

POWER SUPPLY S7-1500 PM1507  
SIMATIC PM 1507 24 V/8 A STABILIZED POWER SUPPLY FOR  
SIMATIC S7-1500 INPUT: 120/230 V AC OUTPUT: 24 V/8 A DC



| Input                                     |                           |
|-------------------------------------------|---------------------------|
| Input                                     | 1-phase AC                |
| Supply voltage                            |                           |
| • 1 at AC Rated value                     | 120 V                     |
| • 2 at AC Rated value                     | 230 V                     |
| • Note                                    | Automatic range selection |
| 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 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            | 3.7 A                     |
| • at rated input voltage 230 V            | 1.7 A                     |
| Switch-on current limiting (+25 °C), max. | 62 A                      |

|                                               |                                                                                       |
|-----------------------------------------------|---------------------------------------------------------------------------------------|
| Duration of inrush current limiting at 25 °C  |                                                                                       |
| • maximum                                     | 3 ms                                                                                  |
| $I^2t$ , max.                                 | 12 A <sup>2</sup> ·s                                                                  |
| Built-in incoming fuse                        | T 6.3 A/250 V (not accessible)                                                        |
| Protection in the mains power input (IEC 898) | Recommended miniature circuit breaker: 16 A characteristic B or 10 A characteristic C |

| Output                                                |                                                                   |
|-------------------------------------------------------|-------------------------------------------------------------------|
| Output                                                | Controlled, isolated DC voltage                                   |
| Rated voltage $V_{out}$ DC                            | 24 V                                                              |
| Total tolerance, static $\pm$                         | 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                   | 8 A                                                               |
| Current range                                         | 0 ... 8 A                                                         |
| Supplied active power typical                         | 192 W                                                             |
| Short-term overload current                           |                                                                   |
| • on short-circuiting during the start-up typical     | 35 A                                                              |
| • at short-circuit during operation typical           | 35 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                                              |      |
|---------------------------------------------------------|------|
| Efficiency at $V_{out}$ rated, $I_{out}$ rated, approx. | 90 % |
| Power loss at $V_{out}$ rated, $I_{out}$ rated, approx. | 21 W |

| Closed-loop control                                                   |       |
|-----------------------------------------------------------------------|-------|
| Dynamic mains compensation ( $V_{in}$ rated $\pm 15$ %), max.         | 0.1 % |
| Dynamic load smoothing ( $I_{out}$ : 50/100/50 %), $U_{out} \pm$ typ. | 2 %   |
| Dynamic load smoothing ( $I_{out}$ : 10/90/10 %), $U_{out} \pm$ 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  |

| Protection and monitoring                  |                                                                       |
|--------------------------------------------|-----------------------------------------------------------------------|
| Output overvoltage protection              | Additional control loop, limitation (closed loop control) at < 28.8 V |
| Current limitation                         | 8.4 ... 9.6 A                                                         |
| Current limitation, typ.                   | 9 A                                                                   |
| Property of the output Short-circuit proof | Yes                                                                   |
| Short-circuit protection                   | Electronic shutdown, automatic restart                                |
| Overload/short-circuit indicator           | -                                                                     |

| Safety                                                                                         |                                                                                                                                                    |
|------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Primary/secondary isolation                                                                    | Yes                                                                                                                                                |
| Galvanic isolation                                                                             | Safety extra-low output voltage U <sub>out</sub> acc. to EN 60950-1 and EN 50178 and EN 61131-2                                                    |
| Protection class                                                                               | Class I                                                                                                                                            |
| Leakage current <ul style="list-style-type: none"> <li>• maximum</li> <li>• typical</li> </ul> | 3.5 mA<br>1.3 mA                                                                                                                                   |
| 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 T3 Gc; ATEX (EX) II 3G Ex nA nC IIC T3 Gc; cULus (ISA 12.12.01, CSA C22.2 No.213) Class I, Div. 2, Group ABCD, T3, File E330455 |
| FM approval                                                                                    | Class I, Div. 2, Group ABCD, T4                                                                                                                    |
| CB approval                                                                                    | Yes                                                                                                                                                |
| Marine approval                                                                                | GL, ABS, BV, DNV                                                                                                                                   |
| Degree of protection (EN 60529)                                                                | IP20                                                                                                                                               |

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

| Operating data                                                                                                                                                 |                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| Ambient temperature <ul style="list-style-type: none"> <li>• during operation</li> <li>— Note</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, no condensation                                         |

| Mechanics                                                                                      |                                                                                                                                         |
|------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| 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                                                                               |                                                                                                                                         |

|                                                                    |                                                                                                   |
|--------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| • removable terminal at input                                      | Yes                                                                                               |
| • removable terminal at output                                     | Yes                                                                                               |
| Width of the enclosure                                             | 75 mm                                                                                             |
| Height of the enclosure                                            | 147 mm                                                                                            |
| Depth of the enclosure                                             | 129 mm                                                                                            |
| Weight, approx.                                                    | 0.74 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                                                      | 1 362 918 h                                                                                       |
| Other information                                                  | Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified) |