



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

SITOP PSU200M 10 A stabilized power supply input: 120/230-500 V AC
output: 24 V DC/ 10 A *Ex approval no longer available*

Input

type of the power supply network	1-phase and 2-phase AC
supply voltage at AC	
• initial value	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
design of input wide range input	Yes
overvoltage overload capability	1300 V _{peak} , 1.3 ms
operating condition of the mains buffering	at Vin = 120/230 V, typ. 150 ms at Vin = 400 V
buffering time for rated value of the output current in the event of power failure minimum	25 ms
operating condition of the mains buffering	at Vin = 120/230 V, typ. 150 ms at Vin = 400 V
line frequency	
• 1 rated value	50 Hz
• 2 rated value	60 Hz
line frequency	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
current limitation of inrush current at 25 °C maximum	35 A
I ² t value maximum	4 A ² ·s
fuse protection type	T 6.3 A (not accessible)
• in the feeder	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

voltage curve at output	Controlled, isolated DC voltage
output voltage at DC rated value	24 V
output voltage	
• at output 1 at DC rated value	24 V
relative overall tolerance of the voltage	3 %
relative control precision of the output voltage	
• on slow fluctuation of input voltage	0.1 %
• on slow fluctuation of ohm loading	0.1 %
residual ripple	
• maximum	50 mV

voltage peak	200 mV
<ul style="list-style-type: none"> • maximum 	24 ... 28.8 V
adjustable output voltage	Yes
product function output voltage adjustable	via potentiometer
type of output voltage setting	Green LED for 24 V OK
display version for normal operation	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"
type of signal at output	Overshoot of Vout approx. 3 %
behavior of the output voltage when switching on	1 s
response delay maximum	50 ms
voltage increase time of the output voltage	
<ul style="list-style-type: none"> • typical 	10 A
output current	0 ... 10 A; +60 ... +70 °C: Derating 2%/K (at 120 V, 230 V) or 3.5%/K (at 400 V)
<ul style="list-style-type: none"> • rated value • rated range 	240 W
supplied active power typical	
short-term overload current	30 A
<ul style="list-style-type: none"> • at short-circuit during operation typical 	25 ms
duration of overloading capability for excess current	
<ul style="list-style-type: none"> • at short-circuit during operation 	12 A
constant overload current	
<ul style="list-style-type: none"> • on short-circuiting during the start-up typical 	Yes; switchable characteristic
product feature	2
<ul style="list-style-type: none"> • bridging of equipment 	
number of parallel-switched equipment resources for increasing the power	

Efficiency

efficiency in percent	91 %
power loss [W]	
<ul style="list-style-type: none"> • at rated output voltage for rated value of the output current typical 	24 W
<ul style="list-style-type: none"> • during no-load operation maximum 	6 W

Closed-loop control

relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	0.1 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	3 %
setting time	
<ul style="list-style-type: none"> • load step 50 to 100% typical 	2 ms
<ul style="list-style-type: none"> • load step 100 to 50% typical 	2 ms
setting time	
<ul style="list-style-type: none"> • maximum 	5 ms

Protection and monitoring

design of the overvoltage protection	< 35 V
<ul style="list-style-type: none"> • typical 	12 A
property of the output short-circuit proof	Yes
design of 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
display version for overload and short circuit	LED yellow for "overload", LED red for "latching shutdown"

Safety

galvanic isolation between input and output	Yes
galvanic isolation	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178
operating resource protection class	Class I
leakage current	
<ul style="list-style-type: none"> • maximum 	3.5 mA
<ul style="list-style-type: none"> • typical 	0.32 mA
protection class IP	IP20

Approvals

certificate of suitability	Yes
<ul style="list-style-type: none"> • CE marking • 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)

<ul style="list-style-type: none"> • 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)
<ul style="list-style-type: none"> • cCSAus, Class 1, Division 2 	No
<ul style="list-style-type: none"> • ATEX 	No
certificate of suitability	
<ul style="list-style-type: none"> • IECEx 	No
<ul style="list-style-type: none"> • NEC Class 2 	No
<ul style="list-style-type: none"> • ULhazloc approval 	No
<ul style="list-style-type: none"> • FM registration 	No
type of certification CB-certificate	Yes
certificate of suitability	
<ul style="list-style-type: none"> • EAC approval 	Yes
certificate of suitability shipbuilding approval	Yes
shipbuilding approval	ABS, DNV GL
Marine classification association	
<ul style="list-style-type: none"> • American Bureau of Shipping Europe Ltd. (ABS) 	Yes
<ul style="list-style-type: none"> • French marine classification society (BV) 	No
<ul style="list-style-type: none"> • DNV GL 	Yes
<ul style="list-style-type: none"> • Lloyds Register of Shipping (LRS) 	No
<ul style="list-style-type: none"> • Nippon Kaiji Kyokai (NK) 	No

EMC

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

environmental conditions

ambient temperature	
<ul style="list-style-type: none"> • during operation 	-25 ... +70 °C; With natural convection; startup tested starting from -40 °C nominal voltage
<ul style="list-style-type: none"> • during transport 	-40 ... +85 °C
<ul style="list-style-type: none"> • during storage 	-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 0.2 ... 2.5 mm ² single-core/finely stranded
<ul style="list-style-type: none"> • at output 	+, -: 2 screw terminals each for 0.2 ... 2.5 mm ²
<ul style="list-style-type: none"> • for auxiliary contacts 	13, 14 (alarm signal): 1 screw terminal each for 0.14 ... 1.5 mm ²
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 	50 mm
<ul style="list-style-type: none"> • bottom 	50 mm
<ul style="list-style-type: none"> • left 	0 mm
<ul style="list-style-type: none"> • right 	0 mm
net weight	0.8 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
MTBF at 40 °C	1 055 408 h
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)

