SIEMENS

Data sheet 6EP1437-2BA20

SITOP PSU300S/3AC/24VDC/40A

SITOP PSU300S 40 A stabilized power supply input: 400-500 V 3 AC output: 24 V DC/40 A *Ex approval no longer available*

Input	
type of the power supply network	3-phase AC
supply voltage at AC	
● minimum rated value	400 V
● maximum rated value	500 V
● initial value	340 V
● full-scale value	550 V
design of input wide range input	Yes
operating condition of the mains buffering	at Vin = 400 V
buffering time for rated value of the output current in the event of power failure minimum	6 ms
operating condition of the mains buffering	at Vin = 400 V
line frequency	
● 1 rated value	50 Hz
● 2 rated value	60 Hz
line frequency	47 ... 63 Hz
input current	
● at rated input voltage 400 V	2 A
● at rated input voltage 500 V	1.7 A
current limitation of inrush current at 25 °C maximum	60 A
I2t value maximum	3.4 $A^2 \cdot s$
fuse protection type	none
● in the feeder	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	
voltage curve at output	Controlled, isolated DC voltage
output voltage at DC rated value	24 V
output voltage	
● at output 1 at DC rated value	24 V
relative overall tolerance of the voltage	3 %
relative control precision of the output voltage	
● on slow fluctuation of input voltage	1 %
● on slow fluctuation of ohm loading	2 %
residual ripple	
● maximum	150 mV
voltage peak	
● maximum	240 mV
adjustable output voltage	24 ... 28 V
product function output voltage adjustable	Yes
type of output voltage setting	via potentiometer; max. 960 W

display version for normal operation	Green LED for 24 V OK
type of signal at output	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"
behavior of the output voltage when switching on	No overshoot of Vout (soft start)
response delay maximum	1.5 s
voltage increase time of the output voltage	
● typical	15 ms
● maximum	500 ms
output current	
● rated value	40 A
● rated range	0 ... 40 A; 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
product feature	
● bridging of equipment	Yes
number of parallel-switched equipment resources for increasing the power	2
Efficiency	
efficiency in percent	91.5 %
power loss [W]	
● at rated output voltage for rated value of the output current typical	89 W
Closed-loop control	
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	3 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	1.5 %
setting time	
● load step 50 to 100% typical	1 ms
● load step 100 to 50% typical	1 ms
relative control precision of the output voltage at load step of resistive load 10/90/10 % typical	3 %
setting time	
● load step 10 to 90% typical	1 ms
● load step 90 to 10% typical	1 ms
● maximum	10 ms
Protection and monitoring	
design of the overvoltage protection	protection against overvoltage in case of internal fault Vout < 35 V
● typical	50 A
property of the output short-circuit proof	Yes
design of 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 % Iout rated up to 5 s/min
Safety	
galvanic isolation between input and output	Yes
galvanic isolation	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178, transformer acc. to EN 61558-2-16
operating resource protection class	Class I
protection class IP	IP20
Approvals	
certificate of suitability	
● CE marking	Yes
● UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
● CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
● cCSAus, Class 1, Division 2	No
● ATEX	No

certificate of suitability	
● IECEx	No
● NEC Class 2	No
● ULhazloc approval	No
● FM registration	No
type of certification CB-certificate	Yes
certificate of suitability	
● EAC approval	Yes
certificate of suitability shipbuilding approval	Yes
shipbuilding approval	ABS, DNV GL
Marine classification association	
● American Bureau of Shipping Europe Ltd. (ABS)	Yes
● French marine classification society (BV)	No
● DNV GL	Yes
● Lloyds Register of Shipping (LRS)	No
● Nippon Kaiji Kyokai (NK)	No
EMC	
standard	
● for emitted interference	EN 55022 Class B
● for mains harmonics limitation	EN 61000-3-2
● for interference immunity	EN 61000-6-2
environmental conditions	
ambient temperature	
● during operation	-25 ... +70 °C; with natural convection
● during transport	-40 ... +85 °C
● during storage	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 … 95% no condensation
Mechanics	
type of electrical connection	screw-type terminals
● at input	L1, L2, L3, PE: 1 screw terminal each for 0.5 ... 4 mm² single-core/finely stranded
● at output	+, -: 2 screw terminals each for 0.5 ... 10 mm²
● for auxiliary contacts	13, 14 (alarm signal): 1 screw terminal each for 0.05 ... 2.5 mm²
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
net weight	3.1 kg
product feature of the enclosure housing can be lined up	Yes
fastening method	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)