



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

|  |  |
|--|--|
| type of the power supply network   | 1-phase AC   |
| supply voltage at AC   | Automatic range selection  |
| <ul style="list-style-type: none"> <li>initial value</li> </ul>  |  |
| supply voltage   |  |
| <ul style="list-style-type: none"> <li>1 at AC rated value</li> <li>2 at AC rated value</li> </ul>                   | 120 V<br>230 V   |
| input voltage  |  |
| <ul style="list-style-type: none"> <li>1 at AC</li> <li>2 at AC</li> </ul>   | 85 ... 132 V<br>170 ... 264 V  |
| design of input wide range input   | No   |
| overvoltage overload capability  | 2.3 × Vin rated, 1.3 ms  |
| operating condition of the mains buffering   | at Vin = 93/187 V  |
| 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   |  |
| <ul style="list-style-type: none"> <li>1 rated value</li> <li>2 rated value</li> </ul>                               | 50 Hz<br>60 Hz   |
| line frequency   | 45 ... 65 Hz   |
| input current  |  |
| <ul style="list-style-type: none"> <li>at rated input voltage 120 V</li> <li>at rated input voltage 230 V</li> </ul> | 1.4 A<br>0.8 A   |
| current limitation of inrush current at 25 °C maximum  | 23 A   |
| duration of inrush current limiting at 25 °C   |  |
| <ul style="list-style-type: none"> <li>maximum</li> </ul>  | 3 ms   |
| I2t value maximum  | 1.3 A <sup>2</sup> ·s  |
| fuse protection type   | T 3,15 A/250 V (not accessible)  |
| <ul style="list-style-type: none"> <li>in the feeder</li> </ul>  | Recommended miniature circuit breaker: 10 A characteristic B or 6 A characteristic C |

### Output

|  |                                 |
|--|---------------------------------|
| voltage curve at output  | Controlled, isolated DC voltage |
| output voltage at DC rated value   | 24 V                            |
| output voltage   |                                 |
| <ul style="list-style-type: none"> <li>at output 1 at DC rated value</li> </ul>  | 24 V                            |
| relative overall tolerance of the voltage  | 1 %                             |
| relative control precision of the output voltage   |                                 |
| <ul style="list-style-type: none"> <li>on slow fluctuation of input voltage</li> <li>on slow fluctuation of ohm loading</li> </ul> | 0.1 %<br>0.1 %                  |
| residual ripple  |                                 |
| <ul style="list-style-type: none"> <li>maximum</li> </ul>  | 50 mV                           |
| voltage peak   |                                 |

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• maximum</li> </ul>   | 150 mV  |
| product function output voltage adjustable  | No  |
| display version for normal operation  | LED green for 24 V OK; LED red for error; LED yellow for stand-by   |
| behavior of the output voltage when switching on  | No overshoot of Vout (soft start)   |
| response delay maximum  | 1.5 s   |
| voltage increase time of the output voltage   |   |
| <ul style="list-style-type: none"> <li>• typical</li> </ul>   | 10 ms   |
| output current  |   |
| <ul style="list-style-type: none"> <li>• rated value</li> </ul>   | 3 A   |
| <ul style="list-style-type: none"> <li>• rated range</li> </ul>   | 0 ... 3 A   |
| supplied active power typical   | 72 W  |
| short-term overload current   |   |
| <ul style="list-style-type: none"> <li>• on short-circuiting during the start-up typical</li> </ul>                       | 12 A  |
| <ul style="list-style-type: none"> <li>• at short-circuit during operation typical</li> </ul>                             | 12 A  |
| duration of overloading capability for excess current   |   |
| <ul style="list-style-type: none"> <li>• on short-circuiting during the start-up</li> </ul>                               | 70 ms   |
| <ul style="list-style-type: none"> <li>• at short-circuit during operation</li> </ul>                                     | 70 ms   |
| product feature   |   |
| <ul style="list-style-type: none"> <li>• bridging of equipment</li> </ul>   | Yes   |
| number of parallel-switched equipment resources for increasing the power  | 2   |
| <b>Efficiency</b>   |   |
| efficiency in percent   | 87 %  |
| power loss [W]  |   |
| <ul style="list-style-type: none"> <li>• at rated output voltage for rated value of the output current typical</li> </ul> | 11 W  |
| <b>Closed-loop control</b>  |   |
| 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                          | 1 %   |
| relative control precision of the output voltage at load step of resistive load 10/90/10 % typical                        | 3 %   |
| setting time  |   |
| <ul style="list-style-type: none"> <li>• load step 10 to 90% typical</li> </ul>   | 5 ms  |
| <ul style="list-style-type: none"> <li>• load step 90 to 10% typical</li> </ul>   | 5 ms  |
| <ul style="list-style-type: none"> <li>• maximum</li> </ul>   | 5 ms  |
| <b>Protection and monitoring</b>  |   |
| design of the overvoltage protection  | Additional control loop, limitation (closed loop control) at < 28.8 V   |
| response value current limitation   | 3.15 ... 3.6 A  |
| <ul style="list-style-type: none"> <li>• typical</li> </ul>   | 3.4 A   |
| property of the output short-circuit proof  | Yes   |
| design of short-circuit protection  | Electronic shutdown, automatic restart  |
| display version for overload and short circuit  | -   |
| <b>Safety</b>   |   |
| galvanic isolation between input and output   | Yes   |
| galvanic isolation  | Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178 and EN 61131-2   |
| operating resource protection class   | Class I   |
| leakage current   |   |
| <ul style="list-style-type: none"> <li>• maximum</li> </ul>   | 3.5 mA  |
| <ul style="list-style-type: none"> <li>• typical</li> </ul>   | 0.4 mA  |
| protection class IP   | IP20  |
| <b>Approvals</b>  |   |
| certificate of suitability  |   |
| <ul style="list-style-type: none"> <li>• CE marking</li> </ul>  | Yes   |
| <ul style="list-style-type: none"> <li>• UL approval</li> </ul>   | Yes; cULus-Listed (UL 508, CSA C22.2 No. 142), File E143289   |
| <ul style="list-style-type: none"> <li>• CSA approval</li> </ul>  | Yes; cULus-Listed (UL 508, CSA C22.2 No. 142), File E143289   |
| <ul style="list-style-type: none"> <li>• cCSAus, Class 1, Division 2</li> </ul>   | No  |
| <ul style="list-style-type: none"> <li>• ATEX</li> </ul>  | Yes; ATEX (EX) II 3G Ex nA nC IIC T4 Gc   |
| certificate of suitability  |   |
| <ul style="list-style-type: none"> <li>• relating to ATEX</li> </ul>  | 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 |

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• IECEx</li> <li>• NEC Class 2</li> <li>• ULhazloc approval</li> <li>• FM registration</li> </ul>  | Yes; IECEx Ex nA nC IIC T4 Gc<br>No<br>Yes<br>Yes; Class I, Div. 2, Group ABCD, T4<br>Yes |
| type of certification CB-certificate<br>certificate of suitability <ul style="list-style-type: none"> <li>• EAC approval</li> </ul>   | Yes<br>Yes  |
| certificate of suitability shipbuilding approval<br>shipbuilding approval   | ABS, BV, DNV GL   |
| Marine classification association <ul style="list-style-type: none"> <li>• American Bureau of Shipping Europe Ltd. (ABS)</li> <li>• French marine classification society (BV)</li> <li>• DNV GL</li> <li>• Lloyds Register of Shipping (LRS)</li> <li>• Nippon Kaiji Kyokai (NK)</li> </ul> | Yes<br>Yes<br>Yes<br>No<br>No   |

### EMC

|  |  |
|--|--|
| standard <ul style="list-style-type: none"> <li>• for emitted interference</li> <li>• for mains harmonics limitation</li> <li>• for interference immunity</li> </ul> | EN 55022 Class B<br>EN 61000-3-2<br>EN 61000-6-2 |
|--|--|

### environmental conditions

|  |  |
|--|--|
| ambient temperature <ul style="list-style-type: none"> <li>• during operation</li> <li>• during transport</li> <li>• during storage</li> </ul> | 0 ... 60 °C; with natural convection<br>-40 ... +85 °C<br>-40 ... +85 °C |
| environmental category according to IEC 60721  | Climate class 3K3, 5 ... 95% no condensation                             |

### Mechanics

|  |   |
|--|---|
| type of electrical connection <ul style="list-style-type: none"> <li>• at input</li> <li>• at output</li> </ul>                          | Screw-/spring clamp connection<br>L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm <sup>2</sup><br>L+, M: 2 spring-loaded terminals each for 0.5 to 2.5 mm <sup>2</sup> |
| product function <ul style="list-style-type: none"> <li>• removable terminal at input</li> <li>• removable terminal at output</li> </ul> | Yes<br>Yes  |
| 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"> <li>• top</li> <li>• bottom</li> <li>• left</li> <li>• right</li> </ul>              | 40 mm<br>40 mm<br>0 mm<br>0 mm  |
| net weight   | 0.45 kg   |
| product feature of the enclosure housing can be lined up   | Yes   |
| fastening method   | 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)   |

