

Overview***The low-cost basic power supply***

The single-phase SITOP lite (SITOP PSU100L) power supplies are designed for basic requirements in industrial environments and offer all the key functions at an attractive price. Thanks to the slim design, the power supply units require little space on the top hat DIN rail, and their excellent efficiency ensures low thermal losses in the control cabinet.

To further increase 24 V availability, the SITOP lite power supplies can be combined with the **buffer module BUF1200**, **DC UPS**, **redundancy** and **selectivity modules**.

Product highlights of the product line

- Slim design - no lateral installation clearances required
- Green LED for "24 V OK"
- Adjustable output voltage for compensating voltage drops
- Parallel connection possible
- Ambient temperature range of from 0 °C to 60 °C (from 45 °C with derating)
- Short-circuit and overload protection

More information

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

<http://www.siemens.com/tst>

Basic power supplies

SITOP lite

1-phase, 24 V DC

Overview



Single-phase power supplies for basic requirements in industrial environments.

To further increase 24 V availability, the SITOP lite power supplies can be combined with the **buffer module BUF1200**, **DC UPS**, **redundancy** and **selectivity modules**.

Product highlights

- 1-phase, 24 V DC/ 2.5 A, 5 A, 10 A and 20 A
- Wide-range input (20 A) or with manual switchover
- Up to 92% efficiency
- CE, cULus and CB certifications

Ordering data

Article No.

SITOP PSU100L 1-phase, 24 V DC/2.5 A

Stabilized power supply
Input: 120/230 V AC
Output: 24 V DC/2.5 A

6EP1332-1LB00

SITOP PSU100L 1-phase, 24 V DC/5 A

Stabilized power supply
Input: 120/230 V AC
Output: 24 V DC/5 A

6EP1333-1LB00

SITOP PSU100L 1-phase, 24 V DC/10 A

Stabilized power supply
Input: 120/230 V AC
Output: 24 V DC/10 A

6EP1334-1LB00

SITOP PSU100L 1-phase, 24 V DC/20 A

Stabilized power supply
Input: 100 ... 240 V AC
Output: 24 V DC/20 A

6EP1336-1LB00

Add-on modules

SITOP redundancy modules¹⁾

See 9/3

SITOP selectivity modules²⁾

See 9/6

SITOP buffer module BUF1200³⁾

See 9/17

DC UPS modules

SITOP DC UPS⁴⁾

See page 8/2

¹⁾ For more information, visit: <https://www.siemens.com/sitop-redundancy/mall>

²⁾ For more information, visit: <https://www.siemens.com/sitop-selectivity/mall>

³⁾ For more information, visit: <https://www.siemens.com/sitop-buffering/mall>

⁴⁾ For more information, visit: <https://www.siemens.com/sitop-ups/mall>

Technical specifications

Article number	6EP1332-1LB00	6EP1333-1LB00	6EP1334-1LB00	6EP1336-1LB00
Product	SITOP PSU100L	SITOP PSU100L	SITOP PSU100L	SITOP PSU100L
Power supply, type	24 V/2.5 A	24 V/5 A	24 V/10 A	24 V/20 A
Input				
Input	1-phase AC	1-phase AC	1-phase AC	1-phase AC or DC
Rated voltage value $V_{in rated}$	-	-	-	100 ... 240 V
• Note	Set by means of selector switch on the device	Set by means of selector switch on the device	Set by means of selector switch on the device	-
supply voltage				
• 1 at AC rated value	120 V	120 V	120 V	-
• 2 at AC rated value	230 V	230 V	230 V	-
• at DC	-	-	-	100 ... 240 V
input voltage				
• 1 at AC	93 ... 132 V	93 ... 132 V	93 ... 132 V	85 ... 264 V
• 2 at AC	187 ... 264 V	187 ... 264 V	187 ... 264 V	-
• at DC	-	-	-	88 ... 370 V
Wide-range input	No	No	No	Yes
Overvoltage resistance	$2.3 \times V_{in rated}$, 1.3 ms	$2.3 \times V_{in rated}$, 1.3 ms	$2.3 \times V_{in rated}$, 1.3 ms	-
Mains buffering	at $V_{in} = 93/187$ V	at $V_{in} = 93/187$ V	at $V_{in} = 93/187$ V	at $V_{in} = 93/187$ V
Mains buffering at $I_{out rated}$, min.	20 ms; at $V_{in} = 93/187$ V	20 ms; at $V_{in} = 93/187$ V	20 ms; at $V_{in} = 93/187$ V	20 ms; at $V_{in} = 93/187$ V
Rated line frequency 1	50 Hz	50 Hz	50 Hz	50 Hz
Rated line frequency 2	60 Hz	60 Hz	60 Hz	60 Hz
Rated line range	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz
input current				
• at rated input voltage 120 V	1.1 A	2.1 A	4.1 A	5.55 A
• at rated input voltage 230 V	0.65 A	1.15 A	2 A	2.35 A
Switch-on current limiting (+25 °C), max.	27 A	32 A	65 A	45 A

Technical specifications (continued)

Article number	6EP1332-1LB00	6EP1333-1LB00	6EP1334-1LB00	6EP1336-1LB00
Product	SITOP PSU100L	SITOP PSU100L	SITOP PSU100L	SITOP PSU100L
Power supply, type	24 V/2.5 A	24 V/5 A	24 V/10 A	24 V/20 A
Input (continued)				
duration of inrush current limiting at 25 °C				
• typical	3 ms	3 ms	3 ms	15 ms
I^2t , max.	0.3 A²·s	0.8 A²·s	3.3 A²·s	3.3 A²·s
Built-in incoming fuse	T 2 A/250 V (not accessible)	T 3,15 A/250 V (not accessible)	T 6.3 A/250 V (not accessible)	T 10 A/250 V (not accessible)
Protection in the mains power input (IEC 898)	Recommended miniature circuit breaker: from 3 A characteristic C	Recommended miniature circuit breaker: from 6 A characteristic C	Recommended miniature circuit breaker: from 10 A characteristic C	Recommended miniature circuit breaker: from 10 A characteristic C
Output				
Output	Controlled, isolated DC voltage			
Rated voltage V_{out} DC	24 V	24 V	24 V	24 V
• output voltage at output 1 at DC rated value	24 V	24 V	24 V	24 V
Total tolerance, static ±	3 %	3 %	3 %	3 %
Static mains compensation, approx.	0.1 %	0.1 %	0.1 %	0.1 %
Static load balancing, approx.	0.5 %	0.5 %	0.5 %	1 %
Residual ripple peak-peak, max.	150 mV	150 mV	150 mV	150 mV
Residual ripple peak-peak, typ.	10 mV	50 mV	50 mV	50 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	240 mV	240 mV	240 mV	240 mV
Spikes peak-peak, typ. (bandwidth: 20 MHz)	50 mV	150 mV	150 mV	100 mV
Adjustment range	22.8 ... 26.4 V	22.8 ... 26.4 V	22.8 ... 26.4 V	22.8 ... 26.4 V
product function output voltage adjustable	Yes	Yes	Yes	Yes
Output voltage setting	via potentiometer	via potentiometer	via potentiometer	via potentiometer
Status display	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK
On/off behavior	Overshoot of V_{out} approx. 4 %	Overshoot of V_{out} approx. 4 %	Overshoot of V_{out} approx. 4 %	No overshoot of V_{out} (soft start)
Startup delay, max.	1.5 s	1.5 s	1.5 s	1.5 s
Voltage rise, typ.	150 ms	130 ms	170 ms	20 ms
Rated current value $I_{out rated}$	2.5 A	5 A	10 A	20 A
Current range	0 ... 2.5 A	0 ... 5 A	0 ... 10 A	0 ... 20 A
• Note	+45 ... +60 °C: Derating 2%/K	+45 ... +60 °C: Derating 2%/K	+45 ... +60 °C: Derating 2%/K	+45 ... +70 °C: Derating 2.5%/K
supplied active power typical	60 W	120 W	240 W	480 W
Parallel switching for enhanced performance	Yes	Yes	Yes	Yes
Numbers of parallel switchable units for enhanced performance	2	2	2	2
Efficiency				
Efficiency at $V_{out rated}$, $I_{out rated}$, approx.	85 %	86 %	89 %	92 %
Power loss at $V_{out rated}$, $I_{out rated}$, approx.	9 W	17 W	34 W	45 W
Closed-loop control				
Dynamic mains compensation ($V_{in rated} \pm 15 \%$), max.	0.3 %	0.3 %	0.3 %	0.5 %
Dynamic load smoothing (I_{out} : 10/90/10 %), $U_{out} \pm$ typ.	2 %	2 %	2 %	3 %
Load step setting time 10 to 90%, typ.	0.5 ms	0.4 ms	0.5 ms	0.7 ms
Load step setting time 90 to 10%, typ.	0.7 ms	0.4 ms	0.7 ms	6 ms
Protection and monitoring				
Output overvoltage protection	< 33 V	< 33 V	< 33 V	< 33 V
Current limitation, typ.	2.6 A	5.25 A	16 A	24 A
property of the output short-circuit proof	Yes	Yes	Yes	Yes
Short-circuit protection	Constant current characteristic			
enduring short circuit current RMS value				
• typical	4 A	8 A	12.6 A	24 A
Overload/short-circuit indicator	-	-	-	-

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1-phase, 24 V DC

Technical specifications (continued)

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Product	SITOP PSU100L	SITOP PSU100L	SITOP PSU100L	SITOP PSU100L
Power supply, type	24 V/2.5 A	24 V/5 A	24 V/10 A	24 V/20 A
Safety				
Primary/secondary isolation galvanic isolation	Yes	Yes	Yes	Yes
	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	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	Class I	Class I
leakage current				
• maximum	3.5 mA	3.5 mA	3.5 mA	3.5 mA
• typical	0.4 mA	0.4 mA	0.8 mA	0.8 mA
Degree of protection (EN 60529)	IP20	IP20	IP20	IP20
Approvals				
CE mark	Yes	Yes	Yes	Yes
UL/cUL (CSA) approval	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
certificate of suitability NEC Class 2	No	No	No	No
CB approval	Yes	Yes	Yes	Yes
certificate of suitability EAC approval	Yes	Yes	Yes	Yes
Marine approval	-	-	-	-
EMC				
Emitted interference	EN 55022 Class A	EN 55022 Class A	EN 55022 Class A	EN 55022 Class B
Supply harmonics limitation	not applicable	-	-	EN 61000-3-2
Noise immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
environmental conditions				
ambient temperature				
• during operation	0 ... 60 °C	0 ... 60 °C	0 ... 60 °C	-25 ... +70 °C
- Note	with natural convection	with natural convection	with natural convection	with natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
Humidity class according to EN 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
Mechanics				
Connection technology	screw-type terminals	screw-type terminals	screw-type terminals	screw-type terminals
Connections				
• Supply input	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm ² single-core/finely stranded	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm ² single-core/finely stranded	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm ² single-core/finely stranded	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm ² single-core/finely stranded
• Output	+, -: 2 screw terminals each for 0.5 ... 2.5 mm ²	+, -: 2 screw terminals each for 0.5 ... 2.5 mm ²	+, -: 2 screw terminals each for 0.5 ... 2.5 mm ²	+, -: 2 screw terminals each for 0.5 ... 2.5 mm ²
• Auxiliary	-	-	-	-
width of the enclosure	32.5 mm	50 mm	70 mm	110 mm
height of the enclosure	125 mm	125 mm	125 mm	125 mm
depth of the enclosure	120 mm	120 mm	120 mm	125 mm
required spacing				
• top	50 mm	50 mm	50 mm	50 mm
• bottom	50 mm	50 mm	50 mm	50 mm
• left	0 mm	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm	0 mm
Weight, approx.	0.3 kg	0.5 kg	0.75 kg	1.8 kg
product feature of the enclosure housing can be lined up	Yes	Yes	Yes	Yes
Installation	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15
MTBF at 40 °C	3 153 082 h	3 076 166 h	2 333 396 h	-
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)			