



Figure similar

SITOP PSU200M 24 V/10 A, VARNISHED PCB  
 SITOP PSU200M PLUS 10 STABILIZED POWER SUPPLY INPUT:  
 120-230/230-500 V AC OUTPUT: 24 V/10 A DC VERSION WITH  
 PROTECTIVE VARNISH

| Input   |   |
|---|---|
| Input   | 1-phase and 2-phase AC  |
| Supply voltage                                  |   |
| • 1 with AC                                     | 120 ... 230 V   |
| • 2 with AC                                     | 230 ... 500 V   |
| • Note  | Set by means of selector switch on the device                                 |
| Input voltage                                   |   |
| • 1 with AC                                     | 85 ... 264 V  |
| • 2 with AC                                     | 176 ... 550 V   |
| Wide-range input                                | Yes   |
| Overvoltage resistance                          | 1300 V <sub>peak</sub> , 1.3 ms   |
| Mains buffering at I <sub>out</sub> rated, min. | 25 ms; at V <sub>in</sub> = 120/230 V, typ. 150 ms at V <sub>in</sub> = 400 V |
| Rated line frequency                            | 50 ... 60 Hz  |
| Rated line range                                | 47 ... 63 Hz  |
| Input current                                   |   |
| • at rated input voltage 120 V                  | 4.4 A   |
| • at rated input voltage 230 V                  | 2.4 A   |
| • at rated input voltage 500 V                  | 1.1 A   |
| Switch-on current limiting (+25 °C), max.       | 35 A  |
| I <sup>2</sup> t, max.                          | 4 A <sup>2</sup> ·s   |
| Built-in incoming fuse                          | T 6.3 A (not accessible)  |

|   |   |
|---|---|
| Protection in the mains power input (IEC 898) | Recommended miniature circuit breaker at 1-phase operation: from 6 A (10 A) characteristic C (B); required at 2-phase operation: circuit breaker 2-pole connected or circuit breaker 3RV2011-1EA10 (setting 3.8 A) or 3RV2711-1ED10 (UL 489) at 230 V; 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10 (UL 489) at 400/500 V |
|---|---|

## 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.  | 0.1 %  |
| Residual ripple peak-peak, max.   | 50 mV  |
| Spikes peak-peak, max. (bandwidth: 20 MHz)  | 200 mV   |
| Adjustment range  | 24 ... 28.8 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 $V_{out}$ approx. 3 %                                   |
| Startup delay, max.   | 1 s  |
| Voltage rise, typ.  | 50 ms  |
| Rated current value $I_{out}$ rated   | 10 A   |
| Current range   | 0 ... 10 A   |
| <ul style="list-style-type: none"> <li>Note</li> </ul>  | +60 ... +70 °C: Derating 2%/K (at 120 V, 230 V) or 3.5%/K (at 400 V) |
| Active power supplied typical   | 240 W  |
| Short-term overload current   |  |
| <ul style="list-style-type: none"> <li>at short-circuit during operation typical</li> </ul>       | 30 A   |
| Duration of overloading capability for excess current   |  |
| <ul style="list-style-type: none"> <li>at short-circuit during operation</li> </ul>               | 25 ms  |
| Constant overload current   |  |
| <ul style="list-style-type: none"> <li>on short-circuiting during the start-up typical</li> </ul> | 12 A   |
| Parallel switching for enhanced performance   | Yes; switchable characteristic                                       |
| Numbers of parallel switchable units for enhanced performance                                     | 2  |

## Efficiency

|   |      |
|---|------|
| Efficiency at $V_{out}$ rated, $I_{out}$ rated, approx. | 91 % |
| Power loss at $V_{out}$ rated, $I_{out}$ rated, approx. | 24 W |
| Active power loss during no-load operation maximum      | 6 W  |

## Closed-loop control

|   |       |
|---|-------|
| Dynamic mains compensation ( $V_{in}$ rated $\pm 15$ %), max. | 0.1 % |
|---|-------|

|  |      |
|--|------|
| Dynamic load smoothing (I <sub>out</sub> : 50/100/50 %), U <sub>out</sub> ± typ. | 3 %  |
| Load step setting time 50 to 100%, typ.  | 2 ms |
| Load step setting time 100 to 50%, typ.  | 2 ms |
| Setting time maximum   | 5 ms |

### Protection and monitoring

|  |  |
|--|--|
| Output overvoltage protection  | < 35 V   |
| Current limitation, typ.   | 12 A   |
| Property of the output Short-circuit proof   | Yes  |
| Short-circuit protection   | Alternatively, constant current characteristic approx. 12 A or latching shutdown |
| Enduring short circuit current RMS value <ul style="list-style-type: none"> <li>• typical</li> </ul> | 12 A   |
| Overload/short-circuit indicator   | LED yellow for "overload", LED red for "latching shutdown"                       |

### 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<br>0.32 mA  |
| CE mark  | Yes  |
| UL/CSA approval  | Yes  |
| UL/cUL (CSA) approval  | cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259                         |
| Explosion protection   | -  |
| Certificate of suitability IECEx   | No   |
| Certificate of suitability NEC Class 2   | No   |
| CB approval  | Yes  |
| Marine approval  | GL   |
| 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 <ul style="list-style-type: none"> <li>• during operation</li> <li>— Note</li> <li>• during transport</li> <li>• during storage</li> </ul> | -25 ... +70 °C<br>with natural convection<br>-40 ... +85 °C<br>-40 ... +85 °C |
| Humidity class according to EN 60721   | Climate class 3K3, no condensation  |

## Mechanics

|   |  |
|---|--|
| Connection technology   | screw-type terminals   |
| Connections   |  |
| <ul style="list-style-type: none"> <li>• Supply input</li> <li>• Output</li> <li>• Auxiliary</li> </ul> | <p>L, N, PE: 1 screw terminal each for 0.2 ... 2.5 mm<sup>2</sup> single-core/finely stranded</p> <p>+, -: 2 screw terminals each for 0.2 ... 2.5 mm<sup>2</sup></p> <p>13, 14 (alarm signal): 1 screw terminal each for 0.14 ... 1.5 mm<sup>2</sup></p> |
| Width of the enclosure  | 70 mm  |
| Height of the enclosure   | 125 mm   |
| Depth of the enclosure  | 121 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)  |