SIEMENS

## Data sheet 6ES7307-1KA02-0AA0



SIMATIC PS307/1AC/24VDC/10A

SIMATIC S7-300 Regulated power supply PS307 input: 120/230 V AC, output: 24 V / 10 A DC

| | |
|---|---|
| **General information** | |
| Technical Product Detail Page | https://i.siemens.com/1P6ES7307-1KA02-0AA0 |
| product brand name | SIMATIC |
| product type designation | PS307 |
| product designation | Power supply S7-300 |
| type of current supply | 24 V/10 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 | 4.2 A |
| ● at rated input voltage 230 V | 1.9 A |
| current limitation of inrush current at 25 °C maximum | 55 A |
| duration of inrush current limiting at 25 °C | |
| ● maximum | 3 ms |
| I2t value maximum | 3.3 $A^2 \cdot s$ |
| fuse protection type | T 6.3 A/250 V (not accessible) |
| fuse protection type in the feeder | Recommended miniature circuit breaker: from 10 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 | 0.5 % |
| residual ripple | |
| ● maximum | 50 mV |
| ● typical | 15 mV |
| voltage peak | |
| ● maximum | 150 mV |
| ● typical | 60 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 | 10 A |
| ● rated range | 0 ... 10 A |
| supplied active power typical | 240 W |
| short-term overload current | |
| ● on short-circuiting during the start-up typical | 38 A |
| ● at short-circuit during operation typical | 38 A |
| duration of overloading capability for excess current | |
| ● on short-circuiting during the start-up | 80 ms |
| ● at short-circuit during operation | 80 ms |
| bridging of equipment | Yes |
| **efficiency** | |
| efficiency in percent | 90 % |
| power loss [W] | |
| ● at rated output voltage for rated value of the output current typical | 27 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 | 2 % |
| setting time | |
| ● maximum | 0.1 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 | 11 ... 12 A |
| enduring short circuit current RMS value | |
| ● maximum | 12 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 | 0.6 mA |
| protection class IP | IP20 |
| **EMC** | |
| standard | |


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|---|---|
| ● for emitted interference | EN 55022 Class B |
| ● for mains harmonics limitation | EN 61000-3-2 |
| ● 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 | |
| ● BIS | Yes; R-41183539 |
| ● CB-certificate | Yes |
| MTBF at 40 °C | 1 504 280 h |
| **standards, specifications, approvals hazardous environments** | |
| certificate of suitability | |
| ● IECEx | Yes; IECEx Ex nA nC IIC T3 Gc |
| ● ATEX | Yes; ATEX (EX) II 3G Ex nA nC IIC T3 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 | 754.4 kg |
| ● during manufacturing | 15.1 kg |
| ● during operation | 738.5 kg |
| ● after end of life | 0.55 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: 4 screw terminals each for 0.5 ... 2.5 mm² |
| ● for auxiliary contacts | - |
| **mechanical data** | |
| width × height × depth of the enclosure | 80 × 125 × 120 mm |
| installation width × mounting height | 80 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 |


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|---|---|
| ● wall mounting | No |
| housing can be lined up | Yes |
| net weight | 0.8 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 | 15.1 kg |
| ● global warming potential [CO2 eq] / during operation | 738.5 kg |
| ● global warming potential [CO2 eq] / after end of life | 0.55 kg |
| ● global warming potential [CO2 eq] / total | 754.4 kg |

| Environment | General Product Approval |
|---|---|


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Manufacturer Declaration

Declaration of Conformity

| General Product Approval | | | | EMV | For use in hazardous locations |
|---|---|---|---|---|---|
| China RoHS | UL | CB | BIS CRS | RCM | ATEX |

| For use in hazardous locations | | | | | Maritime application |
|---|---|---|---|---|---|
| IECEx | Miscellaneous | FM | CCC-Ex | UL | ABS |

| Maritime application | | | | | |
|---|---|---|---|---|---|
| BUREAU VERITAS | DNV | LRS | NK / Nippon Kaiji Kyokai | PRS | RINA |

| Maritime application |
|---|
| CCS (China Classification Society) |

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