

SIMATIC PM1507/1AC/24VDC/3A
 SIMATIC PM 1507 24 V/3 A Stabilized power supply for SIMATIC
 S7-1500 input: 120/230 V AC, output: 24 V DC/3 A



| Input | |
|-------------------------------------|---------------------------|
| Input | 1-phase AC |
| • Note | Automatic range selection |
| supply voltage | |
| • 1 at AC rated value | 120 V |
| • 2 at AC rated value | 230 V |
| input voltage | |
| • 1 at AC | 85 ... 132 V |
| • 2 at AC | 170 ... 264 V |
| Wide-range input | No |
| Overvoltage resistance | 2.3 × Vin rated, 1.3 ms |
| Mains buffering | at Vin = 93/187 V |
| 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 | 45 ... 65 Hz |
| input current | |
| • at rated input voltage 120 V | 1.4 A |
| • at rated input voltage 230 V | 0.8 A |

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| Switch-on current limiting (+25 °C), max. | 23 A |
| duration of inrush current limiting at 25 °C | |
| • maximum | 3 ms |
| I ² t, max. | 1.3 A ² ·s |
| Built-in incoming fuse | T 3,15 A/250 V (not accessible) |
| Protection in the mains power input (IEC 898) | Recommended miniature circuit breaker: 10 A characteristic B or 6 A characteristic C |

Output

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| Output | Controlled, isolated DC voltage |
| Rated voltage V _{out} DC | 24 V |
| Total tolerance, static ± | 1 % |
| Static mains compensation, approx. | 0.1 % |
| Static load balancing, approx. | 0.1 % |
| Residual ripple peak-peak, max. | 50 mV |
| Spikes peak-peak, max. (bandwidth: 20 MHz) | 150 mV |
| product function output voltage adjustable | No |
| Status display | LED green for 24 V OK; LED red for error; LED yellow for stand-by |
| On/off behavior | No overshoot of V _{out} (soft start) |
| Startup delay, max. | 1.5 s |
| Voltage rise, typ. | 10 ms |
| Rated current value I _{out} rated | 3 A |
| Current range | 0 ... 3 A |
| supplied active power typical | 72 W |
| short-term overload current | |
| • on short-circuiting during the start-up typical | 12 A |
| • at short-circuit during operation typical | 12 A |
| duration of overloading capability for excess current | |
| • on short-circuiting during the start-up | 70 ms |
| • at short-circuit during operation | 70 ms |
| Parallel switching for enhanced performance | No |

Efficiency

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| Efficiency at V _{out} rated, I _{out} rated, approx. | 87 % |
| Power loss at V _{out} rated, I _{out} rated, approx. | 11 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. | 1 % |
| Dynamic load smoothing (I _{out} : 10/90/10 %), U _{out} ± typ. | 3 % |
| Load step setting time 10 to 90%, typ. | 5 ms |
| Load step setting time 90 to 10%, typ. | 5 ms |

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| setting time maximum | 5 ms |
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Protection and monitoring

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| Output overvoltage protection | Additional control loop, limitation (closed loop control) at < 28.8 V |
| Current limitation | 3.15 ... 3.6 A |
| Current limitation, typ. | 3.4 A |
| property of the output short-circuit proof | Yes |
| Short-circuit protection | Electronic shutdown, automatic restart |
| Overload/short-circuit indicator | - |

Safety

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|---------------------------------|---|
| Primary/secondary isolation | Yes |
| galvanic isolation | Safety extra-low output voltage U _{out} acc. to EN 60950-1 and EN 50178 and EN 61131-2 |
| Protection class | Class I |
| leakage current | |
| • maximum | 3.5 mA |
| • typical | 0.4 mA |
| Degree of protection (EN 60529) | IP20 |

Approvals

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|--|---|
| CE mark | Yes |
| UL/cUL (CSA) approval | cULus-Listed (UL 508, CSA C22.2 No. 142), File E143289 |
| Explosion protection | IECEX Ex nA nC IIC T4 Gc; ATEX (EX) II 3G Ex nA nC IIC T4 Gc; cULus (ANSI/ISA 12.12.01, CSA C22.2 No.213) Class I, Div. 2, Group ABCD, T4, File E330455 |
| certificate of suitability NEC Class 2 | No |
| FM approval | Class I, Div. 2, Group ABCD, T4 |
| CB approval | Yes |
| Marine approval | ABS, BV, DNV GL |

EMC

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| Emitted interference | EN 55022 Class B |
| Supply harmonics limitation | EN 61000-3-2 |
| Noise immunity | EN 61000-6-2 |

environmental conditions

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| 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, 5 ... 95% no condensation |

Mechanics

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| Connection technology | Screw-/spring clamp connection |
| Connections | |

| | |
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| <ul style="list-style-type: none"> • Supply input • Output | <p>L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm²</p> <p>L+, M: 2 spring-loaded terminals each for 0.5 to 2.5 mm²</p> |
| product function | |
| <ul style="list-style-type: none"> • removable terminal at input • removable terminal at output | <p>Yes</p> <p>Yes</p> |
| width of the enclosure | 50 mm |
| height of the enclosure | 147 mm |
| depth of the enclosure | 129 mm |
| required spacing | |
| <ul style="list-style-type: none"> • top • bottom • left • right | <p>40 mm</p> <p>40 mm</p> <p>0 mm</p> <p>0 mm</p> |
| Weight, approx. | 0.45 kg |
| product feature of the enclosure housing for side-by-side mounting | Yes |
| Installation | Can be mounted onto S7-1500 rail |
| MTBF at 40 °C | 1 611 993 h |
| other information | Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified) |