



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"> initial value 	
supply voltage	
<ul style="list-style-type: none"> 1 at AC rated value 2 at AC rated value 	120 V 230 V
input voltage	
<ul style="list-style-type: none"> 1 at AC 2 at AC 	85 ... 132 V 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"> 1 rated value 2 rated value 	50 Hz 60 Hz
line frequency	45 ... 65 Hz
input current	
<ul style="list-style-type: none"> at rated input voltage 120 V at rated input voltage 230 V 	1.4 A 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"> maximum 	3 ms
I2t value maximum	1.3 A ² ·s
fuse protection type	T 3,15 A/250 V (not accessible)
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> at output 1 at DC rated value 	24 V
relative overall tolerance of the voltage	1 %
relative control precision of the output voltage	
<ul style="list-style-type: none"> on slow fluctuation of input voltage on slow fluctuation of ohm loading 	0.1 % 0.1 %
residual ripple	
<ul style="list-style-type: none"> maximum 	50 mV
voltage peak	

<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • typical 	10 ms
output current	
<ul style="list-style-type: none"> • rated value 	3 A
<ul style="list-style-type: none"> • rated range 	0 ... 3 A
supplied active power typical	72 W
short-term overload current	
<ul style="list-style-type: none"> • on short-circuiting during the start-up typical 	12 A
<ul style="list-style-type: none"> • at short-circuit during operation typical 	12 A
duration of overloading capability for excess current	
<ul style="list-style-type: none"> • on short-circuiting during the start-up 	70 ms
<ul style="list-style-type: none"> • at short-circuit during operation 	70 ms
product feature	
<ul style="list-style-type: none"> • bridging of equipment 	Yes
number of parallel-switched equipment resources for increasing the power	2
Efficiency	
efficiency in percent	87 %
power loss [W]	
<ul style="list-style-type: none"> • at rated output voltage for rated value of the output current typical 	11 W
Closed-loop control	
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"> • load step 10 to 90% typical 	5 ms
<ul style="list-style-type: none"> • load step 90 to 10% typical 	5 ms
<ul style="list-style-type: none"> • maximum 	5 ms
Protection and monitoring	
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"> • 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	-
Safety	
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"> • maximum 	3.5 mA
<ul style="list-style-type: none"> • typical 	0.4 mA
protection class IP	IP20
Approvals	
certificate of suitability	
<ul style="list-style-type: none"> • CE marking 	Yes
<ul style="list-style-type: none"> • UL approval 	Yes; cULus-Listed (UL 508, CSA C22.2 No. 142), File E143289
<ul style="list-style-type: none"> • CSA approval 	Yes; cULus-Listed (UL 508, CSA C22.2 No. 142), File E143289
<ul style="list-style-type: none"> • cCSAus, Class 1, Division 2 	No
<ul style="list-style-type: none"> • ATEX 	Yes; ATEX (EX) II 3G Ex nA nC IIC T4 Gc
certificate of suitability	
<ul style="list-style-type: none"> • relating to ATEX 	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"> • IECEx • NEC Class 2 • ULhazloc approval • FM registration 	<p>Yes; IECEx Ex nA nC IIC T4 Gc</p> <p>No</p> <p>Yes</p> <p>Yes; Class I, Div. 2, Group ABCD, T4</p> <p>Yes</p>
<p>type of certification CB-certificate</p> <p>certificate of suitability</p> <ul style="list-style-type: none"> • EAC approval <p>certificate of suitability shipbuilding approval</p> <p>shipbuilding approval</p> <p>Marine classification association</p> <ul style="list-style-type: none"> • American Bureau of Shipping Europe Ltd. (ABS) • French marine classification society (BV) • DNV GL • Lloyds Register of Shipping (LRS) • Nippon Kaiji Kyokai (NK) 	<p>Yes</p> <p>Yes</p> <p>ABS, BV, DNV GL</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>No</p> <p>No</p>
EMC	
<p>standard</p> <ul style="list-style-type: none"> • for emitted interference • for mains harmonics limitation • for interference immunity 	<p>EN 55022 Class B</p> <p>EN 61000-3-2</p> <p>EN 61000-6-2</p>
environmental conditions	
<p>ambient temperature</p> <ul style="list-style-type: none"> • during operation • during transport • during storage <p>environmental category according to IEC 60721</p>	<p>0 ... 60 °C; with natural convection</p> <p>-40 ... +85 °C</p> <p>-40 ... +85 °C</p> <p>Climate class 3K3, 5 ... 95% no condensation</p>
Mechanics	
<p>type of electrical connection</p> <ul style="list-style-type: none"> • at input • at output <p>product function</p> <ul style="list-style-type: none"> • removable terminal at input • removable terminal at output <p>width of the enclosure</p> <p>height of the enclosure</p> <p>depth of the enclosure</p> <p>required spacing</p> <ul style="list-style-type: none"> • top • bottom • left • right <p>net weight</p> <p>product feature of the enclosure housing can be lined up</p> <p>fastening method</p> <p>MTBF at 40 °C</p> <p>other information</p>	<p>Screw-/spring clamp connection</p> <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> <p>Yes</p> <p>Yes</p> <p>50 mm</p> <p>147 mm</p> <p>129 mm</p> <p>40 mm</p> <p>40 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0.45 kg</p> <p>Yes</p> <p>Can be mounted onto S7-1500 rail</p> <p>1 611 993 h</p> <p>Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)</p>