



SITOP PSU100S/1AC/24VDC/20A

SITOP PSU100S 20 A stabilized power supply input: 120/230 V AC output: 24 V DC/20 A

input	
type of the power supply network	1-phase AC
supply voltage at AC	Automatic range selection
supply voltage	120 V/230 V
input voltage 1 at AC	85 ... 132 V
input voltage 2 at AC	176 ... 264 V
wide range input	No
overvoltage overload capability	2.3 × Vin rated, 1.3 ms
buffering time for rated value of the output current in the event of power failure minimum	20 ms
operating condition of the mains buffering	at Vin = 120/230 V
line frequency	50/60 Hz
line frequency	47 ... 63 Hz
input current	
• at rated input voltage 120 V	7.5 A
• at rated input voltage 230 V	3.5 A
current limitation of inrush current at 25 °C maximum	11 A
I <sup>2</sup> t value maximum	10 A <sup>2</sup> ·s
fuse protection type	T 10 A (not accessible)
fuse protection type in the feeder	Recommended miniature circuit breaker: from 10 A characteristic C or circuit-breaker 3RV2411-1JA10 (120 V) or 3RV2411-1FA10 (230 V)
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
output voltage adjustable	Yes; via potentiometer
adjustable output voltage	24 ... 28 V; max. 480 W
relative overall tolerance of the voltage	3 %
relative control precision of the output voltage	
• on slow fluctuation of input voltage	0.5 %
• on slow fluctuation of ohm loading	1 %
residual ripple	
• maximum	150 mV
voltage peak	
• maximum	240 mV
display version for normal operation	Green LED for 24 V OK
type of signal at output	Relay contact (NO contact, rating 50 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	50 ms
• maximum	500 ms
output current	
• rated value	20 A
• rated range	0 ... 20 A; 24 A up to +45°C; +60 ... +70 °C: Derating 5%/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
bridging of equipment	Yes
number of parallel-switched equipment resources for increasing the power	2
<b>efficiency</b>	
efficiency in percent	90 %
power loss [W]	
• at rated output voltage for rated value of the output current typical	53 W
<b>closed-loop control</b>	
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	1 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	3 %
setting time	
• maximum	10 ms
<b>protection and monitoring</b>	
design of the overvoltage protection	Yes, according to EN 60950-1
property of the output short-circuit proof	Yes
design of short-circuit protection	Electronic shutdown, automatic restart
• typical	21 A
overcurrent overload capability	
• in normal operation	overload capability 150 % I <sub>out</sub> rated up to 5 s/min
enduring short circuit current RMS value	
• maximum	7 A
<b>safety</b>	
galvanic isolation between input and output	Yes
galvanic isolation	Safety extra-low output voltage U <sub>out</sub> acc. to EN 60950-1 and EN 50178
operating resource protection class	Class I
leakage current	
• maximum	3.5 mA
• typical	1 mA
protection class IP	IP20
<b>EMC</b>	
standard	
• for emitted interference	EN 55022 Class B
• for mains harmonics limitation	EN 61000-3-2
• for interference immunity	EN 61000-6-2
<b>standards, specifications, approvals</b>	
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)
• UKCA marking	Yes
• EAC approval	Yes
• NEC Class 2	No
type of certification	
• BIS	Yes; R-41183539

• CB-certificate	Yes
MTBF at 40 °C	1 778 916 h
<b>standards, specifications, approvals hazardous environments</b>	
certificate of suitability	
• IECEx	No
• ATEX	No
• ULhazloc approval	No
• cCSAus, Class 1, Division 2	No
• FM registration	No
<b>standards, specifications, approvals marine classification</b>	
shipbuilding approval	Yes
Marine classification association	
• American Bureau of Shipping Europe Ltd. (ABS)	No
• French marine classification society (BV)	No
• Det Norske Veritas (DNV)	Yes
• Lloyds Register of Shipping (LRS)	No
<b>standards, specifications, approvals Environmental Product Declaration</b>	
Environmental Product Declaration	Yes
global warming potential [CO2 eq]	
• total	1 707.2 kg
• during manufacturing	47.4 kg
• during operation	1 658.2 kg
• after end of life	0.72 kg
<b>ambient conditions</b>	
ambient temperature	
• during operation	0 ... 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
<b>connection method</b>	
type of electrical connection	screw terminal
• at input	L1, N, PE: 1 screw terminal each for 0.2 ... 4 mm <sup>2</sup> single-core/finely stranded
• at output	+, -: 2 screw terminals each for 0.2 ... 4 mm <sup>2</sup>
• for auxiliary contacts	13, 14 (alarm signal): 1 screw terminal each for 0.14 ... 1.5 mm <sup>2</sup>
<b>mechanical data</b>	
width × height × depth of the enclosure	115 × 145 × 150 mm
installation width × mounting height	120 mm × 245 mm
required spacing	
• top	50 mm
• bottom	50 mm
• left	0 mm
• right	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15
• DIN-rail mounting	Yes
• S7 rail mounting	No
• wall mounting	No
housing can be lined up	Yes
net weight	2.4 kg
<b>accessories</b>	
electrical accessories	Buffer module
mechanical accessories	Device identification label 20 mm × 7 mm, pale turquoise 3RT1900-1SB20
<b>further information internet links</b>	
internet link	
• to website: Industry Mall	<a href="https://mall.industry.siemens.com">https://mall.industry.siemens.com</a>
• to web page: selection aid TIA Selection Tool	<a href="https://www.siemens.com/tstcloud">https://www.siemens.com/tstcloud</a>
• to web page: power supplies	<a href="https://siemens.com/sitop">https://siemens.com/sitop</a>
• to website: CAx-Download-Manager	<a href="https://siemens.com/cax">https://siemens.com/cax</a>
• to website: Industry Online Support	<a href="https://support.industry.siemens.com">https://support.industry.siemens.com</a>
<b>additional information</b>	
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless

otherwise specified)

security information

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Classifications

	Version	Classification
eClass	14	27-04-07-01
eClass	12	27-04-07-01
eClass	9.1	27-04-07-01
eClass	9	27-04-07-01
eClass	8	27-04-90-02
eClass	7.1	27-04-90-02
eClass	6	27-04-90-02
ETIM	10	EC002540
ETIM	9	EC002540
ETIM	8	EC002540
ETIM	7	EC002540
IDEA	4	4130
UNSPSC	15	39-12-10-04

Approvals Certificates

General Product Approval



[Manufacturer Declaration](#)

[Declaration of Conformity](#)



General Product Approval

Maritime application

Environment



[Miscellaneous](#)

[BIS CRS](#)



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