



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 *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"> initial value 	
supply voltage	
<ul style="list-style-type: none"> 1 at AC rated value 2 at AC rated value 	120 V 230 V
input voltage	
<ul style="list-style-type: none"> 1 at AC 2 at AC 	85 ... 132 V 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	
<ul style="list-style-type: none"> 1 rated value 2 rated value 	50 Hz 60 Hz
line frequency	47 ... 63 Hz
input current	
<ul style="list-style-type: none"> at rated input voltage 120 V at rated input voltage 230 V 	2.34 A 1.36 A
current limitation of inrush current at 25 °C maximum	40 A
I2t value maximum	1 A²·s
fuse protection type	T 3,15 A/250 V (not accessible)
<ul style="list-style-type: none"> in the feeder 	Recommended miniature circuit breaker: from 6 A characteristic C

Output

voltage curve at output	Controlled, isolated DC voltage
output voltage at DC rated value	24 V
output voltage	
<ul style="list-style-type: none"> at output 1 at DC rated value 	24 V
relative overall tolerance of the voltage	3 %
relative control precision of the output voltage	
<ul style="list-style-type: none"> on slow fluctuation of input voltage on slow fluctuation of ohm loading 	0.1 % 1 %
residual ripple	
<ul style="list-style-type: none"> maximum typical 	150 mV 30 mV
voltage peak	
<ul style="list-style-type: none"> maximum typical 	240 mV 140 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	
• typical	15 ms
output current	
• rated value	5 A
• rated range	0 ... 6 A; 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
product feature	
• bridging of equipment	Yes
number of parallel-switched equipment resources for increasing the power	2

Efficiency

efficiency in percent	88 %
power loss [W]	
• at rated output voltage for rated value of the output current typical	16 W

Closed-loop control

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	3 %
setting time	
• load step 10 to 90% typical	1 ms
• load step 90 to 10% typical	1 ms

Protection and monitoring

design of the overvoltage protection	protection against overvoltage in case of internal fault $V_{out} < 33 \text{ V}$
response value current limitation	6 ... 7.1 A
property of the output short-circuit proof	Yes
design of 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 % I_{out} 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 U_{out} acc. to EN 60950-1 and EN 50178
operating resource protection class	Class I
leakage current	
• maximum	3.5 mA
• typical	0.4 mA
protection class IP	IP20

Approvals

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	
• IECEx	No

<ul style="list-style-type: none"> • NEC Class 2 • ULhazloc approval • FM registration 	No
type of certification CB-certificate	No
certificate of suitability	No
<ul style="list-style-type: none"> • EAC approval 	Yes
certificate of suitability shipbuilding approval	Yes
shipbuilding approval	BV, DNV GL
Marine classification association	
<ul style="list-style-type: none"> • American Bureau of Shipping Europe Ltd. (ABS) • French marine classification society (BV) • DNV GL • Lloyds Register of Shipping (LRS) • Nippon Kaiji Kyokai (NK) 	No
	Yes
	Yes
	No
	No

EMC

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

environmental conditions

ambient temperature	
<ul style="list-style-type: none"> • during operation • during transport • during storage 	-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

Mechanics

type of electrical connection	screw-type terminals
<ul style="list-style-type: none"> • at input 	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm ² single-core/finely stranded
<ul style="list-style-type: none"> • at output • for auxiliary contacts • for signaling contact 	+, -: 2 screw terminals each for 0.5 ... 2.5 mm ² Alarm signals: 2 screw terminals for 0.5 ... 2.5 mm ² 2 screw terminals for 0.5 ... 2.5 mm ²
width of the enclosure	50 mm
height of the enclosure	125 mm
depth of the enclosure	120 mm
required spacing	
<ul style="list-style-type: none"> • top • bottom • left • right 	50 mm 50 mm 0 mm 0 mm
net weight	0.5 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	1 998 441 h
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)

