

SIPLUS PSU300S 20 A
SIPLUS PS PSU300S 20 A for medial exposure -40°C...+70°C based on 6EP1436-2BA10. Stabilized power supplies Input: 3 AC 400-500V Output: DC 24V/20A



Figure similar

Input	
Input	3-phase AC
Rated voltage value Vin rated	400 ... 500 V
Voltage range AC	340 ... 550 V
Wide-range input	Yes
Mains buffering	at Vin = 400 V
Mains buffering at lout rated, min.	6 ms; at Vin = 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
I²t, max.	0.9 A²·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)
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Output	
Output	Controlled, isolated DC voltage
Rated voltage Vout 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 Vout (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 Iout 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 Vout rated, Iout rated, approx.	91 %
Power loss at Vout rated, Iout rated, approx.	47 W

Closed-loop control	
Dynamic mains compensation (Vin rated ± 15 %), max.	3 %
Dynamic load smoothing (Iout: 50/100/50 %), Uout $\pm$ typ.	3 %
Load step setting time 50 to 100%, typ.	2 ms
Load step setting time 100 to 50%, typ.	2 ms

Setting time maximum	10 ms
Protection and monitoring	
Output overvoltage protection	protection against overvoltage in case of internal fault $V_{out} < 35\text{ V}$
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
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	-40 ... +70 °C
— Note	with natural convection
• during transport	-40 ... +85 °C
• during storage	-40 ... +85 °C
Humidity class according to EN 60721	Climate class 3K8H
Ambient condition relating to ambient temperature - air pressure - installation altitude	In case of operation at altitudes of 2000 - 6000 m above sea level: Output power derating of -7.5 %/1000 m or reduction of the ambient temperature by 5 K/1000 m
Relative humidity with condensation maximum	100 %; Relative humidity, incl. condensation/frost permitted (no commissioning under condensation conditions)
Ambient temperature in horizontal mounting position during operation minimum	-25 °C
Ambient temperature in horizontal mounting position during operation maximum	70 °C; with natural convection
Ambient temperature during storage and transport	-40 ... +85

Installation altitude at height above sea level maximum	6 000 m
Ambient condition relating to ambient temperature - air pressure - installation altitude	In case of operation at altitudes of 2000 - 6000 m above sea level: Output power derating of -7.5 %/1000 m or reduction of the ambient temperature by 5 K/1000 m
Relative humidity with condensation acc. to IEC 60068-2-38 maximum	100 %; RH incl. condensation/frost (no commissioning if condensation is present), horizontal installation
Chemical resistance to commercially available cooling lubricants	Yes; incl. diesel and oil droplets in the air; Class 3B2 mold, fungal, sponge spores (except fauna); class 3B3 upon request
Resistance to biologically active substances conformity acc. to EN 60721-3-3	Yes
Resistance to chemically active substances conformity acc. to EN 60721-3-3	Yes; Class 3C4 (RH < 75%) incl. salt spray acc. to EN 60068-2-52 (severity level 3)
Resistance to mechanically active substances conformity acc. to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust
Resistance to biologically active substances conformity acc. to EN 60721-3-6	Yes; Class 6B2 mold, fungal, sponge spores (except fauna)
Resistance to chemically active substances conformity acc. to EN 60721-3-6	Yes; Class 6C3 (RH < 75%) incl. salt spray acc. to EN 60068-2-52 (severity level 3)
Resistance to mechanically active substances conformity acc. to EN 60721-3-6	Yes; Class 6S3 incl. sand, dust
Coating for equipped printed circuit board acc. to EN 61086	Yes; Class 2 for high availability
Type of coating protection against pollution according to EN 60664-3	Yes; Type 1 protection
Type of test of the coating acc. to MIL-I-46058C	Yes; Discoloration of the coating during service life possible
Product conformity of the coating Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies acc. to IPC-CC-830A	Yes; Conformal Coating, Class A

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 for side-by-side mounting	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)