

SITOP MODULAR 24 V/20 A, VARNISHED PCB  
 SITOP modular plus 20 A Stabilized power supply input: 120/230 V  
 AC, output: 24 V DC/20 A Option for with protective varnish



Figure similar

Input	
Input	1-phase and 2-phase AC
Supply voltage	
<ul style="list-style-type: none"> <li>• 1 at AC Rated value</li> <li>• 2 at AC Rated value</li> <li>• Note</li> </ul>	120 V 230 V Set by means of wire jumper on the device; starting from $V_{in} > 93/183$ V
Input voltage	
<ul style="list-style-type: none"> <li>• 1 at AC</li> <li>• 2 at AC</li> </ul>	85 ... 132 V 176 ... 264 V
Wide-range input	No
Overvoltage resistance	$2.3 \times V_{in}$ rated, 1.3 ms
Mains buffering at I <sub>out</sub> rated, min.	20 ms; at $V_{in} = 230$ V
Rated line frequency 1	50 Hz
Rated line frequency 2	60 Hz
Rated line range	47 ... 63 Hz
Input current	

<ul style="list-style-type: none"> <li>• at rated input voltage 120 V</li> <li>• at rated input voltage 230 V</li> </ul>	7.7 A 3.5 A
Switch-on current limiting (+25 °C), max.	60 A
I <sup>2</sup> t, max.	9.9 A <sup>2</sup> ·s
Built-in incoming fuse	Yes
Protection in the mains power input (IEC 898)	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

Output	Controlled, isolated DC voltage
Rated voltage V <sub>out</sub> DC	24 V
Total tolerance, static ±	3 %
Static mains compensation, approx.	0.1 %
Static load balancing, approx.	0.1 %
Residual ripple peak-peak, max.	100 mV
Residual ripple peak-peak, typ.	30 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	200 mV
Spikes peak-peak, typ. (bandwidth: 20 MHz)	60 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	via signaling module (6EP1961-3BA10)
On/off behavior	Overshoot of V <sub>out</sub> approx. 3 %
Startup delay, max.	0.1 s
Voltage rise, typ.	50 ms
Rated current value I <sub>out</sub> rated	20 A
Current range	0 ... 20 A
<ul style="list-style-type: none"> <li>• Note</li> </ul>	+60 ... +70 °C: Derating 3.5%/K
Supplied active power typical	480 W
Short-term overload current	
<ul style="list-style-type: none"> <li>• at short-circuit during operation typical</li> </ul>	60 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>	23 A
Parallel switching for enhanced performance	Yes; switchable characteristic
Numbers of parallel switchable units for enhanced performance	2

## Efficiency

Efficiency at V <sub>out</sub> rated, I <sub>out</sub> rated, approx.	89 %
Power loss at V <sub>out</sub> rated, I <sub>out</sub> rated, approx.	59 W

Closed-loop control	
Dynamic mains compensation ( $V_{in}$ rated $\pm 15\%$ ), max.	1 %
Dynamic load smoothing ( $I_{out}$ : 50/100/50 %), $U_{out} \pm$ typ.	2 %
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.	23 A
Property of the output Short-circuit proof	Yes
Short-circuit protection	Alternatively, constant current characteristic approx. 23 A or latching shutdown
Enduring short circuit current RMS value <ul style="list-style-type: none"> <li>• typical</li> </ul>	23 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"> <li>• maximum</li> <li>• typical</li> </ul>	3.5 mA 0.4 mA
CE mark	Yes
UL/cUL (CSA) approval	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
Explosion protection	-
FM approval	-
CB approval	No
Marine approval	-
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>	0 ... 70 °C with natural convection -40 ... +85 °C -40 ... +85 °C

Humidity class according to EN 60721	Climate class 3K3, no condensation
<b>Mechanics</b>	
Connection technology	screw-type terminals
Connections	
• Supply input	L, N, PE: 1 screw terminal each for 0.2 ... 4 mm <sup>2</sup> single-core/finely stranded
• Output	+, -: 2 screw terminals each for 0.5 ... 4 mm <sup>2</sup>
• Auxiliary	-
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
Weight, approx.	2.2 kg
Product feature of the enclosure housing for side-by-side mounting	Yes
Installation	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)