



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                          | $2.3 \times V_{in}$ rated, 1.3 ms  |
| Mains buffering                                 | at $V_{in} = 93/187$ V   |
| Mains buffering at I <sub>out</sub> rated, min. | 20 ms; at $V_{in} = 93/187$ 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  |
| Switch-on current limiting (+25 °C), max.       | 23 A   |
| duration of inrush current limiting at 25 °C    |  |
| • maximum                                       | 3 ms   |
| I <sup>2</sup> t, max.                          | 1.3 A <sup>2</sup> ·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  |  |
| Output  | Controlled, isolated DC voltage  |
| Rated voltage V <sub>out</sub> DC               | 24 V   |
| • output voltage at output 1 at DC rated value  | 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 Vout (soft start)   |
| Startup delay, max.   | 1.5 s   |
| Voltage rise, typ.  | 10 ms   |
| Rated current value Iout 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                   | Yes   |
| Numbers of parallel switchable units for enhanced performance | 2   |
| <b>Efficiency</b>   |   |
| Efficiency at Vout rated, Iout rated, approx.                 | 87 %  |
| Power loss at Vout rated, Iout rated, approx.                 | 11 W  |
| <b>Closed-loop control</b>                                    |   |
| Dynamic mains compensation (Vin rated $\pm 15$ %), max.       | 0.1 %   |
| Dynamic load smoothing (Iout: 50/100/50 %), Uout $\pm$ typ.   | 1 %   |
| Dynamic load smoothing (Iout: 10/90/10 %), Uout $\pm$ typ.    | 3 %   |
| Load step setting time 10 to 90%, typ.                        | 5 ms  |
| Load step setting time 90 to 10%, typ.                        | 5 ms  |
| setting time maximum  | 5 ms  |
| <b>Protection and monitoring</b>                              |   |
| 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                              | -   |
| <b>Safety</b>   |   |
| Primary/secondary isolation                                   | Yes   |
| galvanic isolation  | Safety extra-low output voltage Uout 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  |
| <b>Approvals</b>  |   |
| 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   |
| certificate of suitability EAC approval                       | Yes   |
| Marine approval   | ABS, BV, DNV GL   |
| <b>EMC</b>  |   |
| Emitted interference  | EN 55022 Class B  |
| Supply harmonics limitation                                   | EN 61000-3-2  |

|  |   |
|--|---|
| Noise immunity   | EN 61000-6-2  |
| <b>environmental conditions</b>  |   |
| ambient temperature <ul style="list-style-type: none"> <li>during operation <ul style="list-style-type: none"> <li>Note</li> </ul> </li> <li>during transport</li> <li>during storage</li> </ul> | 0 ... 60 °C<br>with natural convection<br>-40 ... +85 °C<br>-40 ... +85 °C  |
| Humidity class according to EN 60721   | Climate class 3K3, 5 ... 95% no condensation  |
| <b>Mechanics</b>   |   |
| Connection technology  | Screw-/spring clamp connection  |
| Connections <ul style="list-style-type: none"> <li>Supply input</li> <li>Output</li> </ul>   | 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  |
| Weight, approx.  | 0.45 kg   |
| product feature of the enclosure housing can be lined up   | 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)                                       |

