SIEMENS

Data sheet



SIMATIC PS307/1AC/24VDC/10A

SIMATIC S7-300 Regulated power supply PS307 input: 120/230 V AC, output: 24 V / 10 A DC

nput	
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 	4.2 A
 at rated input voltage 230 V 	1.9 A
current limitation of inrush current at 25 °C maximum	55 A
duration of inrush current limiting at 25 °C	
• maximum	3 ms
I2t value maximum	3.3 A ² ·s
fuse protection type	T 6.3 A/250 V (not accessible)
• in the feeder	Recommended miniature circuit breaker: from 10 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 	0.5 %
residual ripple	
maximum	50 mV

• typical	15 mV
voltage peak	
maximum	150 mV
• typical	60 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) 2 s
response delay maximum	2.5
voltage increase time of the output voltage	10 ma
• typical	10 ms
output current	40.4
• rated value	10 A
• rated range	0 10 A
supplied active power typical	240 W
short-term overload current	
on short-circuiting during the start-up typical	38 A
at short-circuit during operation typical	38 A
duration of overloading capability for excess current	
on short-circuiting during the start-up	80 ms
at short-circuit during operation	80 ms
product feature	
bridging of equipment	Yes
Efficiency	
efficiency in percent	90 %
power loss [W]	
 at rated output voltage for rated value of the output current typical 	27 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	2 %
setting time	
• maximum	0.1 ms
Protection and monitoring	
design of the overvoltage protection	Additional control loop, shutdown at < 28.8 V, automatic restart
response value current limitation	11 12 A
property of the output short-circuit proof	Yes
design of short-circuit protection	Electronic shutdown, automatic restart
enduring short circuit current RMS value	
• maximum	12 A
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
operating resource protection class	Class I
leakage current	
• maximum	3.5 mA
• typical	0.6 mA
protection class IP	IP20
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
• cCSAus, Class 1, Division 2	No
• ATEX	Yes; ATEX (EX) II 3G Ex nA nC IIC T3 Gc
certificate of suitability	100, TIEM (EA) II OO EXTINATIO IIO TO OO
relating to ATEX	IECEX EX NA NC IIC T3 Gc; ATEX (EX) II 3G EX NA NC IIC T3 Gc; cULus (ANSI/ISA 12.12.01, CSA C22.2 No.213) Class I, Div. 2, Group ABCD, T4, File E330455

• IECEx	Yes; IECEx Ex nA nC IIC T3 Gc
NEC Class 2	No
ULhazloc approval	Yes
FM registration	Yes; Class I, Div. 2, Group ABCD, T4
type of certification CB-certificate	Yes
certificate of suitability	100
EAC approval	Yes
certificate of suitability shipbuilding approval	Yes
shipbuilding approval	In S7-300 system
Marine classification association	in or our system
American Bureau of Shipping Europe Ltd. (ABS)	No
French marine classification society (BV)	No
• DNV GL	No
Lloyds Register of Shipping (LRS)	No
Nippon Kaiji Kyokai (NK)	No
EMC	110
standard	
for emitted interference	EN 55022 Class B
• for mains harmonics limitation	EN 61000-3-2
for interference immunity	EN 61000-6-2
environmental conditions	
ambient temperature	
during operation	0 60 °C; with natural convection
during transport	-40 +85 °C
during storage	40 +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 95% no condensation
Mechanics	
type of electrical connection	screw-type terminals
• at input	L, N, PE: 1 screw terminal each for 0.5 2.5 mm ² single-core/finely stranded
at output	L+, M: 4 screw terminals each for 0.5 2.5 mm ²
for auxiliary contacts	-
width of the enclosure	80 mm
height of the enclosure	125 mm
depth of the enclosure	120 mm
required spacing	
• top	40 mm
• bottom	40 mm
● left	0 mm
• right	0 mm
net weight	0.8 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	1 504 280 h
other information	Specifications at rated input voltage and ambient temperature +25 $^{\circ}\text{C}$ (unless otherwise specified)

