

POWER SUPPLY PS307 24 V/2 A
 SIMATIC S7-300 stabilized power supply PS307 input: 120/230 V AC
 output: 24 V DC/2 A



| Input | |
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| Input | 1-phase AC |
| Supply voltage | |
| <ul style="list-style-type: none"> • 1 at AC Rated value • 2 at AC Rated value • Note | 120 V 230 V Automatic range selection |
| Input voltage | |
| <ul style="list-style-type: none"> • 1 at AC • 2 at AC | 85 ... 132 V 170 ... 264 V |
| Wide-range input | No |
| Overvoltage resistance | 2.3 × Vin rated, 1.3 ms |
| Mains buffering at lout rated, min. | 20 ms; at Vin = 93/187 V |
| Rated line frequency 1 | 50 Hz |
| Rated line frequency 2 | 60 Hz |
| Rated line range | 47 ... 63 Hz |
| Input current | |
| <ul style="list-style-type: none"> • at rated input voltage 120 V • at rated input voltage 230 V | 0.9 A 0.5 A |
| Switch-on current limiting (+25 °C), max. | 22 A |

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| Duration of inrush current limiting at 25 °C | |
| • maximum | 3 ms |
| I ² t, max. | 1 A ² ·s |
| Built-in incoming fuse | T 1.6 A/250 V (not accessible) |
| Protection in the mains power input (IEC 898) | Recommended miniature circuit breaker: 3 A characteristic C |

Output

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| Output | Controlled, isolated DC voltage |
| Rated voltage V _{out} DC | 24 V |
| Total tolerance, static ± | 3 % |
| Static mains compensation, approx. | 0.1 % |
| Static load balancing, approx. | 0.2 % |
| Residual ripple peak-peak, max. | 50 mV |
| Residual ripple peak-peak, typ. | 5 mV |
| Spikes peak-peak, max. (bandwidth: 20 MHz) | 150 mV |
| Spikes peak-peak, typ. (bandwidth: 20 MHz) | 20 mV |
| Product function Output voltage adjustable | No |
| Output voltage setting | - |
| Status display | Green LED for 24 V OK |
| On/off behavior | No overshoot of V _{out} (soft start) |
| Startup delay, max. | 2 s |
| Voltage rise, typ. | 10 ms |
| Rated current value I _{out} rated | 2 A |
| Current 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 |
| Parallel switching for enhanced performance | Yes |
| Numbers of parallel switchable units for enhanced performance | 2 |

Efficiency

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| Efficiency at V _{out} rated, I _{out} rated, approx. | 84 % |
| Power loss at V _{out} rated, I _{out} rated, approx. | 9 W |

Closed-loop control

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| Dynamic mains compensation (V _{in} rated ±15 %), max. | 0.1 % |
| Dynamic load smoothing (I _{out} : 50/100/50 %), U _{out} ± typ. | 0.8 % |
| Load step setting time 50 to 100%, typ. | 0.5 ms |

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| Load step setting time 100 to 50%, typ. | 0.5 ms |
| Setting time maximum | 1 ms |
| Protection and monitoring | |
| Output overvoltage protection | Additional control loop, shutdown at < 28.8 V, automatic restart |
| Current limitation | 2.2 ... 2.6 A |
| Property of the output Short-circuit proof | Yes |
| Short-circuit protection | Electronic shutdown, automatic restart |
| Enduring short circuit current RMS value | |
| • maximum | 2 A |
| Overload/short-circuit indicator | - |
| Safety | |
| Primary/secondary isolation | Yes |
| Galvanic isolation | Safety extra-low output voltage U _{out} acc. to EN 60950-1 and EN 50178 |
| Protection class | Class I |
| Leakage current | |
| • maximum | 3.5 mA |
| • typical | 0.5 mA |
| CE mark | Yes |
| UL/cUL (CSA) approval | cULus-Listed (UL 508, CSA C22.2 No. 142), File E143289 |
| Explosion protection | ATEX (EX) II 3G Ex nA II T4; cULus (ISA 12.12.01, CSA C22.2 No.213) Class I, Div. 2, Group ABCD, T4, File E330455 |
| FM approval | Class I, Div. 2, Group ABCD, T4 |
| CB approval | No |
| Marine approval | In S7-300 system |
| Degree of protection (EN 60529) | IP20 |
| EMC | |
| Emitted interference | EN 55022 Class B |
| Supply harmonics limitation | not applicable |
| Noise immunity | EN 61000-6-2 |
| Operating data | |
| Ambient temperature | |
| • during operation | 0 ... 60 °C |
| — Note | with natural convection |
| • during transport | -40 ... +85 °C |
| • during storage | -40 ... +85 °C |
| Humidity class according to EN 60721 | Climate class 3K3, no condensation |
| Mechanics | |
| Connection technology | screw-type terminals |
| Connections | |

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| <ul style="list-style-type: none"> • Supply 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"> • Output | L+, M: 2 screw terminals each for 0.5 ... 2.5 mm ² |
| <ul style="list-style-type: none"> • Auxiliary | - |
| Width of the enclosure | 40 mm |
| Height of the enclosure | 125 mm |
| Depth of the enclosure | 120 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 |
| Weight, approx. | 0.4 kg |
| Product feature of the enclosure housing for side-by-side mounting | Yes |
| Installation | Can be mounted onto S7 rail |
| Mechanical accessories | Mounting adapter for standard mounting rail (6EP1971-1BA00) |
| MTBF at 40 °C | 2 320 078 h |
| Other information | Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified) |