

SITOP PSU400M/DC/DC/600V/24V/20A

SITOP PSU400M 20 A DC/DC converter input: 600 V DC output: 24 V DC/20 A



Input	
Input	DC voltage
<ul style="list-style-type: none"> Note 	startup from 340 V DC; derating necessary at 300 ... 400 V DC and 824 ... 900 V DC
supply voltage	
<ul style="list-style-type: none"> at DC 	600 ... 600 V
input voltage	
<ul style="list-style-type: none"> at DC 	300 ... 900 V
Overvoltage resistance	Shutdown at $V_{in} > 900$ V DC
input current	
<ul style="list-style-type: none"> at DC at rated input voltage 600 V 	0.85 A
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
supplied active power typical	480 W
short-term overload current	
• on short-circuiting during the start-up typical	40 A
• at short-circuit during operation typical	60 A
duration of overloading capability for excess current	
• on short-circuiting during the start-up	150 ms
• at short-circuit during operation	25 ms
constant overload current	
• on short-circuiting during the start-up typical	23 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 <ul style="list-style-type: none"> • typical 	22 A
overcurrent overload capability in normal operation	overload capability 150 % I _{out} 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	Protective extra low output voltage V _{out} according to EN 60950-1 and EN 50178
Protection class	Class I
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	-
certificate of suitability NEC Class 2	No
FM approval	-
CB approval	Yes
Marine approval	DNV GL

EMC

Emitted interference	EN 55022 Class A (emission)
Supply harmonics limitation	-
Noise immunity	EN 61000-6-2

environmental conditions

ambient temperature <ul style="list-style-type: none"> • during operation — Note • during transport • during storage 	-25 ... +70 °C with natural convection -40 ... +85 °C -40 ... +85 °C
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"> • Supply input • Output 	DC input, +, -, PE: 1 screw terminal each for 0.2 ... 6/4 mm ² single-core/finely stranded +, -: 2 screw terminals each for 0.2 ... 6/4 mm ² single-core/finely stranded

<ul style="list-style-type: none"> • 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
required spacing	
<ul style="list-style-type: none"> • top 	50 mm
<ul style="list-style-type: none"> • bottom 	50 mm
<ul style="list-style-type: none"> • left 	0 mm
<ul style="list-style-type: none"> • right 	0 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, pale 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)