



SIMATIC PS307/1AC/24VDC/2A

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

General information	
Technical Product Detail Page	https://l.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 ² t value maximum	1 A ² ·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	
• typical	10 ms
output current	
• rated value	2 A
• rated range	0 ... 2 A
supplied active power typical	48 W
short-term overload current	
• on short-circuiting during the start-up typical	9 A
• at short-circuit during operation typical	9 A
duration of overloading capability for excess current	
• on short-circuiting during the start-up	90 ms
• at short-circuit during operation	90 ms
bridging of equipment	Yes
number of parallel-switched equipment resources for increasing the power	2
efficiency	
efficiency in percent	84 %
power loss [W]	
• at rated output voltage for rated value of the output current typical	9 W
closed-loop control	
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	
• load step 50 to 100% typical	0.5 ms
• load step 100 to 50% typical	0.5 ms
setting time	
• maximum	1 ms
protection and monitoring	
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	
• maximum	2 A
safety	
galvanic isolation between input and output	Yes
galvanic isolation	Output voltage: SELV, ES1 (IEC 62368-1), DVC As (IEC 61204-7)
operating resource protection class	Class I
leakage current	
• maximum	3.5 mA
• typical	0.5 mA
protection class IP	IP20
EMC	
standard	
• for emitted interference	EN 55022 Class B
• for mains harmonics limitation	not applicable
• for interference immunity	EN 61000-6-2
standards, specifications, approvals	
certificate of suitability	
• CE marking	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 142), File E143289
• UKCA marking	Yes

<ul style="list-style-type: none"> • EAC approval 	Yes
<ul style="list-style-type: none"> • NEC Class 2 	No
type of certification	
<ul style="list-style-type: none"> • CB-certificate 	Yes
MTBF at 40 °C	2 320 078 h
standards, specifications, approvals hazardous environments	
certificate of suitability	
<ul style="list-style-type: none"> • IECEx 	Yes; IECEx Ex nA nC IIC T4 Gc
<ul style="list-style-type: none"> • ATEX 	Yes; ATEX (EX) II 3G Ex nA nC IIC T4 Gc
<ul style="list-style-type: none"> • ULhazloc approval 	Yes
<ul style="list-style-type: none"> • UKEX 	Yes
<ul style="list-style-type: none"> • CCC for hazardous zone according to GB standard 	Yes
<ul style="list-style-type: none"> • FM registration 	Yes; Class I, Div. 2, Group ABCD, T4
standards, specifications, approvals marine classification	
shipbuilding approval	Yes
Marine classification association	
<ul style="list-style-type: none"> • American Bureau of Shipping Europe Ltd. (ABS) 	No
<ul style="list-style-type: none"> • French marine classification society (BV) 	No
<ul style="list-style-type: none"> • Det Norske Veritas (DNV) 	Yes
<ul style="list-style-type: none"> • Lloyds Register of Shipping (LRS) 	Yes
standards, specifications, approvals Environmental Product Declaration	
Environmental Product Declaration	Yes
global warming potential [CO2 eq]	
<ul style="list-style-type: none"> • total 	254 kg
<ul style="list-style-type: none"> • during manufacturing 	7.6 kg
<ul style="list-style-type: none"> • during operation 	246.1 kg
<ul style="list-style-type: none"> • after end of life 	0.28 kg
ambient conditions	
ambient temperature	
<ul style="list-style-type: none"> • during operation 	0 ... 60 °C; with natural convection
<ul style="list-style-type: none"> • during transport 	-40 ... +85 °C
<ul style="list-style-type: none"> • 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
<ul style="list-style-type: none"> • at input 	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm ² single-core/finely stranded
<ul style="list-style-type: none"> • at output 	L+, M: 2 screw terminals each for 0.5 ... 2.5 mm ²
<ul style="list-style-type: none"> • for auxiliary contacts 	-
mechanical data	
width × height × depth of the enclosure	40 × 125 × 120 mm
installation width × mounting height	40 mm × 205 mm
required spacing	
<ul style="list-style-type: none"> • top 	40 mm
<ul style="list-style-type: none"> • bottom 	40 mm
<ul style="list-style-type: none"> • left 	0 mm
<ul style="list-style-type: none"> • right 	0 mm
fastening method	Can be mounted onto S7 rail
<ul style="list-style-type: none"> • DIN-rail mounting 	No
<ul style="list-style-type: none"> • S7 rail mounting 	Yes
<ul style="list-style-type: none"> • wall mounting 	No
housing can be lined up	Yes
net weight	0.4 kg
accessories	
mechanical accessories	Mounting adapter for standard mounting rail (6EP1971-1BA00)
further information internet links	
internet link	
<ul style="list-style-type: none"> • to website: Industry Mall 	https://mall.industry.siemens.com
<ul style="list-style-type: none"> • to web page: selection aid TIA Selection Tool 	https://www.siemens.com/tstcloud

- to website: CAx-Download-Manager
- to website: Industry Online Support

<https://siemens.com/cax>

<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

Environmental Product Declaration

- global warming potential [CO2 eq] / during manufacturing 7.6 kg
- global warming potential [CO2 eq] / during operation 246.1 kg
- global warming potential [CO2 eq] / after end of life 0.28 kg
- global warming potential [CO2 eq] / total 254 kg

Environment

General Product Approval



[Manufacturer Declaration](#)

[Declaration of Conformity](#)

General Product Approval

EMV

For use in hazardous locations

[China RoHS](#)



For use in hazardous locations

Miscellaneous



FM

[CCC-Ex](#)



Maritime application



[NK / Nippon Kaiji Kyokai](#)



Maritime application



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

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