

SITOP PSU400M 24 V/20 A  
 SITOP PSU400M 20 A DC/DC TRANSFORMER INPUT: 600 V DC  
 OUTPUT: 24 V/20 A DC



Input	
Input	DC voltage
Supply voltage	600 ... 600 V
<ul style="list-style-type: none"> <li>at DC</li> <li>Note</li> </ul>	startup from 340 V DC; derating necessary at 300 ... 400 V DC and 824 ... 900 V DC
Input voltage	300 ... 900 V
<ul style="list-style-type: none"> <li>at DC</li> </ul>	
Overvoltage resistance	Shutdown at $V_{in} > 900$ V DC
Input current	0.85 A
<ul style="list-style-type: none"> <li>at DC at rated input voltage 600 V</li> </ul>	
Switch-on current limiting (+25 °C), max.	8 A
$I^2t$ , max.	0.02 A <sup>2</sup> ·s
Built-in incoming fuse	yes, cut-off capacity 20 kA; L/R < 2 ms ("+" and "-" input)
Output	
Output	Controlled, isolated DC voltage
Rated voltage $V_{out}$ DC	24 V
Total tolerance, static $\pm$	3 %
Static mains compensation, approx.	0.3 %

Static load balancing, approx.	0.3 %
Residual ripple peak-peak, max.	150 mV
Residual ripple peak-peak, typ.	30 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	200 mV
Spikes peak-peak, typ. (bandwidth: 20 MHz)	100 mV
Adjustment range	24 ... 28.8 V
Product function Output voltage adjustable	Yes
Output voltage setting	via potentiometer; max. 480 W
Status display	Green LED for 24 V OK, green flashing LED for start delay
Signaling	Relay contact (NO contact, rating 60 V DC/ 0.3 A; 30 V DC/1 A) for 24 V OK
On/off behavior	No overshoot of Vout (soft start)
Startup delay, max.	0.1 s; 10 s adjustable using switch
Voltage increase time of the output voltage maximum	150 ms
Rated current value Iout rated	20 A
Current range	0 ... 20 A
• Note	+60 ... +70 °C: Derating 5.5%/K
Active power supplied typical	480 W
Short-term overload current	
• on short-circuiting during the start-up typical	40 A
Duration of overloading capability for excess current	
• on short-circuiting during the start-up	150 ms
Constant overload current	
• on short-circuiting during the start-up typical	20 A
Parallel switching for enhanced performance	Yes; switchable characteristic
Numbers of parallel switchable units for enhanced performance	2

### Efficiency

Efficiency at Vout rated, Iout rated, approx.	95 %
Power loss at Vout rated, Iout rated, approx.	25 W

### Closed-loop control

Dynamic mains compensation (Vin rated $\pm 15$ %), max.	1.5 %
Dynamic load smoothing (Iout: 50/100/50 %), Uout $\pm$ typ.	1.5 %
Load step setting time 50 to 100%, typ.	1 ms
Load step setting time 100 to 50%, typ.	1 ms
Setting time maximum	5 ms

### Protection and monitoring

Output overvoltage protection	< 33 V
Current limitation, typ.	22 A
Property of the output Short-circuit proof	Yes

Short-circuit protection	Alternatively, constant current characteristic approx. 22 A or latching shutdown
Enduring short circuit current RMS value <ul style="list-style-type: none"> <li>• typical</li> </ul>	22 A
Overcurrent overload capability in normal operation	overload capability 150 % I <sub>out</sub> rated up to 5 s/min
Overload/short-circuit indicator	LED yellow for "overload", LED red for "latching shutdown", red LED flashing for "Overtemperature"

### Safety

Primary/secondary isolation	Yes
Galvanic isolation	Safety extra-low output voltage U <sub>out</sub> acc. to EN 60950-1 and EN 50178
Protection class	Class I
CE mark	Yes
UL/CSA approval	Yes
UL/cUL (CSA) approval	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
Explosion protection	-
Certificate of suitability IECEx	No
Certificate of suitability NEC Class 2	No
FM approval	-
CB approval	Yes
Approvals	No
Marine approval	GL
Degree of protection (EN 60529)	IP20

### EMC

Emitted interference	EN 55022 Class A (emission)
Supply harmonics limitation	-
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>	-25 ... +70 °C with natural convection -40 ... +85 °C -40 ... +85 °C
Humidity class according to EN 60721	Climate class 3K3, no condensation

### Mechanics

Connection technology	screw-type terminals
Connections <ul style="list-style-type: none"> <li>• Supply input</li> <li>• Output</li> </ul>	DC input, +, -, PE: 1 screw terminal each for 0.2 ... 6/4 mm <sup>2</sup> single-core/finely stranded +, -: 2 screw terminals each for 0.2 ... 6/4 mm <sup>2</sup> single-core/finely stranded

- Auxiliary

	Alarm signals: 2 screw terminals for 0.14 ... 1.5 mm <sup>2</sup> single-core/finely stranded
Width of the enclosure	90 mm
Height of the enclosure	125 mm
Depth of the enclosure	125 mm
Weight, approx.	1.2 kg
Product feature of the enclosure housing for side-by-side mounting	Yes
Installation	Snaps onto DIN rail EN 60715 35x7.5/15
Mechanical accessories	Device identification label 20 mm × 7 mm, pastel-turquoise 3RT1900-1SB20
MTBF at 40 °C	622 277 h
Other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)