



SITOP PSU100S/1AC/24VDC/20A

SITOP PSU100S 20 A stabilized power supply input: 120/230 V AC output: 24 V DC/20 A \*Ex approval no longer available\*

Input	
type of the power supply network	1-phase AC
supply voltage at AC	
• initial value	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	176 ... 264 V
design of input wide range input	No
overvoltage overload capability	2.3 × Vin rated, 1.3 ms
operating condition of the mains buffering	at Vin = 120/230 V
buffering time for rated value of the output current in the event of power failure minimum	20 ms
operating condition of the mains buffering	at Vin = 120/230 V
line frequency	
• 1 rated value	50 Hz
• 2 rated value	60 Hz
line frequency	47 ... 63 Hz
input current	
• at rated input voltage 120 V	7.5 A
• at rated input voltage 230 V	3.5 A
current limitation of inrush current at 25 °C maximum	11 A
I <sup>2</sup> t value maximum	10 A <sup>2</sup> ·s
fuse protection type	T 10 A (not accessible)
• in the feeder	Recommended miniature circuit breaker: from 10 A characteristic C or circuit-breaker 3RV2411-1JA10 (120 V) or 3RV2411-1FA10 (230 V)
Output	
voltage curve at output	Controlled, isolated DC voltage
output voltage at DC rated value	24 V
output voltage	
• at output 1 at DC rated value	24 V
relative overall tolerance of the voltage	3 %
relative control precision of the output voltage	
• on slow fluctuation of input voltage	0.5 %
• on slow fluctuation of ohm loading	1 %
residual ripple	
• maximum	150 mV
voltage peak	
• maximum	240 mV

adjustable output voltage	24 ... 28 V
product function output voltage adjustable	Yes
type of output voltage setting	via potentiometer; max. 480 W
display version for normal operation	Green LED for 24 V OK
type of signal at output	Relay contact (NO contact, rating 50 V DC/ 0.3 A) for "24 V OK"
behavior of the output voltage when switching on	No overshoot of Vout (soft start)
response delay maximum	1.5 s
voltage increase time of the output voltage	
• typical	50 ms
• maximum	500 ms
output current	
• rated value	20 A
• rated range	0 ... 20 A; 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
product feature	
• bridging of equipment	Yes
number of parallel-switched equipment resources for increasing the power	2
<b>Efficiency</b>	
efficiency in percent	90 %
power loss [W]	
• at rated output voltage for rated value of the output current typical	53 W
<b>Closed-loop control</b>	
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	1 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	3 %
setting time	
• maximum	10 ms
<b>Protection and monitoring</b>	
design of the overvoltage protection	Yes, according to EN 60950-1
• typical	21 A
property of the output short-circuit proof	Yes
design of short-circuit protection	Electronic shutdown, automatic restart
enduring short circuit current RMS value	
• maximum	7 A
overcurrent overload capability in normal operation	overload capability 150 % Iout rated up to 5 s/min
display version for overload and short circuit	-
<b>Safety</b>	
galvanic isolation between input and output	Yes
galvanic isolation	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178
operating resource protection class	Class I
leakage current	
• maximum	3.5 mA
• typical	1 mA
protection class IP	IP20
<b>Approvals</b>	
certificate of suitability	
• CE marking	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
• cCSAus, Class 1, Division 2	No
• ATEX	No

certificate of suitability	
<ul style="list-style-type: none"> <li>• IECEx</li> <li>• NEC Class 2</li> <li>• ULhazloc approval</li> <li>• FM registration</li> </ul>	<p>No</p> <p>No</p> <p>No</p> <p>No</p>
type of certification CB-certificate	Yes
certificate of suitability	
<ul style="list-style-type: none"> <li>• EAC approval</li> </ul>	Yes
certificate of suitability shipbuilding approval	Yes
shipbuilding approval	DNV GL
Marine classification association	
<ul style="list-style-type: none"> <li>• American Bureau of Shipping Europe Ltd. (ABS)</li> <li>• French marine classification society (BV)</li> <li>• DNV GL</li> <li>• Lloyds Register of Shipping (LRS)</li> <li>• Nippon Kaiji Kyokai (NK)</li> </ul>	<p>No</p> <p>No</p> <p>Yes</p> <p>No</p> <p>No</p>
<b>EMC</b>	
standard	
<ul style="list-style-type: none"> <li>• for emitted interference</li> <li>• for mains harmonics limitation</li> <li>• for interference immunity</li> </ul>	<p>EN 55022 Class B</p> <p>EN 61000-3-2</p> <p>EN 61000-6-2</p>
<b>environmental conditions</b>	
ambient temperature	
<ul style="list-style-type: none"> <li>• during operation</li> <li>• during transport</li> <li>• during storage</li> </ul>	<p>0 ... 70 °C; with natural convection</p> <p>-40 ... +85 °C</p> <p>-40 ... +85 °C</p>
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation
<b>Mechanics</b>	
type of electrical connection	screw-type terminals
<ul style="list-style-type: none"> <li>• at input</li> <li>• at output</li> <li>• for auxiliary contacts</li> </ul>	<p>L1, N, PE: 1 screw terminal each for 0.2 ... 4 mm<sup>2</sup> single-core/finely stranded</p> <p>+, -: 2 screw terminals each for 0.2 ... 4 mm<sup>2</sup></p> <p>13, 14 (alarm signal): 1 screw terminal each for 0.14 ... 1.5 mm<sup>2</sup></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"> <li>• top</li> <li>• bottom</li> <li>• left</li> <li>• right</li> </ul>	<p>50 mm</p> <p>50 mm</p> <p>0 mm</p> <p>0 mm</p>
net weight	2.4 kg
product feature of the enclosure housing can be lined up	Yes
fastening method	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)

