



SITOP PSU100S/1AC/24VDC/10A

SITOP PSU100S 24 V/10 A
 Stabilized power supply input:
 120/230 V AC, output: DC 24
 V/10 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 | 4.49 A |
| • at rated input voltage 230 V | 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 V_{out} 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 |

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| 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 |
| supplied active power typical | 288 W |
| short-term overload current | |
| • on short-circuiting during the start-up typical | 32 A |
| • at short-circuit during operation typical | 32 A |
| duration of overloading capability for excess current | |
| • on short-circuiting during the start-up | 1 000 ms |
| • 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 ± 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 Vout < 33 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 % Iout rated up to 5 s/min |
| Overload/short-circuit indicator | - |
| Safety | |
| 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 | 0.8 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 |
| certificate of suitability EAC approval | Yes |
| Marine approval | BV, DNV GL |
| EMC | |

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| 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 -40 ... +85 °C -40 ... +85 °C | |
| <ul style="list-style-type: none"> • during operation — Note • during transport • during storage | | |
| 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 ² single-core/finely stranded +, -: 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 | |
| <ul style="list-style-type: none"> • Supply input • Output • Auxiliary • signaling contact | | |
| width of the enclosure | | 70 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"> • top • bottom • left • right | | |
| Weight, approx. | | 0.8 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 | 1 614 510 h | |
| other information | Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified) | |

