

SITOP PSU100S/1AC/24VDC/2.5A  
 SITOP PSU100S 24 V/2.5 A Stabilized power supply input: 120/230  
 V AC, output: DC 24 V/2,5 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
Overtolerance resistance	2.3 × Vin rated, 1.3 ms
Mains buffering	at Vin = 93/187 V
Mains buffering at Iout rated, min.	20 ms; at Vin = 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	1.25 A
• at rated input voltage 230 V	0.74 A

Switch-on current limiting (+25 °C), max.	33 A
I <sup>2</sup> t, max.	0.4 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 3 A characteristic C

### Output

Output	Controlled, isolated DC voltage
Rated voltage V <sub>out</sub> DC	24 V
Total tolerance, static ±	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)	70 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 V <sub>out</sub> < 3 %
Startup delay, max.	0.3 s
Voltage rise, typ.	15 ms
Rated current value I <sub>out</sub> rated	2.5 A
Current range	0 ... 3 A
• Note	3 A up to +45°C; +60 ... +70 °C: Derating 3%/K
supplied active power typical	60 W
short-term overload current	
• on short-circuiting during the start-up typical	9 A
• at short-circuit during operation typical	9 A
duration of overloading capability for excess current	
• on short-circuiting during the start-up	100 ms
• at short-circuit during operation	800 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.	85 %
Power loss at V <sub>out</sub> rated, I <sub>out</sub> rated, approx.	10 W

### Closed-loop control

Dynamic mains compensation (V <sub>in</sub> rated ±15 %), max.	0.3 %
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Dynamic load smoothing (I <sub>out</sub> : 10/90/10 %), U <sub>out</sub> ± typ.	5 %
Load step setting time 10 to 90%, typ.	1 ms
Load step setting time 90 to 10%, typ.	1 ms

### Protection and monitoring

Output overvoltage protection	protection against overvoltage in case of internal fault V <sub>out</sub> < 33 V
Current limitation	3 ... 3.4 A
property of the output short-circuit proof	Yes
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 <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 0.4 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; cULus Class I Div. 2 (ANSI/ISA-12.12.01-2007, CSA C22.2 No. 213-M1987) 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
Marine approval	BV, DNV GL

### EMC

Emitted interference	EN 55022 Class B
Supply harmonics limitation	not applicable
Noise immunity	EN 61000-6-2

### environmental conditions

ambient temperature <ul style="list-style-type: none"> <li>• during operation</li> <li>— Note</li> </ul>	-25 ... +70 °C with natural convection
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<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	
<ul style="list-style-type: none"> <li>• Supply input</li> </ul>	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm <sup>2</sup> single-core/finely stranded
<ul style="list-style-type: none"> <li>• Output</li> </ul>	+, -: 2 screw terminals each for 0.5 ... 2.5 mm <sup>2</sup>
<ul style="list-style-type: none"> <li>• Auxiliary</li> </ul>	Alarm signals: 2 screw terminals for 0.5 ... 2.5 mm <sup>2</sup>
<ul style="list-style-type: none"> <li>• signaling contact</li> </ul>	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> </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
Weight, approx.	0.32 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	1 804 044 h
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)