

SITOP PSU200M/1-2AC/24VDC/10A

SITOP PSU200M 10 A Stabilized power supply input: 120/230-500 V

AC output: DC 24 V/10 A



Input	
Input	1-phase and 2-phase AC
• Note	Set by means of selector switch on the device
supply voltage	
• 1 at AC	120 ... 230 V
• 2 at AC	230 ... 500 V
input voltage	
• 1 at AC	85 ... 264 V
• 2 at AC	176 ... 550 V
Wide-range input	Yes
Overvoltage resistance	1300 V _{peak} , 1.3 ms
Mains buffering	at Vin = 120/230 V, typ. 150 ms at Vin = 400 V
Mains buffering at I _{out} rated, min.	25 ms; at Vin = 120/230 V, typ. 150 ms at Vin = 400 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	4.4 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 ² t, max.	4 A ² ·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 ±	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
• Note	+60 ... +70 °C: Derating 2%/K (at 120 V, 230 V) or 3.5%/K (at 400 V)
supplied active power typical	240 W
short-term overload current	
• at short-circuit during operation typical	30 A
duration of overloading capability for excess current	
• at short-circuit during operation	25 ms
constant overload current	
• on short-circuiting during the start-up typical	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

power loss [W] 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_{out} : 50/100/50 %), $U_{out} \pm$ 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"> • typical 	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_{out} acc. to EN 60950-1 and EN 50178
Protection class	Class I
leakage current <ul style="list-style-type: none"> • maximum • typical 	3.5 mA 0.32 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; cCSAus (CSA C22.2 No. 213, ANSI/ISA-12.12.01) Class I, Div. 2, Group ABCD, T3
certificate of suitability NEC Class 2	No
FM approval	-
CB approval	Yes
Marine approval	ABS, DNV GL

EMC

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

environmental conditions

ambient temperature	
<ul style="list-style-type: none"> • during operation — Note • during transport • during storage 	<p>-25 ... +70 °C</p> <p>With natural convection; startup tested starting from -40 °C nominal voltage</p> <p>-40 ... +85 °C</p> <p>-40 ... +85 °C</p>
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"> • Supply input • Output • Auxiliary 	<p>L, N, PE: 1 screw terminal each for 0.2 ... 2.5 mm² single-core/finely stranded</p> <p>+, -: 2 screw terminals each for 0.2 ... 2.5 mm²</p> <p>13, 14 (alarm signal): 1 screw terminal each for 0.14 ... 1.5 mm²</p>
width of the enclosure	70 mm
height of the enclosure	125 mm
depth of the enclosure	121 mm
required spacing	
<ul style="list-style-type: none"> • top • bottom • left • right 	<p>50 mm</p> <p>50 mm</p> <p>0 mm</p> <p>0 mm</p>
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
MTBF at 40 °C	1 055 408 h
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)