

Data sheet

6ES7307-1EA01-0AA0



SIMATIC PS307/1AC/24VDC/5A

SIMATIC S7-300 Regulated power supply PS307 input: 120/230 V AC, output: 24 V/5 A DC

input

type of the power supply network	1-phase AC
supply voltage at AC	Automatic range selection
supply voltage	120 V/230 V
input voltage 1 at AC	85 ... 132 V
input voltage 2 at AC	170 ... 264 V
wide range input	No
overvoltage overload capability	2.3 × Vin rated, 1.3 ms
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	50/60 Hz
line frequency	47 ... 63 Hz
input current	
• at rated input voltage 120 V	2.3 A
• at rated input voltage 230 V	1.2 A
current limitation of inrush current at 25 °C maximum	20 A
duration of inrush current limiting at 25 °C	
• maximum	3 ms
I _{2t} value maximum	1.2 A ² ·s
fuse protection type	T 3,15 A/250 V (not accessible)
fuse protection type in the feeder	Recommended miniature circuit breaker: from 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
output voltage adjustable	No; -
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	0.5 %
residual ripple	
• maximum	50 mV
• typical	10 mV
voltage peak	
• maximum	150 mV
• typical	20 mV
display version for normal operation	Green LED for 24 V OK
behavior of the output voltage when switching on	No overshoot of V _{out} (soft start)

response delay maximum	2 s
voltage increase time of the output voltage	
• typical	10 ms
output current	
• rated value	5 A
• rated range	0 ... 5 A
supplied active power typical	120 W
short-term overload current	
• on short-circuiting during the start-up typical	20 A
• at short-circuit during operation typical	20 A
duration of overloading capability for excess current	
• on short-circuiting during the start-up	100 ms
• at short-circuit during operation	100 ms
bridging of equipment	Yes
efficiency	
efficiency in percent	87 %
power loss [W]	
• at rated output voltage for rated value of the output current typical	18 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 %
setting time	
• load step 50 to 100% typical	0.3 ms
• load step 100 to 50% typical	0.3 ms
protection and monitoring	
design of the overvoltage protection	Additional control loop, shutdown at < 28.8 V, automatic restart
property of the output short-circuit proof	Yes
design of short-circuit protection	Electronic shutdown, automatic restart
response value current limitation	5.5 ... 6.5 A
enduring short circuit current RMS value	
• maximum	7 A
safety	
galvanic isolation between input and output	Yes
galvanic isolation	Safety extra-low output voltage U_{out} acc. to EN 60950-1 and EN 50178
operating resource protection class	Class I
leakage current	
• maximum	3.5 mA
• typical	0.5 mA
protection class IP	IP20
EMC	
standard	
• for emitted interference	EN 55022 Class B
• for mains harmonics limitation	EN 61000-3-2
• for interference immunity	EN 61000-6-2
standards, specifications, approvals	
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
• UKCA marking	Yes
• EAC approval	Yes
• NEC Class 2	No
type of certification	
• BIS	Yes; R-41183539
• CB-certificate	Yes
MTBF at 40 °C	2 480 589 h
standards, specifications, approvals hazardous environments	
certificate of suitability	