

SITOP MODULAR/1AC/24VDC/20A  
 SITOP modular 20 A Stabilized power supply input: 120/230 V AC,  
 output: 24 V DC/20 A



Figure similar

Input	
Input	1-phase AC
<ul style="list-style-type: none"> <li>Note</li> </ul>	Set by means of wire jumper on the device; starting from $V_{in} > 93/183 \text{ V}$
supply voltage	
<ul style="list-style-type: none"> <li>1 at AC rated value</li> <li>2 at AC rated value</li> </ul>	120 V 230 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 $V_{in} = 230 \text{ V}$
Mains buffering at lout rated, min.	20 ms; at $V_{in} = 230 \text{ V}$
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 Vout rated, Iout rated, approx.	59 W
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### Closed-loop control

Dynamic mains compensation (Vin rated $\pm 15\%$ ), max.	1 %
Dynamic load smoothing (Iout: 50/100/50 %), Uout $\pm$ 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 Uout 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
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
Explosion protection	IECEX Ex nA nC IIC T3 Gc; ATEX (EX) II 3G Ex nA nC IIC T3 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	No
Marine approval	ABS, 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"> <li>• during operation</li> <li style="padding-left: 20px;">— Note</li> <li>• during transport</li> <li>• during storage</li> </ul>	<p>0 ... 70 °C</p> <p>with natural convection</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"> <li>• Supply input</li> <li>• Output</li> <li>• Auxiliary</li> </ul>	<p>L, N, PE: 1 screw terminal each for 0.2 ... 4 mm<sup>2</sup> single-core/finely stranded</p> <p>+, -: 2 screw terminals each for 0.5 ... 4 mm<sup>2</sup></p> <p>-</p>
width of the enclosure	160 mm
height of the enclosure	125 mm
depth of the enclosure	125 mm
required spacing	
<ul style="list-style-type: none"> <li>• top</li> <li>• bottom</li> <li>• left</li> <li>• right</li> </ul>	<p>50 mm</p> <p>50 mm</p> <p>0 mm</p> <p>0 mm</p>
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)