

SITOP PSU100S/1AC/24VDC/20A  
 SITOP PSU100S 20 A Stabilized power supply input: 120/230 V AC,  
 output: 24 V DC/20 A



Input	
Input	1-phase AC
<ul style="list-style-type: none"> <li>Note</li> </ul>	Automatic range selection
supply voltage	
<ul style="list-style-type: none"> <li>1 at AC rated value</li> <li>2 at AC rated value</li> </ul>	120 V 230 V
input voltage	
<ul style="list-style-type: none"> <li>1 at AC</li> <li>2 at AC</li> </ul>	85 ... 132 V 176 ... 264 V
Wide-range input	No
Overvoltage resistance	2.3 × Vin rated, 1.3 ms
Mains buffering	at Vin = 120/230 V
Mains buffering at lout rated, min.	20 ms; at Vin = 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"> <li>at rated input voltage 120 V</li> <li>at rated input voltage 230 V</li> </ul>	7.5 A 3.5 A

Switch-on current limiting (+25 °C), max.	11 A
I <sup>2</sup> t, max.	10 A <sup>2</sup> ·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 <sub>out</sub> 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 <sub>out</sub> (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 <sub>out</sub> 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 <sub>out</sub> rated, I <sub>out</sub> rated, approx.	90 %
Power loss at V <sub>out</sub> rated, I <sub>out</sub> rated, approx.	53 W

Closed-loop control	
Dynamic mains compensation (V <sub>in</sub> rated ±15 %), max.	1 %

Dynamic load smoothing (I <sub>out</sub> : 50/100/50 %), U <sub>out</sub> ± typ.	3 %
setting time maximum	10 ms

### 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"> <li>• maximum</li> </ul>	7 A
overcurrent overload capability in normal operation	overload capability 150 % I <sub>out</sub> rated up to 5 s/min
Overload/short-circuit indicator	-

### Safety

Primary/secondary isolation	Yes
galvanic isolation	Safety extra-low output voltage U <sub>out</sub> acc. to EN 60950-1 and EN 50178
Protection class	Class I
leakage current <ul style="list-style-type: none"> <li>• maximum</li> <li>• typical</li> </ul>	3.5 mA 1 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; 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
Marine approval	DNV GL

### EMC

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

### environmental conditions

ambient temperature <ul style="list-style-type: none"> <li>• during operation <ul style="list-style-type: none"> <li>— Note</li> </ul> </li> <li>• during transport</li> <li>• during storage</li> </ul>	0 ... 70 °C with natural convection -40 ... +85 °C -40 ... +85 °C
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Humidity class according to EN 60721	Climate class 3K3, 5 ... 95% no condensation
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Mechanics	
Connection technology	screw-type terminals
Connections	
• Supply input	L1, N, PE: 1 screw terminal each for 0.2 ... 4 mm <sup>2</sup> single-core/finely stranded
• Output	+, -: 2 screw terminals each for 0.2 ... 4 mm <sup>2</sup>
• Auxiliary	13, 14 (alarm signal): 1 screw terminal each for 0.14 ... 1.5 mm <sup>2</sup>
width of the enclosure	115 mm
height of the enclosure	145 mm
depth of the enclosure	150 mm
required spacing	
• top	50 mm
• bottom	50 mm
• left	0 mm
• right	0 mm
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)