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	
Input	1-phase AC
● Note	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
Wide-range input	No
Overvoltage resistance	2.3 × Vin rated, 1.3 ms
Mains buffering	at Vin = 93/187 V
Mains buffering at Iout rated, min.	20 ms; at Vin = 93/187 V
Rated line frequency 1	50 Hz
Rated line frequency 2	60 Hz
Rated line range	47 ... 63 Hz
input current	
● at rated input voltage 120 V	2.1 A
● at rated input voltage 230 V	1.2 A
Switch-on current limiting (+25 °C), max.	45 A
duration of inrush current limiting at 25 °C	
● maximum	3 ms
I^2t, max.	1.8 $A^2 \cdot s$
Built-in incoming fuse	T 3,15 A/250 V (not accessible)
Protection in the mains power input (IEC 898)	Recommended miniature circuit breaker: from 10 A characteristic C or from 6 A characteristic D
Output	
Output	Controlled, isolated DC voltage
Rated voltage Vout DC	24 V
● output voltage at output 1 at DC rated value	24 V
Total tolerance, static ±	3 %
Static mains compensation, approx.	0.2 %
Static load balancing, approx.	0.4 %
Residual ripple peak-peak, max.	150 mV
Residual ripple peak-peak, typ.	40 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	240 mV
Spikes peak-peak, typ. (bandwidth: 20 MHz)	90 mV
product function output voltage adjustable	No
Output voltage setting	-

Status display	Green LED for 24 V OK
On/off behavior	No overshoot of Vout (soft start)
Startup delay, max.	3 s
Voltage rise, typ.	100 ms
Rated current value Iout rated	5 A
Current 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
Parallel switching for enhanced performance	No
Efficiency	
Efficiency at Vout rated, Iout rated, approx.	84 %
Power loss at Vout rated, Iout rated, approx.	23 W
Closed-loop control	
Dynamic mains compensation (Vin rated ±15 %), max.	0.3 %
Dynamic load smoothing (Iout: 50/100/50 %), Uout ± typ.	3 %
Load step setting time 50 to 100%, typ.	0.2 ms
Load step setting time 100 to 50%, typ.	0.2 ms
setting time maximum	5 ms
Protection and monitoring	
Output overvoltage protection	Additional control loop, shutdown at approx. 30 V, automatic restart
Current limitation	5.5 ... 6.5 A
property of the output short-circuit proof	Yes
Short-circuit protection	Electronic shutdown, automatic restart
enduring short circuit current RMS value	
● maximum	5 A
Safety	
Primary/secondary isolation	Yes
galvanic isolation	Safety extra low output voltage Vout according to EN 60950-1 and EN 50178, creepage distances and clearances > 5 mm
Protection class	Class I
leakage current	
● maximum	3.5 mA
● typical	0.3 mA
Degree of protection (EN 60529)	IP20
Approvals	
CE mark	Yes
UL/cUL (CSA) approval	UL-Listed (UL 508), File E143289, CSA (CSA C22.2 No. 142)
certificate of suitability ATEX	No
certificate of suitability IECEx	No
certificate of suitability NEC Class 2	No
CB approval	No
certificate of suitability EAC approval	Yes
Marine approval	-
EMC	
Emitted interference	EN 55011 Class A
Supply harmonics limitation	-
Noise immunity	EN 61000-6-2
environmental conditions	
ambient temperature	
● during operation	-25 ... +70 °C
— Note	with natural convection
● during transport	-40 ... +85 °C
● during storage	-40 ... +85 °C
Humidity class according to EN 60721	Climate class 3K5, transient condensation permitted

Mechanics	
Connection technology	screw-type terminals
Connections	
● Supply input	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm² single-core/finely stranded
● Output	L+, M: 3 screw terminals each for 0.5 ... 2.5 mm²
● Auxiliary	-
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
Weight, approx.	0.57 kg
product feature of the enclosure housing can be lined up	Yes
Installation	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)