

## Overview



The one-phase SITOP smart are the universal and powerful standard power supplies for machinery and plant engineering. Despite their compact design, they offer an excellent overload response: Thanks to a power boost of 150%, loads with high power consumption can be connected without any problems. The high degree of efficiency results in low energy consumption and minimal heat generation inside the control cabinet.

### Main product highlights

- 1-phase, 12 V DC/7 A and 14 A
- Input voltage 120 V and 230 V AC with automatic range switching
- Compact design - no lateral clearances required
- Extra power with 1.5 times the rated current (5 s/min) for brief functional overload
- Adjustable output voltage for compensating voltage drops
- Signaling contact for easy integration in the plant monitoring system
- Wide temperature range from -25 to +70 °C
- Comprehensive certifications, such as cULus, cCSAus, ATEX, IECEx and DNV GL

## Technical specifications

Article number	6EP1322-2BA00	6EP1323-2BA00
Product	SITOP PSU100S	SITOP PSU100S
Power supply, type	12 V/7 A	12 V/14 A
<b>Input</b>		
Input	1-phase AC	1-phase AC
Supply voltage		
• 1 at AC Rated value	120 V	120 V
• 2 at AC Rated value	230 V	230 V
• Note	Automatic range selection	Automatic range selection
Input voltage		
• 1 at AC	85 ... 132 V	85 ... 132 V
• 2 at AC	170 ... 264 V	170 ... 264 V
Wide-range input	No	No
Oversvoltage resistance	$2.3 \times V_{in \text{ rated}}, 1.3 \text{ ms}$	$2.3 \times V_{in \text{ rated}}, 1.3 \text{ ms}$
Mains buffering at $I_{out \text{ rated}}, \text{ min.}$	20 ms; at $V_{in} = 93/187 \text{ V}$	20 ms; at $V_{in} = 93/187 \text{ V}$
Rated line frequency	50 ... 60 Hz	50 ... 60 Hz
Rated line range	47 ... 63 Hz	47 ... 63 Hz
Input current		
• at rated input voltage 120 V	1.73 A	3.24 A
• at rated input voltage 230 V	0.99 A	1.41 A
Switch-on current limiting (+25 °C), max.	45 A	60 A
Built-in incoming fuse	T 3, 15 A/250 V (not accessible)	T 6.3 A/250 V (not accessible)
Protection in the mains power input (IEC 898)	Recommended miniature circuit breaker: from 6 A characteristic C	Recommended miniature circuit breaker: from 10 A characteristic C

## SITOP smart

## 1-phase, 12 V DC

## Technical specifications (continued)

Article number	6EP1322-2BA00	6EP1323-2BA00
Product	SITOP PSU100S	SITOP PSU100S
Power supply, type	12 V/7 A	12 V/14 A
<b>Output</b>		
Output	Controlled, isolated DC voltage	Controlled, isolated DC voltage
Rated voltage $V_{out}$ DC	12 V	12 V
Total tolerance, static $\pm$	3 %	3 %
Static mains compensation, approx.	0.1 %	0.1 %
Static load balancing, approx.	1 %	1 %
Residual ripple peak-peak, max.	150 mV	150 mV
Residual ripple peak-peak, typ.	20 mV	20 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	240 mV	240 mV
Spikes peak-peak, typ. (bandwidth: 20 MHz)	100 mV	100 mV
Adjustment range	11.5 ... 15.5 V	11.5 ... 15.5 V
Product function Output voltage adjustable	Yes	Yes
Output voltage setting	via potentiometer	via potentiometer
Status display	Green LED for 12 V OK	Green LED for 12 V OK
Signaling	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for 12 V OK	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for 12 V OK
On/off behavior	Overshoot of $V_{out} < 3 \%$	Overshoot of $V_{out} < 3 \%$
Startup delay, max.	0.3 s	0.3 s
Voltage rise, typ.	10 ms	10 ms
Rated current value $I_{out\ rated}$	7 A	14 A
Current range	0 ... 7 A	0 ... 14 A
• Note	+50 ... +70 °C: Derating 0.75%/K	+50 ... +70 °C: Derating 3.5%/K
Supplied active power typical	84 W	168 W
Short-term overload current		
• on short-circuiting during the start-up typical	25 A	40 A
• at short-circuit during operation typical	25 A	40 A
Duration of overloading capability for excess current		
• on short-circuiting during the start-up	800 ms	800 ms
• at short-circuit during operation	800 ms	800 ms
Parallel switching for enhanced performance	Yes	Yes
Numbers of parallel switchable units for enhanced performance	2	2
<b>Efficiency</b>		
Efficiency at $V_{out\ rated}$ , $I_{out\ rated}$ , approx.	84 %	87 %
Power loss at $V_{out\ rated}$ , $I_{out\ rated}$ , approx.	15 W	24 W
<b>Closed-loop control</b>		
Dynamic load smoothing ( $I_{out}$ : 10/90/10 %), $U_{out} \pm$ typ.	5 %	5 %
Load step setting time 10 to 90%, typ.	1 ms	1 ms
Load step setting time 90 to 10%, typ.	1 ms	1 ms

## Technical specifications (continued)

Article number	6EP1322-2BA00	6EP1323-2BA00
Product	SITOP PSU100S	SITOP PSU100S
Power supply, type	12 V/7 A	12 V/14 A
<b>Protection and monitoring</b>		
Output overvoltage protection	< 20 V	< 20 V
Current limitation	7 ... 8.8 A	14 ... 16.4 A
Property of the output Short-circuit proof	Yes	Yes
Short-circuit protection	Constant current characteristic	Constant current characteristic
Enduring short circuit current RMS value		
• typical	8.8 A	16.4 A
Overcurrent overload capability in normal operation	overload capability 150 % $I_{out rated}$ up to 5 s/min	overload capability 150 % $I_{out rated}$ up to 5 s/min
Overload/short-circuit indicator	-	-
<b>Safety</b>		
Primary/secondary isolation	Yes	Yes
Galvanic isolation	Safety extra-low output voltage $U_{out}$ acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage $U_{out}$ acc. to EN 60950-1 and EN 50178
Protection class	Class I	Class I
Leakage current		
• maximum	3.5 mA	3.5 mA
• typical	0.4 mA	0.8 mA
CE mark	Yes	Yes
UL/cUL (CSA) approval	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259, cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259, cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
Explosion protection	IECEX Ex nA nC IIC T4 Gc; ATEX (EX) II 3G Ex nA nC IIC T4 Gc; cULus Class I Div. 2 (ANSI/ISA-12.12.01-2007, CSA C22.2 No. 213) Group ABCD, T4; cCSAus (CSA C22.2 No. 213, ANSI/ISA-12.12.01) Class I, Div. 2, Group ABCD, T4	IECEX Ex nA nC IIC T4 Gc; ATEX (EX) II 3G Ex nA nC IIC T4 Gc; cULus Class I Div. 2 (ANSI/ISA-12.12.01-2007, CSA C22.2 No. 213) Group ABCD, T4; cCSAus (CSA C22.2 No. 213, ANSI/ISA-12.12.01) Class I, Div. 2, Group ABCD, T4
FM approval	-	-
CB approval	Yes	Yes
Marine approval	DNV GL	DNV GL
Degree of protection (EN 60529)	IP20	IP20
<b>EMC</b>		
Emitted interference	EN 55022 Class B	EN 55022 Class B
Supply harmonics limitation	EN 61000-3-2	EN 61000-3-2
Noise immunity	EN 61000-6-2	EN 61000-6-2
<b>Operating data</b>		
Ambient temperature		
• during operation	-25 ... +70 °C	-25 ... +70 °C
- Note	with natural convection	with natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C
Humidity class according to EN 60721	Climate class 3K3, no condensation	Climate class 3K3, no condensation

## SITOP smart

## 1-phase, 12 V DC

## Technical specifications (continued)

Article number	6EP1322-2BA00	6EP1323-2BA00
<b>Product</b>	<b>SITOP PSU100S</b>	<b>SITOP PSU100S</b>
<b>Power supply, type</b>	<b>12 V/7 A</b>	<b>12 V/14 A</b>
<b>Mechanics</b>		
Connection technology	screw-type terminals	screw-type terminals
Connections		
• Supply input	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm <sup>2</sup> single-core/finely stranded	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm <sup>2</sup> single-core/finely stranded
• Output	+, -: 2 screw terminals each for 0.5 ... 2.5 mm <sup>2</sup>	+, -: 2 screw terminals each for 0.5 ... 2.5 mm <sup>2</sup>
• Auxiliary	Alarm signals: 2 screw terminals for 0.5 ... 2.5 mm <sup>2</sup>	Alarm signals: 2 screw terminals for 0.5 ... 2.5 mm <sup>2</sup>
Connections signaling contact	2 screw terminals for 0.5 ... 2.5 mm <sup>2</sup>	2 screw terminals for 0.5 ... 2.5 mm <sup>2</sup>
Width of the enclosure	50 mm	70 mm
Height of the enclosure	125 mm	125 mm
Depth of the enclosure	120 mm	120 mm
Required spacing		
• top	50 mm	50 mm
• bottom	50 mm	50 mm
• left	0 mm	0 mm
• right	0 mm	0 mm
Weight, approx.	0.5 kg	0.7 kg
Product feature of the enclosure housing for side-by-side mounting	Yes	Yes
Installation	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15
MTBF at 40 °C	1 998 441 h	1 614 510 h
Other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)

## Ordering data

## Article No.

**SITOP PSU100S 1-phase,  
12 V DC/7 A****6EP1322-2BA00**Stabilized power supply  
Input: 120/230 V AC  
Output: 12 V DC/7 A**SITOP PSU100S 1-phase,  
12 V DC/14 A****6EP1323-2BA00**Stabilized power supply  
Input: 120/230 V AC  
Output: 12 V DC/14 A

## More information

Select the appropriate power supply quickly and easily with the SITOP Selection Tool:

<http://www.siemens.com/sitop-selection-tool>