

DC/DC converters for the reliable supply of 12 V DC and 24 V DC



Plants and systems with safety-related applications are often equipped with a battery back-up. These include applications in industry, power plants, water treatment plants and vehicle on-board power supplies. In order to reliably supply the loads involved in this type of application with their rated input voltage, SITOP offers a range of different DC/DC converters with a 24 V DC output voltage and a compact DIN rail unit for 12 V DC loads.

To supply an uninterruptible 24 V DC input voltage and therefore also the 12 V DC level, SITOP offers DC-UPS systems with maintenance-free, lead-gel batteries or long-life capacitors for energy storage.

DC/DC converters with 12 V DC output voltage

- Output voltage adjustable between 12 and 14 V DC
- Extremely slim construction
- Simple DIN rail mounting
- Radio suppression level class B
- Input voltage 24 V DC, backed up e.g. by SITOP DC UPS: www.siemens.com/sitop-ups



DC/DC converters with 24 V DC output voltage

- Rated output currents from 0.375 to 10 A
- Input voltages from 10 to 350 V DC
- Suitable for use under extreme environmental conditions
- Can be connected in parallel to boost output
- Electronic short-circuit protection
- For mounting on DIN rail, S7 rail or directly on wall
- Variants based on SIMATIC S7-300 design

SITOP DC/DC converter

Answers for industry.

SIEMENS




Selection table DC/DC converter SITOP			
Output voltage/current	12 V DC / 2.5 A	24 V DC / 0.375 A	Outdoor, S7-300 Design, 24 V DC / 2 A
Order No.	6EP1621-2BA00	6EP1731-2BA00¹⁾	6ES7305-1BA80-0AA0²⁾
Input voltage - rated value - range	24 V DC 18.5 ... 30.2 V DC	48 ... 220 V DC 30 ... 264 V DC (30...187 V AC)	24 ... 110 V DC 16.8 ... 138 V DC
Mains buffering	> 5 ms	> 10 ms	> 10 ms
Line frequency rated value	–	0/50/60 Hz	–
Input current - rated value - Inrush current (25 °C) - recommended primary side protection (suitable for DC)	1.6 A < 20 A for 20 ms 10 A Characteristic B	0.3 ... 0.06 A < 35 A, typ 3 ms From 6 A Characteristic C	2.7/0.6 A < 20 A, < 10 ms From 10 A Characteristic C
Output voltage - rated value - Tolerance - Setting range	12 V DC ± 3 % 12 ... 14 A	24 V DC ± 3 % –	24 V DC ± 3 % –
Output current - rated value	2.5 A	0.375 A	2 A (3 A at U_i > 24 V DC)
Efficiency at rated value	80 %	66 %	75 %
Parallel operation	yes, 2 devices	no	yes, 2 devices
Electronic short-circuit protection	Constant current characteristic approx. 3.3 A	electronic shutdown, automatic restart	electronic shutdown, automatic restart
RI specification (EN 55022)	Class B	Class B	Class A
Degree of protection (EN 60529)	IP20	IP20	IP20
Ambient temperature	0 ... +60 °C	–25 ... +70 °C	–25 ... +70 °C
Dimensions (W x H x D) in mm	32.5 x 125 x 125 mm	22.5 x 80 x 91 mm	80 x 125 x 120 mm
Weight approx.	0.26 kg	0.14 kg	0.75 kg
Installation	Snaps onto DIN rail	Snaps onto DIN rail	Snaps onto S7 rail and DIN rail ³⁾
Approvals	CE, cULus	CE, cULus	CE, UL, CSA

¹⁾ SIPLUS module 6AG1 931-2BA00-3AA0 for use under medial load (e.g. sulfur chloride atmosphere or condensation).

²⁾ SIPLUS module 6AG1 305-1BA80-2AA0 for use under medial load.

This SIPLUS power supply conforms with standards for electronic equipment used on rolling stock (EN 50155, temperature T1, category 1)

³⁾ Mounting adapter for DIN rail (6ES7390-6BA00-0AA0) and PS-CPU (6ES7390-7BA00-0AA0) connection comb

			
Output voltage/current	24 V DC / 2 A	24 V DC / 2.5 A	24 V DC / 4 A
Order No.	6EP1732-0AA00	6EP1332-1SH12	6EP1332-1SH22
Input voltage - rated value - range	48 ... 110 V DC 38 ... 121 V DC	120 ... 230 V DC 110 ... 350 V DC (93 ... 264 V AC)	120 ... 230 V DC 110 ... 350 V DC (93 ... 264 V AC)
Mains buffering	> 5 ms at 48 V	> 20 ms at 120 V, >80 ms at 187 V	> 20 ms at 93/187 V
Line frequency rated value	–	0/50/60 Hz	0/50/60 Hz
Input current - rated value - Inrush current (25 °C) - recommended primary side protection (suitable for DC)	1.2-0.5 A < 33 A 10 - 25 A Charact. B or 6 - 25 A Characteristic C	1.3-0.7 A < 33 A, <3 ms at 230 V Two-pole circuit breaker from 10 A, Characteristic C, or from 6 A, Characteristic D	2.5-1.3 A < 20 A, < 3 ms up to 16 A Charact. C
Output voltage - rated value - Tolerance - Setting range	24 V DC ± 1 % 23.5 ... 26.5 A	24 V DC ± 1 % –	24 V DC ± 1 % –
Output current - rated value	2 A	2.5 A	4 A
Efficiency at rated value	84 %	85 %	85 %
Parallel operation	yes, 2 units	yes, up to 10 units	yes, 2 units
Electronic short-circuit protection	electronic shutdown, automatic restart	Constant current characteristic	Constant current characteristic approx. 11 A
RI specification (EN 55022)	Class B	Class B	Class B
Degree of protection (EN 60529)	IP20	IP20	IP20
Ambient temperature	0 ... +70 °C	0 ... +60 °C	0 ... +50 °C
Dimensions (W x H x D) in mm	80 x 135 x 120 mm	80 x 135 x 120 mm	200 x 125 x 135 mm
Weight approx.	0.5 kg	0.5 kg	1.8 kg
Installation	Snaps onto DIN rail	Snaps onto DIN rail or wall mounting	Snaps onto DIN rail
Approvals	CE, cULus	CE, cULus	CE, cULus

Siemens AG
Industry Sector
Industry Automation
P.O. Box 23 55
90713 FÜRTH
GERMANY

www.siemens.com/sitop

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