



SITOP PSU100S/1AC/24VDC/2.5A

SITOP PSU100S 24 V/2.5 A
 Stabilized power supply input:
 120/230 V AC, output: DC 24
 V/2,5 A

Input	
Input	1-phase AC
• Note	Automatic range selection
supply voltage	
• 1 at AC rated value	120 V
• 2 at AC rated value	230 V
input voltage	
• 1 at AC	85 ... 132 V
• 2 at AC	170 ... 264 V
Wide-range input	No
Overvoltage resistance	$2.3 \times V_{in}$ rated, 1.3 ms
Mains buffering	at $V_{in} = 93/187$ V
Mains buffering at I_{out} rated, min.	20 ms; at $V_{in} = 93/187$ V
Rated line frequency 1	50 Hz
Rated line frequency 2	60 Hz
Rated line range	47 ... 63 Hz
input current	
• at rated input voltage 120 V	1.25 A
• at rated input voltage 230 V	0.74 A
Switch-on current limiting (+25 °C), max.	33 A
I^2t , max.	0.4 A ² ·s
Built-in incoming fuse	T 3,15 A/250 V (not accessible)
Protection in the mains power input (IEC 898)	Recommended miniature circuit breaker: from 3 A characteristic C
Output	
Output	Controlled, isolated DC voltage
Rated voltage V_{out} DC	24 V
Total tolerance, static \pm	3 %
Static mains compensation, approx.	0.1 %
Static load balancing, approx.	1 %
Residual ripple peak-peak, max.	150 mV
Residual ripple peak-peak, typ.	30 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	240 mV
Spikes peak-peak, typ. (bandwidth: 20 MHz)	70 mV
Adjustment range	22.8 ... 28 V

product function output voltage adjustable	Yes
Output voltage setting	via potentiometer
Status display	Green LED for 24 V OK
Signaling	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"
On/off behavior	Overshoot of $V_{out} < 3 \%$
Startup delay, max.	0.3 s
Voltage rise, typ.	15 ms
Rated current value I _{out} rated	2.5 A
Current range	0 ... 3 A
• Note	3 A up to +45°C; +60 ... +70 °C: Derating 3%/K
supplied active power typical	60 W
short-term overload current	
• on short-circuiting during the start-up typical	9 A
• at short-circuit during operation typical	9 A
duration of overloading capability for excess current	
• on short-circuiting during the start-up	100 ms
• at short-circuit during operation	800 ms
Parallel switching for enhanced performance	Yes
Numbers of parallel switchable units for enhanced performance	2
Efficiency	
Efficiency at V_{out} rated, I _{out} rated, approx.	85 %
Power loss at V_{out} rated, I _{out} rated, approx.	10 W
Closed-loop control	
Dynamic mains compensation (V_{in} rated $\pm 15 \%$), max.	0.3 %
Dynamic load smoothing (I _{out} : 10/90/10 %), U _{out} \pm typ.	5 %
Load step setting time 10 to 90%, typ.	1 ms
Load step setting time 90 to 10%, typ.	1 ms
Protection and monitoring	
Output overvoltage protection	protection against overvoltage in case of internal fault $V_{out} < 33 \text{ V}$
Current limitation	3 ... 3.4 A
property of the output short-circuit proof	Yes
Short-circuit protection	Constant current characteristic
enduring short circuit current RMS value	
• typical	3.4 A
overcurrent overload capability in normal operation	overload capability 150 % I _{out} rated up to 5 s/min
Overload/short-circuit indicator	-
Safety	
Primary/secondary isolation	Yes
galvanic isolation	Safety extra-low output voltage U _{out} acc. to EN 60950-1 and EN 50178
Protection class	Class I
leakage current	
• maximum	3.5 mA
• typical	0.4 mA
Degree of protection (EN 60529)	IP20
Approvals	
CE mark	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)
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-M1987) Group ABCD, T4; cCSAus (CSA C22.2 No. 213, ANSI/ISA-12.12.01) Class I, Div. 2, Group ABCD, T4
certificate of suitability NEC Class 2	No
FM approval	-
CB approval	Yes
certificate of suitability EAC approval	Yes
Marine approval	BV, DNV GL
EMC	

Emitted interference	EN 55022 Class B	
Supply harmonics limitation	not applicable	
Noise immunity	EN 61000-6-2	
environmental conditions		
ambient temperature	-25 ... +70 °C with natural convection -40 ... +85 °C -40 ... +85 °C	
<ul style="list-style-type: none"> • during operation — Note • during transport • during storage 		
Humidity class according to EN 60721		Climate class 3K3, 5 ... 95% no condensation
Mechanics		
Connection technology	screw-type terminals	
Connections	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm ² single-core/finely stranded +, -: 2 screw terminals each for 0.5 ... 2.5 mm ² Alarm signals: 2 screw terminals for 0.5 ... 2.5 mm ² 2 screw terminals for 0.5 ... 2.5 mm ²	
<ul style="list-style-type: none"> • Supply input • Output • Auxiliary • signaling contact 		
width of the enclosure		32.5 mm
height of the enclosure		125 mm
depth of the enclosure	120 mm	
required spacing	50 mm 50 mm 0 mm 0 mm	
<ul style="list-style-type: none"> • top • bottom • left • right 		
Weight, approx.		0.32 kg
product feature of the enclosure housing can be lined up		Yes
Installation	Snaps onto DIN rail EN 60715 35x7.5/15	
electrical accessories	Buffer module	
mechanical accessories	Device identification label 20 mm × 7 mm, pale turquoise 3RT1900-1SB20	
MTBF at 40 °C	1 804 044 h	
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	

