



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	Automatic range selection
<ul style="list-style-type: none"> <li>initial value</li> </ul>	
supply voltage	120 V
<ul style="list-style-type: none"> <li>1 at AC rated value</li> <li>2 at AC rated value</li> </ul>	230 V
input voltage	85 ... 132 V
<ul style="list-style-type: none"> <li>1 at AC</li> <li>2 at AC</li> </ul>	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	50 Hz
<ul style="list-style-type: none"> <li>1 rated value</li> <li>2 rated value</li> </ul>	60 Hz
line frequency	47 ... 63 Hz
input current	7.5 A
<ul style="list-style-type: none"> <li>at rated input voltage 120 V</li> <li>at rated input voltage 230 V</li> </ul>	3.5 A
current limitation of inrush current at 25 °C maximum	11 A
I2t value maximum	10 A²·s
fuse protection type	T 10 A (not accessible)
<ul style="list-style-type: none"> <li>in the feeder</li> </ul>	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	24 V
<ul style="list-style-type: none"> <li>at output 1 at DC rated value</li> </ul>	
relative overall tolerance of the voltage	3 %
relative control precision of the output voltage	0.5 %
<ul style="list-style-type: none"> <li>on slow fluctuation of input voltage</li> <li>on slow fluctuation of ohm loading</li> </ul>	1 %
residual ripple	150 mV
<ul style="list-style-type: none"> <li>maximum</li> </ul>	
voltage peak	240 mV
<ul style="list-style-type: none"> <li>maximum</li> </ul>	
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

### Efficiency

efficiency in percent	90 %
power loss [W]	
• at rated output voltage for rated value of the output current typical	53 W

### Closed-loop control

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

### Protection and monitoring

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	-

### Safety

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

### Approvals

certificate of suitability	Yes
• CE marking	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259;
• UL approval	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, Class 1, Division 2	cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
• ATEX	No
certificate of suitability	No
• IECEx	No
• NEC Class 2	No

<ul style="list-style-type: none"> <li>• ULhazloc approval</li> </ul>	No
<ul style="list-style-type: none"> <li>• FM registration</li> </ul>	No
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> </ul>	No
<ul style="list-style-type: none"> <li>• French marine classification society (BV)</li> </ul>	No
<ul style="list-style-type: none"> <li>• DNV GL</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Lloyds Register of Shipping (LRS)</li> </ul>	No
<ul style="list-style-type: none"> <li>• Nippon Kaiji Kyokai (NK)</li> </ul>	No

### EMC

standard	
<ul style="list-style-type: none"> <li>• for emitted interference</li> </ul>	EN 55022 Class B
<ul style="list-style-type: none"> <li>• for mains harmonics limitation</li> </ul>	EN 61000-3-2
<ul style="list-style-type: none"> <li>• for interference immunity</li> </ul>	EN 61000-6-2

### environmental conditions

ambient temperature	
<ul style="list-style-type: none"> <li>• during operation</li> </ul>	0 ... 70 °C; with natural convection
<ul style="list-style-type: none"> <li>• during transport</li> </ul>	-40 ... +85 °C
<ul style="list-style-type: none"> <li>• during storage</li> </ul>	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation

### Mechanics

type of electrical connection	screw-type terminals
<ul style="list-style-type: none"> <li>• at input</li> </ul>	L1, N, PE: 1 screw terminal each for 0.2 ... 4 mm <sup>2</sup> single-core/finely stranded
<ul style="list-style-type: none"> <li>• at output</li> </ul>	+, -: 2 screw terminals each for 0.2 ... 4 mm <sup>2</sup>
<ul style="list-style-type: none"> <li>• for auxiliary contacts</li> </ul>	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	
<ul style="list-style-type: none"> <li>• top</li> </ul>	50 mm
<ul style="list-style-type: none"> <li>• bottom</li> </ul>	50 mm
<ul style="list-style-type: none"> <li>• left</li> </ul>	0 mm
<ul style="list-style-type: none"> <li>• right</li> </ul>	0 mm
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)

