

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 ² t, max.	1.8 A ² ·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 V _{out} DC	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 V _{out} (soft start)
Startup delay, max.	3 s
Voltage rise, typ.	100 ms
Rated current value I _{out} 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 V _{out} rated, I _{out} rated, approx.	84 %
Power loss at V _{out} rated, I _{out} rated, approx.	23 W

Closed-loop control

Dynamic mains compensation (V _{in} rated ±15 %), max.	0.3 %
Dynamic load smoothing (I _{out} : 50/100/50 %), U _{out} ± 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 V_{out} 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)
Explosion protection	-
certificate of suitability NEC Class 2	No
FM approval	-
CB approval	No
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	

<ul style="list-style-type: none"> • Supply input 	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm ² single-core/finely stranded
<ul style="list-style-type: none"> • Output 	L+, M: 3 screw terminals each for 0.5 ... 2.5 mm ²
<ul style="list-style-type: none"> • Auxiliary 	-
width of the enclosure	80 mm
height of the enclosure	125 mm
depth of the enclosure	120 mm
required spacing	
<ul style="list-style-type: none"> • top 	50 mm
<ul style="list-style-type: none"> • bottom 	50 mm
<ul style="list-style-type: none"> • left 	0 mm
<ul style="list-style-type: none"> • 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)