SIEMENS

Data sheet 6ES7307-1BA01-0AA0

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 $A^2 \cdot s$
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

● typical	5 mV
voltage peak	
● maximum	150 mV
● typical	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	
● typical	10 ms
output current	
● rated value	2 A
● rated range	0 ... 2 A
supplied active power typical	48 W
short-term overload current	
● on short-circuiting during the start-up typical	9 A
● at short-circuit during operation typical	9 A
duration of overloading capability for excess current	
● on short-circuiting during the start-up	90 ms
● at short-circuit during operation	90 ms
product feature	
● bridging of equipment	Yes
number of parallel-switched equipment resources for increasing the power	2
Efficiency	
efficiency in percent	84 %
power loss [W]	
● at rated output voltage for rated value of the output current typical	9 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	0.8 %
setting time	
● load step 50 to 100% typical	0.5 ms
● load step 100 to 50% typical	0.5 ms
setting time	
● maximum	1 ms
Protection and monitoring	
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	
● maximum	2 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	0.5 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 T4 Gc
certificate of suitability	
● 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
● IECEx	Yes; IECEx Ex nA nC IIC T4 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	
● EAC approval	Yes
certificate of suitability shipbuilding approval	Yes
shipbuilding approval	In S7-300 system
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 55022 Class B
● for mains harmonics limitation	not applicable
● 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 mm² single-core/finely stranded
● at output	L+, M: 2 screw terminals each for 0.5 ... 2.5 mm²
● for auxiliary contacts	-
width of the enclosure	40 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	0.4 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)