



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	
• initial value	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
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	
• 1 rated value	50 Hz
• 2 rated value	60 Hz
line frequency	45 ... 65 Hz
input current	
• at rated input voltage 120 V	1.4 A
• at rated input voltage 230 V	0.8 A
current limitation of inrush current at 25 °C maximum	23 A
duration of inrush current limiting at 25 °C	
• maximum	3 ms
I2t value maximum	1.3 A²·s
fuse protection type	T 3,15 A/250 V (not accessible)
• in the feeder	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	
• at output 1 at DC rated value	24 V
relative overall tolerance of the voltage	1 %
relative control precision of the output voltage	
• on slow fluctuation of input voltage	0.1 %
• on slow fluctuation of ohm loading	0.1 %
residual ripple	
• maximum	50 mV

voltage peak	
• maximum	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	
• typical	10 ms
output current	
• rated value	3 A
• rated 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
product feature	
• bridging of equipment	Yes
number of parallel-switched equipment resources for increasing the power	2
<b>Efficiency</b>	
efficiency in percent	87 %
power loss [W]	
• at rated output voltage for rated value of the output current typical	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	
• load step 10 to 90% typical	5 ms
• load step 90 to 10% typical	5 ms
• maximum	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
• typical	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	
• maximum	3.5 mA
• typical	0.4 mA
protection class IP	IP20
<b>Approvals</b>	
certificate of suitability	
• CE marking	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 142), File E143289
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 142), File E143289
• cCSAus, Class 1, Division 2	No
• ATEX	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> </ul>	Yes; IECEX Ex nA nC IIC T4 Gc
<ul style="list-style-type: none"> <li>NEC Class 2</li> </ul>	No
<ul style="list-style-type: none"> <li>ULhazloc approval</li> </ul>	Yes
<ul style="list-style-type: none"> <li>FM registration</li> </ul>	Yes; Class I, Div. 2, Group ABCD, T4
type of certification CB-certificate	Yes
certificate of suitability	
<ul style="list-style-type: none"> <li>EAC approval</li> </ul>	Yes
certificate of suitability shipbuilding approval	Yes
shipbuilding approval	ABS, BV, DNV GL
Marine classification association	
<ul style="list-style-type: none"> <li>American Bureau of Shipping Europe Ltd. (ABS)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>French marine classification society (BV)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>DNV GL</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Lloyds Register of Shipping (LRS)</li> </ul>	No
<ul style="list-style-type: none"> <li>Nippon Kaiji Kyokai (NK)</li> </ul>	No
<b>EMC</b>	
standard	
<ul style="list-style-type: none"> <li>for emitted interference</li> </ul>	EN 55022 Class B
<ul style="list-style-type: none"> <li>for mains harmonics limitation</li> </ul>	EN 61000-3-2
<ul style="list-style-type: none"> <li>for interference immunity</li> </ul>	EN 61000-6-2
<b>environmental conditions</b>	
ambient temperature	
<ul style="list-style-type: none"> <li>during operation</li> </ul>	0 ... 60 °C; with natural convection
<ul style="list-style-type: none"> <li>during transport</li> </ul>	-40 ... +85 °C
<ul style="list-style-type: none"> <li>during storage</li> </ul>	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation
<b>Mechanics</b>	
type of electrical connection	Screw-/spring clamp connection
<ul style="list-style-type: none"> <li>at input</li> </ul>	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm <sup>2</sup>
<ul style="list-style-type: none"> <li>at output</li> </ul>	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> </ul>	Yes
<ul style="list-style-type: none"> <li>removable terminal at output</li> </ul>	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> </ul>	40 mm
<ul style="list-style-type: none"> <li>bottom</li> </ul>	40 mm
<ul style="list-style-type: none"> <li>left</li> </ul>	0 mm
<ul style="list-style-type: none"> <li>right</li> </ul>	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)



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