

PS307 24 V/ 5 A 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
Supply voltage	
<ul style="list-style-type: none"> • 1 at AC Rated value • 2 at AC Rated value • Note 	120 V 230 V Set by means of selector switch on the device
Input voltage	
<ul style="list-style-type: none"> • 1 at AC • 2 at AC 	93 ... 132 V 187 ... 264 V
Wide-range input	No
Overvoltage resistance	2.3 × Vin rated, 1.3 ms
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	
<ul style="list-style-type: none"> • at rated input voltage 120 V • at rated input voltage 230 V 	2.1 A 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
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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 <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • maximum • typical 	3.5 mA 0.3 mA
CE mark	Yes
UL/cUL (CSA) approval	UL-Listed (UL 508), File E143289, CSA (CSA C22.2 No. 142)
Explosion protection	-
FM approval	-
CB approval	No
Marine approval	-
Degree of protection (EN 60529)	IP20

EMC

Emitted interference	EN 55011 Class A
Supply harmonics limitation	-
Noise immunity	EN 61000-6-2

Operating data

Ambient temperature <ul style="list-style-type: none"> • during operation — Note • during transport • during storage 	-25 ... +70 °C with natural convection -40 ... +85 °C -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 • Output 	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm ² single-core/finely stranded L+, M: 3 screw terminals each for 0.5 ... 2.5 mm ²

• 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 for side-by-side mounting	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)