SIEMENS

Data sheet 6EP1536-3AA00

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

Input	
Input	DC voltage
Supply voltage	
• at DC	600 ... 600 V
• Note	startup from 340 V DC; derating necessary at 300 ... 400 V DC and 824 ... 900 V DC
Input voltage	
• at DC	300 ... 900 V
Overvoltage resistance	Shutdown at Vin > 900 V DC
Input current	
• 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 $A^2 \cdot s$
Built-in incoming fuse	yes, cut-off capacity 20 kA; L/R < 2 ms ("+" and "-" input)

Output	
Output	Controlled, isolated DC voltage
Rated voltage Vout DC	24 V
Total tolerance, static ±	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 ± 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	Protective extra low output voltage Vout according to EN 60950-1 and EN 50178
Protection class	Class I
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	Yes
Marine approval	DNV 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
— Note	with natural convection
• during transport	-40 ... +85 °C
• 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 mm² single-core/finely stranded
• Output	+, -: 2 screw terminals each for 0.2 ... 6/4 mm² single-core/finely stranded
• Auxiliary	Alarm signals: 2 screw terminals for 0.14 ... 1.5 mm² single-core/finely stranded
Width of the enclosure	90 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.	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)