

SITOP PSU3800/3AC/12VDC/20A
 SITOP PSU3800 12 V/20 A Regulated power supply input: 3 AC
 400-500 V output: 12 V DC/20 A optimized for battery charging



Input	
Input	3-phase AC
Rated voltage value V_{in} rated	400 ... 500 V
Voltage range AC	320 ... 575 V
Wide-range input	Yes
Mains buffering	at $V_{in} = 400$ V
Mains buffering at I_{out} rated, min.	15 ms; at $V_{in} = 400$ V
Rated line frequency 1	50 Hz
Rated line frequency 2	60 Hz
Rated line range	47 ... 63 Hz
input current	
• at rated input voltage 400 V	0.7 A
• at rated input voltage 500 V	0.6 A
Switch-on current limiting (+25 °C), max.	16 A
I^2t , max.	0.8 A ² ·s
Built-in incoming fuse	none
Protection in the mains power input (IEC 898)	Required: 3-pole connected miniature circuit breaker 6 ... 16 A characteristic C or circuit breaker 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10 (UL 489)

Output	
Output	Controlled, isolated DC voltage
Rated voltage Vout DC	12 V
Total tolerance, static ±	3 %
Static mains compensation, approx.	0.1 %
Static load balancing, approx.	0.2 %
Residual ripple peak-peak, max.	100 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	200 mV
Adjustment range	12 ... 14 V
product function output voltage adjustable	Yes
Output voltage setting	via potentiometer; max. 240 W
Status display	Green LED for 12 V OK
Signaling	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for 12 V OK
On/off behavior	No overshoot of Vout (soft start)
Startup delay, max.	2.5 s
voltage increase time of the output voltage maximum	500 ms
Rated current value Iout rated	20 A
Current range	0 ... 20 A
• Note	+60 ... +70 °C: Derating 2%/K
supplied active power typical	240 W
constant overload current	
• on short-circuiting during the start-up typical	22 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.	91 %
Power loss at Vout rated, Iout rated, approx.	24 W

Closed-loop control	
Dynamic mains compensation (Vin rated ±15 %), max.	0.1 %
Dynamic load smoothing (Iout: 50/100/50 %), Uout ± typ.	1 %
Load step setting time 50 to 100%, typ.	0.2 ms
Load step setting time 100 to 50%, typ.	0.2 ms
Dynamic load smoothing (Iout: 10/90/10 %), Uout ± typ.	2 %
Load step setting time 10 to 90%, typ.	0.2 ms
Load step setting time 90 to 10%, typ.	0.2 ms
setting time maximum	10 ms

Protection and monitoring	
Output overvoltage protection	< 18 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
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 V_{out} according to EN 60950-1
Protection class	Class I
leakage current <ul style="list-style-type: none"> • maximum • typical 	3.5 mA 0.9 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 T4 Gc; ATEX (EX) II 3G Ex nA nC IIC T4; cCSAus (CSA C22.2 No. 213, ANSI/ISA-12.12.01) Class I, Div. 2, Group ABCD, T4
certificate of suitability NEC Class 2	No
FM approval	-
CB approval	Yes
Marine approval	ABS, DNV 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"> • during operation <ul style="list-style-type: none"> — 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 	L1, L2, L3, PE: 1 screw terminal each for 0.2 ... 4 mm ² single-core/finely stranded +, -: 2 screw terminals each for 0.2 ... 4 mm ²

<ul style="list-style-type: none"> • Auxiliary 	13, 14 (alarm signal): 1 screw terminal each for 0.14 ... 1.5 mm ² ; 15, 16 (Remote): 1 screw terminal each for 0.14 ... 1.5 mm ²
width of the enclosure	70 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
electrical accessories	Buffer module
mechanical accessories	Device identification label 20 mm × 7 mm, pale turquoise 3RT1900-1SB20
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)