

SITOP PSU300S 40A STABILIZED POWER SUPPLY INPUT: 400-500 V 3AC OUTPUT: 24 V DC/40 A



Technical specifications

Product	SITOP PSU300S
Power supply, type	24 V/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 I_{out} rated, min.	6 ms; at $V_{in} = 400$ V
Rated line frequency	50 ... 60 Hz
Rated line range	47 ... 63 Hz
Input current at rated input voltage 400 V Rated value	2 A
Input current at rated input voltage 500 V Rated value	1.7 A
Switch-on current limiting (+25 °C), max.	60 A
I^2t , max.	3.4 A ² ·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)

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 Vout (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 Iout rated	40 A
Current range	0 ... 40 A
• Note	48 A up to +45°C; +60 ... +70 °C: Derating 2.5%/K
Active power supplied typical	960 W
Short-term overload current on short-circuiting during the start-up typical	65 A
Duration of overloading capability for excess current on short-circuiting during the start-up	120 ms
Short-term overload current at short-circuit during operation typical	65 A
Duration of overloading capability for excess current at short-circuit during operation	120 ms
Parallel switching for enhanced performance	Yes
Numbers of parallel switchable units for enhanced performance	2

Efficiency

Efficiency at Vout rated, Iout rated, approx.	91.5 %
Power loss at Vout rated, Iout rated, approx.	89 W

Closed-loop control

Dynamic mains compensation (Vin rated ±15 %), max.	3 %
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	10 ms

Protection and monitoring

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 % 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
Protection class	Class I
CE mark	Yes
UL/CSA approval	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	ATEX (EX) II 3G Ex nA nC IIC T3; cCSAus (CSA C22.2 No. 213, ANSI/ISA-12.12.01) Class I, Div. 2, Group ABCD, T3
Certificate of suitability IECEx	No
Certificate of suitability NEC Class 2	No
FM approval	-
CB approval	Yes
Marine approval	GL, ABS
Degree of protection (EN 60529)	IP20

EMC

Emitted interference	EN 55022 Class B
Supply harmonics limitation	EN 61000-3-2
Noise immunity	EN 61000-6-2

Operating data

Ambient temperature during operation	0 ... 70 °C
• Note	with natural convection
Ambient temperature during transport	-40 ... +85 °C
Ambient temperature 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	L1, L2, L3, PE: 1 screw terminal each for 0.2 ... 4 mm ² single-core/finely stranded
Connections Output	+, -: 2 screw terminals each for 0.5 ... 10 mm ²
Connections Auxiliary	13, 14 (alarm signal): 1 screw terminal each for 0.14 ... 1.5 mm ²
Width of the enclosure	150 mm
Height of the enclosure	145 mm
Depth of the enclosure	150 mm
Weight, approx.	3.7 kg
Product property of the enclosure housing for side-by-side mounting	Yes

Installation	Snaps onto DIN rail EN 60715 35x15
Electrical accessories	Buffer module
Mechanical accessories	Device identification label 20 mm × 7 mm, pastel-turquoise 3RT1900-1SB20
Other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)