



SITOP PSU400M/DC/DC/600V/24V/20A

SITOP PSU400M 20 A DC/DC converter input: 600 V DC output: 24 V DC/20 A

General information	
Technical Product Detail Page	<a href="https://l.siemens.com/1P6EP1536-3AA00">https://l.siemens.com/1P6EP1536-3AA00</a>
input	
type of the power supply network	DC voltage
supply voltage at AC	startup from 340 V DC; derating necessary at 300 ... 400 V DC and 824 ... 900 V DC
supply voltage at DC	600 V
input voltage at DC	300 ... 900 V
overvoltage overload capability	Shutdown at $V_{in} > 900$ V DC
input current at DC	
• at rated input voltage 600 V	0.85 A
current limitation of inrush current at 25 °C maximum	8 A
I <sup>2</sup> t value maximum	0.02 A <sup>2</sup> ·s
fuse protection type	yes, cut-off capacity 20 kA; L/R < 2 ms ("+" and "-" input)
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 ... 28.8 V; max. 480 W
relative overall tolerance of the voltage	3 %
relative control precision of the output voltage	
• on slow fluctuation of input voltage	0.3 %
• on slow fluctuation of ohm loading	0.3 %
residual ripple	
• maximum	150 mV
• typical	30 mV
voltage peak	
• maximum	200 mV
• typical	100 mV
display version for normal operation	Green LED for 24 V OK, green flashing LED for start delay
type of signal at output	Relay contact (NO contact, rating 60 V DC/ 0.3 A; 30 V DC/1 A) for 24 V OK
behavior of the output voltage when switching on	No overshoot of $V_{out}$ (soft start)
response delay maximum	0.1 s; 10 s adjustable using switch
voltage increase time of the output voltage	
• maximum	150 ms
output current	
• rated value	20 A

• rated range	0 ... 20 A; +60 ... +70 °C: Derating 5.5%/K
supplied active power typical	480 W
short-term overload current	
• on short-circuiting during the start-up typical	40 A
• at short-circuit during operation typical	60 A
duration of overloading capability for excess current	
• on short-circuiting during the start-up	150 ms
• at short-circuit during operation	25 ms
constant overload current	
• on short-circuiting during the start-up typical	23 A
bridging of equipment	Yes; switchable characteristic
number of parallel-switched equipment resources for increasing the power	2
<b>efficiency</b>	
efficiency in percent	95 %
power loss [W]	
• at rated output voltage for rated value of the output current typical	25 W
<b>closed-loop control</b>	
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	1.5 %
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
setting time	
• maximum	5 ms
<b>protection and monitoring</b>	
design of the overvoltage protection	< 33 V
property of the output short-circuit proof	Yes
design of short-circuit protection	Alternatively, constant current characteristic approx. 22 A or latching shutdown
• typical	22 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	
• typical	22 A
display version for overload and short circuit	LED yellow for "overload", LED red for "latching shutdown", red LED flashing for "Overtemperature"
<b>safety</b>	
galvanic isolation between input and output	Yes
galvanic isolation	Output voltage: PELV (IEC 61010-2-201)
operating resource protection class	Class I
protection class IP	IP20
<b>EMC</b>	
standard	
• for emitted interference	EN 55022 Class A (emission)
• for mains harmonics limitation	-
• 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
• UKCA marking	Yes
• EAC approval	Yes
• Regulatory Compliance Mark (RCM)	Yes
• NEC Class 2	No
type of certification	
• CB-certificate	Yes
MTBF at 40 °C	622 277 h

**standards, specifications, approvals hazardous environments**

certificate of suitability	
• IECEx	No
• ATEX	No
• ULhazloc approval	No
• FM registration	No

**standards, specifications, approvals marine classification**

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

**standards, specifications, approvals Environmental Product Declaration**

Environmental Product Declaration	Yes
global warming potential [CO2 eq]	
• total	662.3 kg
• during manufacturing	28.7 kg
• during operation	633.1 kg
• after end of life	0.24 kg

**ambient 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

**connection method**

type of electrical connection	screw terminal
• at input	DC input, +, -, PE: 1 screw terminal each for 0.2 ... 6/4 mm <sup>2</sup> single-core/finely stranded
• at output	+, -: 2 screw terminals each for 0.2 ... 6/4 mm <sup>2</sup> single-core/finely stranded
• for auxiliary contacts	Alarm signals: 2 screw terminals for 0.14 ... 1.5 mm <sup>2</sup> single-core/finely stranded

**mechanical data**

width × height × depth of the enclosure	90 × 125 × 125 mm
installation width × mounting height	90 mm × 225 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	1.2 kg

**accessories**

mechanical accessories	Device identification label 20 mm × 7 mm, pale turquoise 3RT1900-1SB20
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**further information internet links**

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>

**additional information**

other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
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**security information**

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**

Environmental Product Declaration

- global warming potential [CO2 eq] / during manufacturing 28.7 kg
- global warming potential [CO2 eq] / during operation 633.1 kg
- global warming potential [CO2 eq] / after end of life 0.24 kg
- global warming potential [CO2 eq] / total 662.3 kg

**Environment**

**General Product Approval**



[Manufacturer Declaration](#)

[Declaration of Conformity](#)



**General Product Approval**

**Maritime application**

[China RoHS](#)



last modified:

5/5/2026