



SITOP PSU100S/1AC/24VDC/5A

SITOP PSU100S 24 V/5 A  
 Stabilized power supply input:  
 120/230 V AC, output: 24 V DC/5  
 A

Input	
Input	1-phase AC
• Note	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
Wide-range input	No
Overvoltage resistance	$2.3 \times V_{in}$ rated, 1.3 ms
Mains buffering	at $V_{in} = 93/187$ V
Mains buffering at $I_{out}$ rated, min.	20 ms; at $V_{in} = 93/187$ V
Rated line frequency 1	50 Hz
Rated line frequency 2	60 Hz
Rated line range	47 ... 63 Hz
input current	
• at rated input voltage 120 V	2.34 A
• at rated input voltage 230 V	1.36 A
Switch-on current limiting (+25 °C), max.	40 A
$I^2t$ , max.	1 A <sup>2</sup> ·s
Built-in incoming fuse	T 3,15 A/250 V (not accessible)
Protection in the mains power input (IEC 898)	Recommended miniature circuit breaker: from 6 A characteristic C
Output	
Output	Controlled, isolated DC voltage
Rated voltage $V_{out}$ DC	24 V
• output voltage at output 1 at DC rated value	24 V
Total tolerance, static $\pm$	3 %
Static mains compensation, approx.	0.1 %
Static load balancing, approx.	1 %
Residual ripple peak-peak, max.	150 mV
Residual ripple peak-peak, typ.	30 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	240 mV
Spikes peak-peak, typ. (bandwidth: 20 MHz)	140 mV

Adjustment range	22.8 ... 28 V
product function output voltage adjustable	Yes
Output voltage setting	via potentiometer
Status display	Green LED for 24 V OK
Signaling	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"
On/off behavior	Overshoot of Vout < 3 %
Startup delay, max.	0.3 s
Voltage rise, typ.	15 ms
Rated current value Iout rated	5 A
Current range	0 ... 6 A
• Note	6 A up to +45°C; +60 ... +70 °C: Derating 1.6%/K
supplied active power typical	144 W
short-term overload current	
• on short-circuiting during the start-up typical	18 A
• at short-circuit during operation typical	18 A
duration of overloading capability for excess current	
• on short-circuiting during the start-up	800 ms
• at short-circuit during operation	800 ms
Parallel switching for enhanced performance	Yes
Numbers of parallel switchable units for enhanced performance	2
<b>Efficiency</b>	
Efficiency at Vout rated, Iout rated, approx.	88 %
Power loss at Vout rated, Iout rated, approx.	16 W
<b>Closed-loop control</b>	
Dynamic mains compensation (Vin rated ±15 %), max.	0.3 %
Dynamic load smoothing (Iout: 10/90/10 %), Uout ± typ.	3 %
Load step setting time 10 to 90%, typ.	1 ms
Load step setting time 90 to 10%, typ.	1 ms
<b>Protection and monitoring</b>	
Output overvoltage protection	protection against overvoltage in case of internal fault Vout < 33 V
Current limitation	6 ... 7.1 A
property of the output short-circuit proof	Yes
Short-circuit protection	Constant current characteristic
enduring short circuit current RMS value	
• typical	7.1 A
overcurrent overload capability in normal operation	overload capability 150 % Iout rated up to 5 s/min
Overload/short-circuit indicator	-
<b>Safety</b>	
Primary/secondary isolation	Yes
galvanic isolation	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178
Protection class	Class I
leakage current	
• maximum	3.5 mA
• typical	0.4 mA
Degree of protection (EN 60529)	IP20
<b>Approvals</b>	
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 ec nC IIC T4 Gc; ATEX (EX) II 3G Ex ec nC IIC T4 Gc; cULus Class I Div. 2 (ANSI/ISA-12.12.01-2007, CSA C22.2 No. 213) Group ABCD, T4; 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
certificate of suitability EAC approval	Yes
Marine approval	BV, 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	-25 ... +70 °C with natural convection	
<ul style="list-style-type: none"> <li>• during operation</li> <li>— Note</li> </ul>		
<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
Humidity class according to EN 60721	Climate class 3K3, 5 ... 95% no condensation	
Mechanics		
Connection technology	screw-type terminals	
Connections	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>	
<ul style="list-style-type: none"> <li>• Supply input</li> </ul>		
<ul style="list-style-type: none"> <li>• Output</li> <li>• Auxiliary</li> </ul>		
<ul style="list-style-type: none"> <li>• signaling contact</li> </ul>		
width of the enclosure	50 mm	
height of the enclosure	125 mm	
depth of the enclosure	120 mm	
required spacing	50 mm 50 mm 0 mm 0 mm	
<ul style="list-style-type: none"> <li>• top</li> </ul>		
<ul style="list-style-type: none"> <li>• bottom</li> </ul>		
<ul style="list-style-type: none"> <li>• left</li> <li>• right</li> </ul>		
Weight, approx.	0.5 kg	
product feature of the enclosure housing can be lined up	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	1 998 441 h	
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	

