SIEMENS

Data sheet 6ES7307-1BA01-0AA0



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://i.siemens.com/1P6ES7307-1BA01-0AA0
product brand name	SIMATIC
product type designation	PS307
product designation	Power supply S7-300
type of current supply	24 V/2 A
input	
type of the power supply network	1-phase AC
phase number	1
voltage curve at input	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
supply voltage	
● at 50 Hz	230 V
● at 60 Hz	120 V
line frequency	50/60 Hz
line frequency	47 ... 63 Hz
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
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
I2t value maximum	1 A²·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
product function output voltage controlled	Yes
product function output voltage stabilized	Yes
output voltage at DC rated value	24 V
output voltage	

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● at output 1 at DC rated value	24 V
output voltage	
● at output 1 at DC	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

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● 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
● EAC approval	Yes
● NEC Class 2	No
type of certification	
● CB-certificate	Yes
MTBF at 40 °C	2 320 078 h
standards, specifications, approvals hazardous environments	
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
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)	Yes
standards, specifications, approvals Environmental Product Declaration	
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
ambient conditions	
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
connection method	
type of electrical connection	screw terminal
● at input	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm² single-core/finely stranded
● at output	L+, M: 2 screw terminals each for 0.5 ... 2.5 mm²
● 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	
● top	40 mm
● bottom	40 mm
● left	0 mm
● right	0 mm

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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
accessories	
mechanical accessories	Mounting adapter for standard mounting rail (6EP1971-1BA00)
further information internet links	
internet link	
● to website: Industry Mall	https://mall.industry.siemens.com
● to web page: selection aid TIA Selection Tool	https://www.siemens.com/tstcloud
● to website: CAx-Download-Manager	https://siemens.com/cax
● 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	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement - and continuously maintain - a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

Classifications

	Version	Classification
eClass	16	27-04-07-01
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	246.2 kg
● global warming potential [CO2 eq] / after end of life	0.28 kg
● global warming potential [CO2 eq] / total	254.1 kg

Environment	General Product Approval

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Declaration of Conformity | Manufacturer Declaration | China RoHS

General Product Approval	EMV	For use in hazardous locations

EG-Konf. | UL | CB | RCM | ATEX | IECEx

For use in hazardous locations

Miscellaneous | ATEX | FM | CCC-Ex | UL | IECEx

Maritime application

ABS | BUREAU VERITAS | DNV | LRS | NK / Nippon Kaiji Kyokai | PRS

Maritime application

RINA | CCS (China Classification Society)

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