



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

Technical specifications

Product	SITOP PSU400M
Power supply, type	24 V/20 A

Input

Input	DC voltage
Supply voltage for DC	600 ... 600 V
<ul style="list-style-type: none"> Note 	(startup from approx. 400 V DC); derating necessary at 200 ... 300 V DC and 820 ... 900 V DC
Input voltage for DC	200 ... 900 V
Oversoltage resistance	Shutdown at $V_{in} > 900$ V DC
Input current for DC at rated input voltage 600 V	0.85 A
Rated value	
Switch-on current limiting (+25 °C), max.	8 A
I^2t , max.	0.02 A ² ·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 ± 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 typical	22 A
Overcurrent overload capability in normal operation	overload capability 150 % Iout 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 _{out} 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 during operation	-25 ... +70 °C
<ul style="list-style-type: none"> Note 	with natural convection
Ambient temperature during transport	-40 ... +85 °C
Ambient temperature during storage	-40 ... +85 °C
Humidity class according to EN 60721	Climate class 3K3, no condensation

Mechanics	
Connection technology	screw-type terminals
Connections Supply input	DC input, +, -, PE: 1 screw terminal each for 0.2 ... 6/4 mm ² single-core/finely stranded
Connections Output	+, -: 2 screw terminals each for 0.2 ... 6/4 mm ² single-core/finely stranded
Connections Auxiliary	Alarm signals: 2 screw terminals for 0.14 ... 1.5 mm ² 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 property 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

