

SITOP MODULAR/1AC/24VDC/20A

SITOP modular 20 A Stabilized power supply input: 120/230 V AC output: 24 V DC/20 A *Ex approval no longer available*

Input	
type of the power supply network	1-phase AC
supply voltage at AC	
• initial value	Set by means of wire jumper on the device; starting from $V_{in} > 93/183 \text{ V}$
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	176 ... 264 V
design of input wide range input	No
overvoltage overload capability	$2.3 \times V_{in}$ rated, 1.3 ms
operating condition of the mains buffering	at $V_{in} = 230 \text{ V}$
buffering time for rated value of the output current in the event of power failure minimum	20 ms
operating condition of the mains buffering	at $V_{in} = 230 \text{ V}$
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	7.7 A
• at rated input voltage 230 V	3.5 A
current limitation of inrush current at 25 °C maximum	60 A
I _{2t} value maximum	9.9 A ² ·s
fuse protection type	Yes
• in the feeder	Recommended miniature circuit breaker at 1-phase operation: 10 A characteristic C; required at 2-phase operation: circuit breaker 2-pole connected or circuit breaker 3RV2411-1JA10 (120 V) or 3RV2411-1FA10 (230 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	100 mV
• typical	30 mV
voltage peak	
• maximum	200 mV
• typical	60 mV
adjustable output voltage	24 ... 28.8 V
product function output voltage adjustable	Yes
type of output voltage setting	via potentiometer
display version for normal operation	Green LED for 24 V OK
type of signal at output	via signaling module (6EP1961-3BA10)
behavior of the output voltage when switching on	Overshoot of V_{out} approx. 3 %

response delay maximum	0.1 s
voltage increase time of the output voltage	
• typical	50 ms
output current	
• rated value	20 A
• rated range	0 ... 20 A; +60 ... +70 °C: Derating 3.5%/K
supplied active power typical	480 W
short-term overload current	
• at short-circuit during operation typical	60 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	23 A
product feature	
• bridging of equipment	Yes; switchable characteristic
number of parallel-switched equipment resources for increasing the power	2
Efficiency	
efficiency in percent	89 %
power loss [W]	
• at rated output voltage for rated value of the output current typical	59 W
Closed-loop control	
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	1 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	2 %
setting time	
• load step 50 to 100% typical	2 ms
• load step 100 to 50% typical	2 ms
setting time	
• maximum	5 ms
Protection and monitoring	
design of the overvoltage protection	< 35 V
• typical	23 A
property of the output short-circuit proof	Yes
design of short-circuit protection	Alternatively, constant current characteristic approx. 23 A or latching shutdown
enduring short circuit current RMS value	
• typical	23 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 U _{out} acc. to EN 60950-1 and EN 50178
operating resource protection class	Class I
leakage current	
• maximum	3.5 mA
• typical	0.4 mA
protection class IP	IP20
Approvals	
certificate of suitability	
• CE marking	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
• cCSAus, Class 1, Division 2	No
• ATEX	No
certificate of suitability	
• IECEx	No
• NEC Class 2	No
• ULhazloc approval	No
• FM registration	No
type of certification CB-certificate	No
certificate of suitability	

• EAC approval	Yes
certificate of suitability shipbuilding approval	Yes
shipbuilding approval	ABS, GL
Marine classification association	
• American Bureau of Shipping Europe Ltd. (ABS)	Yes
• French marine classification society (BV)	No
• DNV GL	Yes
• Lloyds Register of Shipping (LRS)	No
• Nippon Kaiji Kyokai (NK)	No
EMC	
standard	
• for emitted interference	EN 55022 Class B
• for mains harmonics limitation	EN 61000-3-2
• for interference immunity	EN 61000-6-2
environmental conditions	
ambient temperature	
• during operation	0 ... 70 °C; with natural convection
• during transport	-40 ... +85 °C
• 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
• at input	L, N, PE: 1 screw terminal each for 0.2 ... 4 mm ² single-core/finely stranded
• at output	+, -: 2 screw terminals each for 0.5 ... 4 mm ²
• for auxiliary contacts	-
width of the enclosure	160 mm
height of the enclosure	125 mm
depth of the enclosure	125 mm
required spacing	
• top	50 mm
• bottom	50 mm
• left	0 mm
• right	0 mm
net weight	2.2 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, signaling module
MTBF at 40 °C	786 164 h
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)

