



SITOP PSU300S/3AC/24VDC/20A

SITOP PSU300S 20 A Stabilized
power supply input: 3 AC 400-
500 V output: 24 V DC/20 A

Input	
Input	3-phase AC
Rated voltage value V_{in} rated	400 ... 500 V
Voltage range AC	340 ... 550 V
Wide-range input	Yes
Mains buffering	at $V_{in} = 400$ V
Mains buffering at I_{out} rated, min.	6 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	1.2 A
• at rated input voltage 500 V	1 A
Switch-on current limiting (+25 °C), max.	36 A
I^2t , max.	0.9 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-listed, DIVQ)
Output	
Output	Controlled, isolated DC voltage
Rated voltage V_{out} DC	24 V
Total tolerance, static $\pm$	3 %
Static mains compensation, approx.	0.5 %
Static load balancing, approx.	1 %
Residual ripple peak-peak, max.	150 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	240 mV
Adjustment range	24 ... 28 V
product function output voltage adjustable	Yes
Output voltage setting	via potentiometer; max. 480 W
Status display	Green LED for 24 V OK
Signaling	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"
On/off behavior	No overshoot of V_{out} (soft start)
Startup delay, max.	1.5 s
Voltage rise, typ.	30 ms
voltage increase time of the output voltage maximum	500 ms

Rated current value I _{out} rated	20 A
Current range	0 ... 20 A
• Note	24 A up to +45°C; +60 ... +70 °C: Derating 2%/K
supplied active power typical	480 W
short-term overload current	
• on short-circuiting during the start-up typical	35 A
• at short-circuit during operation typical	35 A
duration of overloading capability for excess current	
• on short-circuiting during the start-up	100 ms
• at short-circuit during operation	100 ms
Parallel switching for enhanced performance	Yes
Numbers of parallel switchable units for enhanced performance	2
Efficiency	
Efficiency at V _{out} rated, I _{out} rated, approx.	91 %
Power loss at V _{out} rated, I _{out} rated, approx.	47 W
Closed-loop control	
Dynamic mains compensation (V _{in} rated ±15 %), max.	3 %
Dynamic load smoothing (I _{out} : 50/100/50 %), U _{out} ± typ.	3 %
Load step setting time 50 to 100%, typ.	2 ms
Load step setting time 100 to 50%, typ.	2 ms
Dynamic load smoothing (I _{out} : 10/90/10 %), U _{out} ± typ.	3 %
Load step setting time 10 to 90%, typ.	2 ms
Load step setting time 90 to 10%, typ.	2 ms
setting time maximum	10 ms
Protection and monitoring	
Output overvoltage protection	protection against overvoltage in case of internal fault V _{out} < 35 V
Current limitation, typ.	25.5 A
property of the output short-circuit proof	Yes
Short-circuit protection	Electronic shutdown, automatic restart
enduring short circuit current RMS value	
• maximum	7 A
overcurrent overload capability in normal operation	overload capability 150 % I _{out} rated up to 5 s/min
Safety	
Primary/secondary isolation	Yes
galvanic isolation	Safety extra-low output voltage U _{out} acc. to EN 60950-1 and EN 50178, transformer acc. to EN 61558-2-16
Protection class	Class I
leakage current	
• maximum	3.5 mA
• typical	1 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; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
Explosion protection	IECEx Ex nA nC IIC T4 Gc; ATEX (EX) II 3G Ex nAC IIC T4 Gc; 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	

- 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	
Supply input	L1, L2, L3, PE: 1 screw terminal each for 0.5 ... 4 mm ² single-core/finely stranded
Output	+, -: 2 screw terminals each for 0.2 ... 4 mm ²
Auxiliary	13, 14 (alarm signal): 1 screw terminal each for 0.05 ... 2.5 mm ²
width of the enclosure	90 mm
height of the enclosure	145 mm
depth of the enclosure	150 mm
required spacing	
top	40 mm
bottom	40 mm
left	0 mm
right	0 mm
Weight, approx.	1.6 kg
product feature of the enclosure housing can be lined up	Yes
Installation	Snaps onto DIN rail EN 60715 35x7.5/15
electrical accessories	Redundancy module, buffer module, selectivity module, DC UPS
mechanical accessories	Device identification label 20 mm × 7 mm, pale turquoise 3RT1900-1SB20
MTBF at 40 °C	500 000 h
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)

