

SITOP PSU300S/3AC/24VDC/40A



SITOP PSU300S 40A Stabilized  
power supply input: 3 AC 400-  
500 V output: 24 V DC/40 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	2 A
• at rated input voltage 500 V	1.7 A
Switch-on current limiting (+25 °C), max.	60 A
$I^2t$ , max.	3.4 A <sup>2</sup> ·s
Built-in incoming fuse	none
Protection in the mains power input (IEC 898)	Required: 3-pole connected miniature circuit breaker 10 ... 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.	1 %
Static load balancing, approx.	2 %
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. 960 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.	15 ms
voltage increase time of the output voltage maximum	500 ms

Rated current value lout rated	40 A
Current range	0 ... 40 A
• Note	48 A up to +45°C; +60 ... +70 °C: Derating 3%/K
supplied active power typical	960 W
short-term overload current	
• on short-circuiting during the start-up typical	65 A
• at short-circuit during operation typical	65 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
<b>Efficiency</b>	
Efficiency at Vout rated, lout rated, approx.	91.5 %
Power loss at Vout rated, lout rated, approx.	89 W
<b>Closed-loop control</b>	
Dynamic mains compensation (Vin rated ±15 %), max.	3 %
Dynamic load smoothing (lout: 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
Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.	3 %
Load step setting time 10 to 90%, typ.	1 ms
Load step setting time 90 to 10%, typ.	1 ms
setting time maximum	10 ms
<b>Protection and monitoring</b>	
Output overvoltage protection	protection against overvoltage in case of internal fault Vout < 35 V
Current limitation, typ.	50 A
property of the output short-circuit proof	Yes
Short-circuit protection	Electronic shutdown, automatic restart
enduring short circuit current RMS value	
• maximum	14 A
overcurrent overload capability in normal operation	overload capability 150 % lout rated up to 5 s/min
<b>Safety</b>	
Primary/secondary isolation	Yes
galvanic isolation	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178, transformer acc. to EN 61558-2-16
Protection class	Class I
Degree of protection (EN 60529)	IP20
<b>Approvals</b>	
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 T3 Gc; ATEX (EX) II 3G Ex nA nC IIC T3 Gc; cCSAus (CSA C22.2 No. 213, ANSI/ISA-12.12.01) Class I, Div. 2, Group ABCD, T3
certificate of suitability NEC Class 2	No
FM approval	-
CB approval	Yes
Marine approval	ABS, DNV GL
<b>EMC</b>	
Emitted interference	EN 55022 Class B
Supply harmonics limitation	EN 61000-3-2
Noise immunity	EN 61000-6-2
<b>environmental conditions</b>	
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, 5 ... 95% no condensation
<b>Mechanics</b>	
Connection technology	screw-type terminals
Connections	
• Supply input	L1, L2, L3, PE: 1 screw terminal each for 0.5 ... 4 mm <sup>2</sup> single-core/finely stranded
• Output	+, -: 2 screw terminals each for 0.5 ... 10 mm <sup>2</sup>
• Auxiliary	13, 14 (alarm signal): 1 screw terminal each for 0.05 ... 2.5 mm <sup>2</sup>
width of the enclosure	145 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.	3.1 kg
product feature of the enclosure housing can be lined up	Yes
Installation	Snaps onto DIN rail EN 60715 35x15
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)

