



SIMATIC PS307/1AC/24VDC/2A

SIMATIC S7-300 Regulated power supply PS307 input: 120/230 V AC, output: 24 V DC/2 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	47 ... 63 Hz
input current	
• at rated input voltage 120 V	0.9 A
• at rated input voltage 230 V	0.5 A
current limitation of inrush current at 25 °C maximum	22 A
duration of inrush current limiting at 25 °C	
• maximum	3 ms
I2t value maximum	1 A²·s
fuse protection type	T 1.6 A/250 V (not accessible)
• in the feeder	Recommended miniature circuit breaker: 3 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	3 %
relative control precision of the output voltage	
• on slow fluctuation of input voltage	0.1 %
• on slow fluctuation of ohm loading	0.2 %
residual ripple	
• maximum	50 mV

<ul style="list-style-type: none"> <li>• typical</li> </ul>	5 mV
voltage peak	
<ul style="list-style-type: none"> <li>• maximum</li> </ul>	150 mV
<ul style="list-style-type: none"> <li>• typical</li> </ul>	20 mV
product function output voltage adjustable	No
type of output voltage setting	-
display version for normal operation	Green LED for 24 V OK
behavior of the output voltage when switching on	No overshoot of Vout (soft start)
response delay maximum	2 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>	2 A
<ul style="list-style-type: none"> <li>• rated range</li> </ul>	0 ... 2 A
supplied active power typical	48 W
short-term overload current	
<ul style="list-style-type: none"> <li>• on short-circuiting during the start-up typical</li> </ul>	9 A
<ul style="list-style-type: none"> <li>• at short-circuit during operation typical</li> </ul>	9 A
duration of overloading capability for excess current	
<ul style="list-style-type: none"> <li>• on short-circuiting during the start-up</li> </ul>	90 ms
<ul style="list-style-type: none"> <li>• at short-circuit during operation</li> </ul>	90 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	84 %
power loss [W]	
<ul style="list-style-type: none"> <li>• at rated output voltage for rated value of the output current typical</li> </ul>	9 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	0.8 %
setting time	
<ul style="list-style-type: none"> <li>• load step 50 to 100% typical</li> </ul>	0.5 ms
<ul style="list-style-type: none"> <li>• load step 100 to 50% typical</li> </ul>	0.5 ms
setting time	
<ul style="list-style-type: none"> <li>• maximum</li> </ul>	1 ms
<b>Protection and monitoring</b>	
design of the overvoltage protection	Additional control loop, shutdown at < 28.8 V, automatic restart
response value current limitation	2.2 ... 2.6 A
property of the output short-circuit proof	Yes
design of short-circuit protection	Electronic shutdown, automatic restart
enduring short circuit current RMS value	
<ul style="list-style-type: none"> <li>• maximum</li> </ul>	2 A
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
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>	0.5 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>• NEC Class 2</li> </ul>	No

<ul style="list-style-type: none"> <li>• EAC approval</li> </ul>	Yes
type of certification	
<ul style="list-style-type: none"> <li>• CB-certificate</li> </ul>	Yes
certificate of suitability	
<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>• ATEX</li> </ul>	Yes; ATEX (EX) II 3G Ex nA nC IIC T4 Gc
<ul style="list-style-type: none"> <li>• ULhazloc approval</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• cCSAus, Class 1, Division 2</li> </ul>	No
<ul style="list-style-type: none"> <li>• FM registration</li> </ul>	Yes; Class I, Div. 2, Group ABCD, T4
certificate of suitability shipbuilding approval	Yes
Marine classification association	
<ul style="list-style-type: none"> <li>• American Bureau of Shipping Europe Ltd. (ABS)</li> </ul>	No
<ul style="list-style-type: none"> <li>• French marine classification society (BV)</li> </ul>	No
<ul style="list-style-type: none"> <li>• Lloyds Register of Shipping (LRS)</li> </ul>	No

#### EMC

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>	not applicable
<ul style="list-style-type: none"> <li>• for interference immunity</li> </ul>	EN 61000-6-2

#### environmental conditions

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

#### Mechanics

type of electrical connection	screw-type terminals
<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> single-core/finely stranded
<ul style="list-style-type: none"> <li>• at output</li> </ul>	L+, M: 2 screw terminals each for 0.5 ... 2.5 mm <sup>2</sup>
<ul style="list-style-type: none"> <li>• for auxiliary contacts</li> </ul>	-
width of the enclosure	40 mm
height of the enclosure	125 mm
depth of the enclosure	120 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	0.4 kg
product feature of the enclosure housing can be lined up	Yes
fastening method	Can be mounted onto S7 rail
mechanical accessories	Mounting adapter for standard mounting rail (6EP1971-1BA00)
MTBF at 40 °C	2 320 078 h
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)

