



SITOP PSU100S 24 V/10 A STABILIZED POWER SUPPLY INPUT:
120/230 V AC OUTPUT: 24 V/10 A DC

Technical specifications

Product	SITOP PSU100S
Power supply, type	24 V/10 A

Input

Input	1-phase AC
Supply voltage 1 with AC Rated value	120 V
Supply voltage 2 with AC Rated value	230 V
• Note	Automatic range selection
Input voltage 1 with AC	85 ... 132 V
Input voltage 2 with AC	170 ... 264 V
Wide-range input	No
Overvoltage resistance	$2.3 \times V_{in}$ rated, 1.3 ms
Mains buffering at lout rated, min.	20 ms; at $V_{in} = 93/187$ V
Rated line frequency	50 ... 60 Hz
Rated line range	47 ... 63 Hz
Input current at rated input voltage 120 V Rated value	4.49 A
Input current at rated input voltage 230 V Rated value	1.91 A
Switch-on current limiting (+25 °C), max.	60 A
I^2t , max.	5.6 A ² ·s
Built-in incoming fuse	T 6.3 A/250 V (not accessible)
Protection in the mains power input (IEC 898)	Recommended miniature circuit breaker: from 10 A characteristic C

Output

Output	Controlled, isolated DC voltage
Rated voltage Vout DC	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.	20 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	240 mV
Spikes peak-peak, typ. (bandwidth: 20 MHz)	160 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.	20 ms
Rated current value Iout rated	10 A
Current range	0 ... 12 A
• Note	12 A up to +45°C; +60 ... +70 °C: Derating 3%/K
Active power supplied typical	288 W
Short-term overload current on short-circuiting during the start-up typical	32 A
Duration of overloading capability for excess current on short-circuiting during the start-up	1 000 ms
Short-term overload current at short-circuit during operation typical	32 A
Duration of overloading capability for excess current at short-circuit during operation	1 000 ms
Parallel switching for enhanced performance	Yes
Numbers of parallel switchable units for enhanced performance	2

Efficiency

Efficiency at Vout rated, Iout rated, approx.	90 %
Power loss at Vout rated, Iout rated, approx.	25 W

Closed-loop control

Dynamic mains compensation (Vin rated ± 15 %), max.	0.3 %
Dynamic load smoothing (Iout: 10/90/10 %), Uout $\pm$ typ.	3 %
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 $V_{out} < 33 \text{ V}$
Current limitation	12 ... 14.6 A
Property of the output Short-circuit proof	Yes
Short-circuit protection	Constant current characteristic
Enduring short circuit current RMS value typical	14.6 A
Overcurrent overload capability in normal operation	overload capability 150 % I_{out} rated up to 5 s/min
Overload/short-circuit indicator	-

Safety

Primary/secondary isolation	Yes
Galvanic isolation	Safety extra-low output voltage U_{out} acc. to EN 60950-1 and EN 50178
Protection class	Class I
Leakage current maximum	3.5 mA
Leakage current typical	0.8 mA
CE mark	Yes
UL/CSA approval	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, UL 1604)
Explosion protection	ATEX (EX) II 3G Ex nA nC IIC T4 Gc; cCSAus (CSA C22.2 No. 213-M1987, ANSI/ISA-12.12.01-2007) Class I, Div. 2, Group ABCD, T4
Certificate of suitability IECEx	No
Certificate of suitability NEC Class 2	No
FM approval	-
CB approval	Yes
Marine approval	GL, BV
Degree of protection (EN 60529)	IP20

EMC

Emitted interference	EN 55022 Class B
Supply harmonics limitation	EN 61000-3-2
Noise immunity	EN 61000-6-2

Operating data

Ambient temperature during operation	-25 ... +70 °C
• Note	with natural convection
Ambient temperature during transport	-40 ... +85 °C
Ambient temperature during storage	-40 ... +85 °C
Humidity class according to EN 60721	Climate class 3K3, no condensation

Mechanics

Connection technology	screw-type terminals
Connections Supply input	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm ² single-core/finely stranded
Connections Output	+, -: 2 screw terminals each for 0.5 ... 2.5 mm ²

Connections Auxiliary	Alarm signals: 2 screw terminals for 0.5 ... 2.5 mm ²
Width of the enclosure	70 mm
Height of the enclosure	125 mm
Depth of the enclosure	120 mm
Weight, approx.	0.8 kg
Product property of the enclosure housing for side-by-side mounting	Yes
Installation	Snaps onto DIN rail EN 60715 35x7.5/15
Electrical accessories	Buffer module
Other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)