



SIMATIC PS307/1AC/24VDC/2A

SIMATIC S7-300 Regulated power supply PS307 input: 120/230 V AC, output: 24 V DC/2 A

Technical Product Detail Page

<https://i.siemens.com/1P6ES7307-1BA01-0AA0>

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	170 ... 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 = 93/187 V
line frequency	50/60 Hz
line frequency	47 ... 63 Hz
input current	
• at rated input voltage 120 V	0.9 A
• at rated input voltage 230 V	0.5 A
current limitation of inrush current at 25 °C maximum	22 A
duration of inrush current limiting at 25 °C	
• maximum	3 ms
I <sup>2</sup> t value maximum	1 A <sup>2</sup> ·s
fuse protection type	T 1.6 A/250 V (not accessible)
fuse protection type in the feeder	Recommended miniature circuit breaker: 3 A characteristic C
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	No; -
relative overall tolerance of the voltage	3 %
relative control precision of the output voltage	
• on slow fluctuation of input voltage	0.1 %
• on slow fluctuation of ohm loading	0.2 %
residual ripple	
• maximum	50 mV
• typical	5 mV
voltage peak	
• maximum	150 mV
• typical	20 mV

display version for normal operation	Green LED for 24 V OK
behavior of the output voltage when switching on	No overshoot of Vout (soft start)
response delay maximum	2 s
voltage increase time of the output voltage <ul style="list-style-type: none"> <li>• typical</li> </ul>	10 ms
output current <ul style="list-style-type: none"> <li>• rated value</li> <li>• rated range</li> </ul>	2 A 0 ... 2 A
supplied active power typical	48 W
short-term overload current <ul style="list-style-type: none"> <li>• on short-circuiting during the start-up typical</li> <li>• at short-circuit during operation typical</li> </ul>	9 A 9 A
duration of overloading capability for excess current <ul style="list-style-type: none"> <li>• on short-circuiting during the start-up</li> <li>• at short-circuit during operation</li> </ul>	90 ms 90 ms
bridging of equipment	Yes
number of parallel-switched equipment resources for increasing the power	2
<b>efficiency</b>	
efficiency in percent	84 %
power loss [W] <ul style="list-style-type: none"> <li>• at rated output voltage for rated value of the output current typical</li> </ul>	9 W
<b>closed-loop control</b>	
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	0.1 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	0.8 %
setting time <ul style="list-style-type: none"> <li>• load step 50 to 100% typical</li> <li>• load step 100 to 50% typical</li> </ul>	0.5 ms 0.5 ms
setting time <ul style="list-style-type: none"> <li>• maximum</li> </ul>	1 ms
<b>protection and monitoring</b>	
design of the overvoltage protection	Additional control loop, shutdown at < 28.8 V, automatic restart
property of the output short-circuit proof	Yes
design of short-circuit protection	Electronic shutdown, automatic restart
response value current limitation	2.2 ... 2.6 A
enduring short circuit current RMS value <ul style="list-style-type: none"> <li>• maximum</li> </ul>	2 A
<b>safety</b>	
galvanic isolation between input and output	Yes
galvanic isolation	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178
operating resource protection class	Class I
leakage current <ul style="list-style-type: none"> <li>• maximum</li> <li>• typical</li> </ul>	3.5 mA 0.5 mA
protection class IP	IP20
<b>EMC</b>	
standard <ul style="list-style-type: none"> <li>• for emitted interference</li> <li>• for mains harmonics limitation</li> <li>• for interference immunity</li> </ul>	EN 55022 Class B not applicable EN 61000-6-2
<b>standards, specifications, approvals</b>	
certificate of suitability <ul style="list-style-type: none"> <li>• CE marking</li> <li>• UL approval</li> <li>• UKCA marking</li> <li>• EAC approval</li> </ul>	Yes Yes; cULus-Listed (UL 508, CSA C22.2 No. 142), File E143289 Yes Yes

• NEC Class 2	No
type of certification	
• CB-certificate	Yes
MTBF at 40 °C	2 320 078 h
<b>standards, specifications, approvals hazardous environments</b>	
certificate of suitability	
• IECEx	Yes; IECEx Ex nA nC IIC T4 Gc
• ATEX	Yes; ATEX (EX) II 3G Ex nA nC IIC T4 Gc
• ULhazloc approval	Yes
• UKEX	Yes
• CCC for hazardous zone according to GB standard	Yes
• FM registration	Yes; Class I, Div. 2, Group ABCD, T4
<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)	Yes
<b>standards, specifications, approvals Environmental Product Declaration</b>	
Environmental Product Declaration	Yes
global warming potential [CO2 eq]	
• total	254.1 kg
• during manufacturing	7.6 kg
• during operation	246.2 kg
• after end of life	0.28 kg
<b>ambient conditions</b>	
ambient temperature	
• during operation	0 ... 60 °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	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm <sup>2</sup> single-core/finely stranded
• at output	L+, M: 2 screw terminals each for 0.5 ... 2.5 mm <sup>2</sup>
• for auxiliary contacts	-
<b>mechanical data</b>	
width × height × depth of the enclosure	40 × 125 × 120 mm
installation width × mounting height	40 mm × 205 mm
required spacing	
• top	40 mm
• bottom	40 mm
• left	0 mm
• right	0 mm
fastening method	Can be mounted onto S7 rail
• DIN-rail mounting	No
• S7 rail mounting	Yes
• wall mounting	No
housing can be lined up	Yes
net weight	0.4 kg
<b>accessories</b>	
mechanical accessories	Mounting adapter for standard mounting rail (6EP1971-1BA00)
<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 website: CAx-Download-Manager	<a href="https://siemens.com/cax">https://siemens.com/cax</a>

• to website: Industry Online Support

<https://support.industry.siemens.com>

**additional information**

other information

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

**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**

**General Product Approval**



[Manufacturer Declaration](#)

[Declaration of Conformity](#)

[China RoHS](#)

**General Product Approval**

**EMV**

**For use in hazardous locations**



**For use in hazardous locations**

**Maritime application**



[FM](#)

[CCC-Ex](#)



Maritime application



[NK / Nippon Kaiji Kyokai](#)



Maritime application

Environment

[CCS \(China Classification Society\)](#)



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