



SITOP PSU100S/1AC/24VDC/2.5A

SITOP PSU100S 24 V/2.5 A stabilized power supply input: 120/230 V AC output: 24 V DC/2.5 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	170 ... 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 = 93/187 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 = 93/187 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	1.25 A
• at rated input voltage 230 V	0.74 A
current limitation of inrush current at 25 °C maximum	33 A
I <sup>2</sup> t value maximum	0.4 A <sup>2</sup> ·s
fuse protection type	T 3,15 A/250 V (not accessible)
• in the feeder	Recommended miniature circuit breaker: from 3 A characteristic C
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	0.1 %
• on slow fluctuation of ohm loading	1 %
residual ripple	
• maximum	150 mV
• typical	30 mV
voltage peak	

<ul style="list-style-type: none"> <li>• maximum</li> </ul>	240 mV
<ul style="list-style-type: none"> <li>• typical</li> </ul>	70 mV
adjustable output voltage	22.8 ... 28 V
product function output voltage adjustable	Yes
type of output voltage setting	via potentiometer
display version for normal operation	Green LED for 24 V OK
type of signal at output	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"
behavior of the output voltage when switching on	Overshoot of $V_{out} < 3 \%$
response delay maximum	0.3 s
voltage increase time of the output voltage	
<ul style="list-style-type: none"> <li>• typical</li> </ul>	15 ms
output current	
<ul style="list-style-type: none"> <li>• rated value</li> </ul>	2.5 A
<ul style="list-style-type: none"> <li>• rated range</li> </ul>	0 ... 3 A; 3 A up to +45°C; +60 ... +70 °C: Derating 3%/K
supplied active power typical	60 W
short-term overload current	
<ul style="list-style-type: none"> <li>• on short-circuiting during the start-up typical</li> </ul>	9 A
<ul style="list-style-type: none"> <li>• at short-circuit during operation typical</li> </ul>	8 A
duration of overloading capability for excess current	
<ul style="list-style-type: none"> <li>• on short-circuiting during the start-up</li> </ul>	800 ms
<ul style="list-style-type: none"> <li>• at short-circuit during operation</li> </ul>	100 ms
product feature	
<ul style="list-style-type: none"> <li>• bridging of equipment</li> </ul>	Yes
number of parallel-switched equipment resources for increasing the power	2
<b>Efficiency</b>	
efficiency in percent	85 %
power loss [W]	
<ul style="list-style-type: none"> <li>• at rated output voltage for rated value of the output current typical</li> </ul>	10 W
<b>Closed-loop control</b>	
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	0.3 %
relative control precision of the output voltage at load step of resistive load 10/90/10 % typical	5 %
setting time	
<ul style="list-style-type: none"> <li>• load step 10 to 90% typical</li> </ul>	1 ms
<ul style="list-style-type: none"> <li>• load step 90 to 10% typical</li> </ul>	1 ms
<b>Protection and monitoring</b>	
design of the overvoltage protection	protection against overvoltage in case of internal fault $V_{out} < 33 \text{ V}$
response value current limitation	3 ... 3.4 A
property of the output short-circuit proof	Yes
design of short-circuit protection	Constant current characteristic
enduring short circuit current RMS value	
<ul style="list-style-type: none"> <li>• typical</li> </ul>	3.4 A
overcurrent overload capability in normal operation	overload capability 150 % $I_{out}$ 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 $U_{out}$ acc. to EN 60950-1 and EN 50178
operating resource protection class	Class I
leakage current	
<ul style="list-style-type: none"> <li>• maximum</li> </ul>	3.5 mA
<ul style="list-style-type: none"> <li>• typical</li> </ul>	0.4 mA
protection class IP	IP20
<b>Approvals</b>	
certificate of suitability	
<ul style="list-style-type: none"> <li>• CE marking</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• UL approval</li> </ul>	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
<ul style="list-style-type: none"> <li>• CSA approval</li> </ul>	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)

<ul style="list-style-type: none"> <li>• cCSAus, Class 1, Division 2</li> <li>• ATEX</li> </ul>	No
certificate of suitability	No
<ul style="list-style-type: none"> <li>• IECEx</li> <li>• NEC Class 2</li> <li>• ULhazloc approval</li> <li>• FM registration</li> </ul>	No
type of certification CB-certificate	Yes
certificate of suitability	Yes
<ul style="list-style-type: none"> <li>• EAC approval</li> </ul>	Yes
certificate of suitability shipbuilding approval	Yes
shipbuilding approval	BV, 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>	No
	Yes
	Yes
	No
	No
<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>	EN 55022 Class B not applicable EN 61000-6-2
<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>	-25 ... +70 °C; with natural convection -40 ... +85 °C -40 ... +85 °C
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> <li>• for signaling contact</li> </ul>	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm <sup>2</sup> single-core/finely stranded +, -: 2 screw terminals each for 0.5 ... 2.5 mm <sup>2</sup> Alarm signals: 2 screw terminals for 0.5 ... 2.5 mm <sup>2</sup> 2 screw terminals for 0.5 ... 2.5 mm <sup>2</sup>
width of the enclosure	32.5 mm
height of the enclosure	125 mm
depth of the enclosure	120 mm
required spacing	
<ul style="list-style-type: none"> <li>• top</li> <li>• bottom</li> <li>• left</li> <li>• right</li> </ul>	50 mm 50 mm 0 mm 0 mm
net weight	0.32 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	1 804 044 h
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)

