upstream SITOP unit or battery) charging voltage: 27.0 V			24 V DC, 22...27.0 V DC (idle)		
Output current rated value	6 A, charge current: typ. 0.4 A	15 A, charge current: typ. 0.7 A	40 A, charge current: typ. 2 A	2.5 A	10 A	20 A
Efficiency at rated value approx.	Backup mode: 94 %, Ready mode: 95 %	Backup mode: 96 %, Ready mode: 96 %	Backup mode: 97 %, Ready mode: 97 %	Not applicable	Not applicable	Not applicable
Parallel operation	No	No	No	Yes	Yes	Yes
RI specification (EN 55022)	Class B	Class B	Class B			
Degree of prot. (EN 60529)	IP20	IP20	IP20	IP00	IP00	IP00
Ambient temperature	0...+60°C	0...+60°C	0...+60°C	+5...+40°C	+5...+40°C	+5...+40°C
Assembly	DIN rail	DIN rail	DIN rail	DIN rail	DIN rail	Wall mounting
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	186 x 168 x 121
Weight approx.	0.4 kg	0.4 kg	1.1 kg	2 kg	3.5 kg	6.0 kg
Approvals	CE, cULus	CE, cULus	CE, cULus	CE, cULus	CE, cULus	CE, cULus

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

Selection table: battery modules and power failure bridging times

					
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[1] 2.5 Ah (6EP1935-6MD31)**
1 A	30 min.	2.5 h	6 h	11 h	2 h
2 A	11 min.	45 min.	2.5 h	5 h	45 min.
3 A	4 min.	25 min.	1.5 h	3 h	30 min.
4 A	2 min.	20 min.	45 min.	2 h	20 min.
6 A	1 min.	10 min.	30 min.	1 h	13 min.
8 A	–	4 min.	20 min.	40 min.	9 min.
10 A	–	1.5 min.	15 min.	30 min.	7 min.
12 A	–	1 min.	10 min.	25 min.	5.5 min.
14 A	–	50 s	8 min.	20 min.	4.5 min.
16 A	–	40 s	6 min.	15 min.	4 min.
20 A	–	–	2 min.	11 min.	–

[1] High-temperature battery module for ambient temperature from –40 to +60°C

SITOP facets
in the SIMATIC design and for special applications





Technical specifications	SIMATIC S7-300 design				Class 2 approval	SITOP flexi
SITOP	**24 V/2 A**	**24 V/5 A**	**24 V/5 A Outdoor** [1]	**24 V/10 A**	**24 V/3.7 A**	**3...52 V/10 A**
Order No.	6ES7307-1BA00-0AA0	6ES7307-1EA00-0AA0	6ES7307-1EA80-0AA0	6ES7307-1KA01-0AA0	6EP1332-2BA00	6EP1353-2BA00
Input voltage rated value	120/230 V AC	120/230 V AC	120/230 V AC	120/230 V AC	120/230 V AC	120/230 V AC
– range	85...132 V/170...264 V AC	85...132 V/170...264 V AC	93...132 V/187...264 V AC	85...132 V/170...264 V AC	93...132 V/187...264 V AC	85...132 V/170...264 V AC
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)	> 10 ms (at 93/187 V)	> 10 ms (at 93/187 V)
Line frequency rated value	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Input current rated value	0.9/0.6 A	2.2/1.3 A	2.2/1.2 A	4.1/1.8 A	1.8/0.7 A	2.2/0.9 A
– Inrush current (25°C)	< 20 A	< 45 A	< 45 A	< 55 A	< 32 A	< 32 A
– Recommended primary side protection	3 A char. C	6 A char. C	10 A char. C	10 A char. C	6 A char. C	6 A char. C
Output voltage rated value	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC
– Tolerance	± 3 %	± 3 %	± 3 %	± 3 %	± 3 %	± 1 %
– Setting range	–	–	–	–	22.8...26.4 V DC [2]	3...52 V DC
Output current rated value	2 A	5 A	5 A	10 A	3.7 A	2–10 A (120 W max.)
Efficiency at rated value approx.	83 %	87 %	84 %	87 %	>80 %	84 % (at 24 V/5 A)
Parallel operation for higher performance	No	No	No	No	Yes [2]	Yes
Electronic short-circuit protection	Yes, restarts	Yes, restarts	Yes, restarts	Yes, restarts	Yes, restarts	Yes, constant current
RI specification (EN 55022)	Class B	Class B	Class A	Class B	Class B	Class B
Line harmonic limitation (EN 61000-3-2)	Not applicable	Yes	No	Yes	Yes	Yes
Degree of prot. (EN 60529)	IP20	IP20	IP20	IP20	IP20	IP20
Ambient temperature	0...+60°C	0...+60°C	–25...+70°C	0...+60°C	0...+60°C	0...+60°C
Assembly	Can be fitted on S7 rail, assembly adapter for DIN rail, 35x15 mm: 6ES7390-6BA00-0AA0				DIN rail	DIN rail
Dimensions (W x H x D) in mm	50 x 125 x 120	80 x 125 x 120	80 x 125 x 120	120 x 125 x 120	70 x 125 x 120	75 x 125 x 125
Weight approx.	0.42 kg	0.74 kg	0.57 kg	1.1 kg	0.75 kg	0.9 kg
Approvals	CE, UL, CSA	CE, UL, CSA	CE, UL, CSA	CE, UL, CSA	CE, cULus, Class2	CE, cULus

[1] Condensation permissible, increased vibration and shock resistance
[2] Permissible only at ambient temperature from 0 to 50°C

SITOP facets
special types

Technical specifications	SITOP power 0.5	SITOP flat design		SITOP PSA 100E			
SITOP	**24 V/0.5 A**	**24 V/5 A**	**24 V/10 A**	**24 V/2.5 A**	**24 V/4 A**	**24 V/6 A**	**24 V/12 A**
Order No.	6EP1331-2BA10	6EP1333-1AL12	6EP1334-1AL12	6EP1232-1AA00	6EP1232-1AA10	6EP1233-1AA00	6EP1234-1AA00
Input voltage rated value	120–230 V AC[1)]	120/230 V AC	120/230 V AC	230 V AC	230 V AC	230 V AC	230 V AC
– range	93…264 V AC	85…132/170…264 V AC	85…132/170…264 V AC	187…264 V AC	187…264 V AC	187…264 V AC	187…264 V AC
Mains buffering	> 10 ms (at 230 V)	> 20 ms (at 93/187 V)	> 20 ms (at 93/187 V)	> 10 ms (at 230 V)	> 10 ms (at 230 V)	> 10 ms (at 230 V)	> 10 ms (at 230 V)
Line frequency rated value	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Input current rated value	0.22–0.13 A	2.2/1.2 A	4/2.5 A	0.65 A	1.1 A	1.4 A	2.5 A
– Inrush current (25°C)	< 23 A	< 32 A	< 65 A	< 30 A	< 30 A	< 35 A	< 50 A
– Recommended primary side protection	From 3 A char. C	From 6 A char. C	From 10 A char. C	From 6 A char. C	From 6 A char. C	From 10 A char. C	10 A char. C
Output voltage rated value	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC
– Tolerance	± 3 %	± 1 %	± 1 %	± 3 %	± 3 %	± 3 %	± 3 %
– Setting range	–	22…29 V DC	22…29 V DC	23…26 V DC	23…26 V DC	23…26 V DC	23…26 V DC
Output current rated value	0.5 A	5 A	10 A	2.5 A (+45°C)	4 A (+45°C)	6 A (+45°C)	12 A (+45°C)
Efficiency at rated value approx.	74 %	88 %	89 %	84 %	87 %	87 %	88 %
Parallel operation for higher performance	No	Yes	Yes	Yes	Yes	Yes	Yes
Electronic short-circuit protection	Yes	Yes, restarts	Yes, restarts	Yes, restarts	Yes, restarts	Yes, restarts	Yes, restarts
RI specification (EN 55022)	Class B	Class B	Class B	Class B	Class B	Class B	Class B
Line harmonic limitation (EN 61000-3-2)	Not applicable	No	No	Not applicable	No	No	No
Degree of prot. (EN 60529)	IP20	IP20	IP20	IP20	IP20	IP20	IP20
Ambient temperature	–20… +70°C	0…+60°C	0…+60°C	–10 …+70°C (Derating 45…70°C)			
Assembly	DIN rail	DIN rail	DIN rail	Wall mounting and DIN rail, variable installation position			
Dimensions (W x H x D) in mm	22.5 x 80 x 91	160 x 130 x 60	160 x 130 x 60	approx. 52 x 170 x 110 incl. clip for DIN rail			
Weight approx.	0.11 kg	0.6 kg	0.72 kg	0.8 kg	0.8 kg	0.9 kg	0.9 kg
Approvals	CE, cULus	CE, cULus	CE, cULus	CE, cULus	CE, cULus	CE, cULus	CE, cULus

[1)] With 48–220 V DC; Order No. 6EP1731-2BA00

LOGO!Power – The mini power packs



Technical specifications	54 mm housing				72 mm housing				90 mm housing
SITOP	**5 V/3 A**	**12 V/1.9 A**	**15 V/1.9 A**	**24 V/1.3 A**	**5 V/6.3 A**	**12 V/4.5 A**	**15 V/4 A**	**24 V/2.5 A**	**24 V/4 A**
Order No.	6EP1311-1SH02	6EP1321-1SH02	6EP1351-1SH02	6EP1331-1SH02	6EP1311-1SH12	6EP1322-1SH02	6EP1352-1SH02	6EP1332-1SH42	6EP1332-1SH51
Input voltage rated value – range	100–240 V AC 85...264 V AC				100–240 V AC 85...264 V AC				100–240 V AC 85...264 V AC
Mains buffering	> 40 ms (at 187 V)				> 40 ms (at 187 V)				> 40 ms (at 187 V)
Line frequency rated value	50/60 Hz				50/60 Hz				50/60 Hz
Input current rated value – Inrush current (25°C)	0.36–0.22 A < 15 A	0.53–0.30 A	0.63–0.33 A	0.70–0.35 A	0.71–0.37 A < 30 A	1.13–0.61 A	1.24–0.68 A	1.22–0.66 A	1.95–0.97 A < 30 A
– Recommended primary side protection	From 10 A characteristic C or 16 A characteristic B				From 10 A characteristic C or 16 A characteristic B				From 10 A char. C or 16 A char. B
Output voltage rated value – Tolerance – Setting range	5 V DC ± 3 % 4.6...5.4 V DC	12 V DC 10.5...16.1 V DC	15 V DC 10.5...16.1 V DC	24 V DC 22.2...26.4 V DC	5 V DC ± 3 % 4.6...5.4 V DC	12 V DC 10.5...16.1 V DC	15 V DC 10.5...16.1 V DC	24 V DC 22.2...26.4 V DC	24 V DC ± 3 % 22.2...26.4 V DC
Output current rated value	3.0 A	1.9 A	1.9 A	1.3 A	6.3 A	4.5 A	4.0 A	2.5 A	4.0 A
Efficiency at rated value approx.	76 %	80 %	80 %	82 %	83 %	85 %	85 %	87 %	89 %
Parallel operation	Yes				Yes				Yes
Electronic short-circuit protection	Yes, constant current				Yes, constant current				Yes, constant current
RI specification (EN 55022)	Class B				Class B				Class B
Line harmonic limitation EN 61000-3-2	Not applicable				Not applicable				Yes
Degree of protection (EN 60529)	IP20				IP20				IP20
Ambient temperature	–20... +55°C				–20... +55°C				–20... +55°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
Approvals	CE, cULus, FM, GL	CE, cULus, FM, GL, ABS	CE, cULus, FM, GL	CE, cULus, FM, GL, ABS, Class 2	CE, cULus, FM, GL	CE, cULus, FM, GL, ABS	CE, cULus, FM, GL	CE, cULus, FM, GL, ABS, Class2	CE, cULus, FM, GL, ABS

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