SIEMENS

Data sheet 6ES7307-1EA80-0AA0

SIMATIC PS307/1AC/24VDC/5A/OUTDOOR

SIMATIC S7-300 Outdoor 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	
● initial value	Set by means of selector switch on the device
supply voltage	
● 1 at AC rated value	120 V
● 2 at AC rated value	230 V
input voltage	
● 1 at AC	93 ... 132 V
● 2 at AC	187 ... 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	2.1 A
● at rated input voltage 230 V	1.2 A
current limitation of inrush current at 25 °C maximum	45 A
duration of inrush current limiting at 25 °C	
● maximum	3 ms
I2t value maximum	1.8 A²·s
fuse protection type	T 3,15 A/250 V (not accessible)
● in the feeder	Recommended miniature circuit breaker: from 10 A characteristic C or from 6 A characteristic D
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	0.2 %
● on slow fluctuation of ohm loading	0.4 %
residual ripple	
● maximum	150 mV

● typical	40 mV
voltage peak	
● maximum	240 mV
● typical	90 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	3 s
voltage increase time of the output voltage	
● typical	100 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	180 ms
● at short-circuit during operation	80 ms
product feature	
● bridging of equipment	No
Efficiency	
efficiency in percent	84 %
power loss [W]	
● at rated output voltage for rated value of the output current typical	23 W
Closed-loop control	
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	0.3 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	3 %
setting time	
● load step 50 to 100% typical	0.2 ms
● load step 100 to 50% typical	0.2 ms
setting time	
● maximum	5 ms
Protection and monitoring	
design of the overvoltage protection	Additional control loop, shutdown at approx. 30 V, automatic restart
response value current limitation	5.5 ... 6.5 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	5 A
Safety	
galvanic isolation between input and output	Yes
galvanic isolation	Safety extra low output voltage Vout according to EN 60950-1 and EN 50178, creepage distances and clearances > 5 mm
operating resource protection class	Class I
leakage current	
● maximum	3.5 mA
● typical	0.3 mA
protection class IP	IP20
Approvals	
certificate of suitability	
● CE marking	Yes
● UL approval	Yes; UL-Listed (UL 508), File E143289; CSA (CSA C22.2 No. 142)
● CSA approval	Yes; UL-Listed (UL 508), File E143289, CSA (CSA C22.2 No. 142)
● cCSAus, Class 1, Division 2	No
● ATEX	No
certificate of suitability	

● IECEx	No
● NEC Class 2	No
● ULhazloc approval	No
● FM registration	No
type of certification CB-certificate	No
certificate of suitability	
● EAC approval	Yes
certificate of suitability shipbuilding approval	No
shipbuilding approval	-
Marine classification association	
● 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	
standard	
● for emitted interference	EN 55011 Class A
● for mains harmonics limitation	-
● for interference immunity	EN 61000-6-2
environmental conditions	
ambient temperature	
● during operation	-25 ... +70 °C; with natural convection
● during transport	-40 ... +85 °C
● during storage	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K5, transient condensation permitted
Mechanics	
type of electrical connection	screw-type terminals
● at input	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm² single-core/finely stranded
● at output	L+, M: 3 screw terminals each for 0.5 ... 2.5 mm²
● for auxiliary contacts	-
width of the enclosure	80 mm
height of the enclosure	125 mm
depth of the enclosure	120 mm
required spacing	
● top	50 mm
● bottom	50 mm
● left	0 mm
● right	0 mm
net weight	0.57 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 (6ES7390-6BA00-0AA0)
MTBF at 40 °C	2 231 610 h
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)