

SITOP PSU100S 24 V/20 A
 SITOP PSU100S 20 A Stabilized power supply input: 120/230 V AC,
 output: 24 V DC/20 A



Input	
Input	1-phase AC
Supply voltage	
<ul style="list-style-type: none"> • 1 at AC Rated value • 2 at AC Rated value • Note 	120 V 230 V Automatic range selection
Input voltage	
<ul style="list-style-type: none"> • 1 at AC • 2 at AC 	85 ... 132 V 176 ... 264 V
Wide-range input	No
Overvoltage resistance	$2.3 \times V_{in}$ rated, 1.3 ms
Mains buffering at lout rated, min.	20 ms; at $V_{in} = 120/230$ V
Rated line frequency 1	50 Hz
Rated line frequency 2	60 Hz
Rated line range	47 ... 63 Hz
Input current	
<ul style="list-style-type: none"> • at rated input voltage 120 V • at rated input voltage 230 V 	7.5 A 3.5 A
Switch-on current limiting (+25 °C), max.	11 A

I ² t, max.	10 A ² ·s
Built-in incoming fuse	T 10 A (not accessible)
Protection in the mains power input (IEC 898)	Recommended miniature circuit breaker: from 10 A characteristic C or circuit-breaker 3RV2411-1JA10 (120 V) or 3RV2411-1FA10 (230 V)

Output

Output	Controlled, isolated DC voltage
Rated voltage V _{out} DC	24 V
Total tolerance, static ±	3 %
Static mains compensation, approx.	0.5 %
Static load balancing, approx.	1 %
Residual ripple peak-peak, max.	150 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	240 mV
Adjustment range	24 ... 28 V
Product function Output voltage adjustable	Yes
Output voltage setting	via potentiometer; max. 480 W
Status display	Green LED for 24 V OK
Signaling	Relay contact (NO contact, rating 50 V DC/ 0.3 A) for "24 V OK"
On/off behavior	No overshoot of V _{out} (soft start)
Startup delay, max.	1.5 s
Voltage rise, typ.	50 ms
Voltage increase time of the output voltage maximum	500 ms
Rated current value I _{out} rated	20 A
Current range	0 ... 20 A
• Note	24 A up to +45°C; +60 ... +70 °C: Derating 5%/K
Supplied active power typical	480 W
Short-term overload current	
• on short-circuiting during the start-up typical	35 A
• at short-circuit during operation typical	35 A
Duration of overloading capability for excess current	
• on short-circuiting during the start-up	100 ms
• at short-circuit during operation	100 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.	90 %
Power loss at V _{out} rated, I _{out} rated, approx.	53 W

Closed-loop control

Dynamic mains compensation (V _{in} rated ±15 %), max.	1 %
Dynamic load smoothing (I _{out} : 50/100/50 %), U _{out} ± typ.	3 %

Setting time maximum	10 ms
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Protection and monitoring

Output overvoltage protection	Yes, according to EN 60950-1
Current limitation, typ.	21 A
Property of the output Short-circuit proof	Yes
Short-circuit protection	Electronic shutdown, automatic restart
Enduring short circuit current RMS value <ul style="list-style-type: none"> • maximum 	7 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 <ul style="list-style-type: none"> • maximum • typical 	3.5 mA 1 mA
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; cCSAus (CSA C22.2 No. 213, ANSI/ISA-12.12.01) Class I, Div. 2, Group ABCD, T4
FM approval	-
CB approval	Yes
Marine approval	DNV GL
Degree of protection (EN 60529)	IP20

EMC

Emitted interference	EN 55022 Class B
Supply harmonics limitation	EN 61000-3-2
Noise immunity	EN 61000-6-2

Operating data

Ambient temperature <ul style="list-style-type: none"> • during operation — Note • during transport • during storage 	0 ... 70 °C with natural convection -40 ... +85 °C -40 ... +85 °C
Humidity class according to EN 60721	Climate class 3K3, no condensation

Mechanics

Connection technology	screw-type terminals
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Connections	
<ul style="list-style-type: none"> • Supply input • Output • Auxiliary 	<p>L1, N, PE: 1 screw terminal each for 0.2 ... 4 mm² single-core/finely stranded</p> <p>+, -: 2 screw terminals each for 0.2 ... 4 mm²</p> <p>13, 14 (alarm signal): 1 screw terminal each for 0.14 ... 1.5 mm²</p>
Width of the enclosure	115 mm
Height of the enclosure	145 mm
Depth of the enclosure	150 mm
Required spacing	
<ul style="list-style-type: none"> • top • bottom • left • right 	<p>50 mm</p> <p>50 mm</p> <p>0 mm</p> <p>0 mm</p>
Weight, approx.	2.4 kg
Product feature of the enclosure housing for side-by-side mounting	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	1 778 916 h
Other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)