

POWER SUPPLY PS307 24 V/10 A
SIMATIC S7-300 STABILIZED POWER SUPPLY PS307 INPUT:
120/230 V AC OUTPUT: DC 24 V DC/10 A



Input	
Input	1-phase AC
Supply voltage	
• 1 at AC Rated value	120 V
• 2 at AC Rated value	230 V
• Note	Automatic range selection
Input voltage	
• 1 at AC	85 ... 132 V
• 2 at AC	170 ... 264 V
Wide-range input	No
Overvoltage resistance	2.3 × Vin rated, 1.3 ms
Mains buffering at lout 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	4.2 A
• at rated input voltage 230 V	1.9 A
Switch-on current limiting (+25 °C), max.	55 A

Duration of inrush current limiting at 25 °C	
• maximum	3 ms
I^2t , max.	3.3 A ² ·s
Built-in incoming fuse	T 6.3 A/250 V (not accessible)
Protection in the mains power input (IEC 898)	Recommended miniature circuit breaker: from 10 A characteristic C

Output	
Output	Controlled, isolated DC voltage
Rated voltage V_{out} DC	24 V
Total tolerance, static $\pm$	3 %
Static mains compensation, approx.	0.1 %
Static load balancing, approx.	0.5 %
Residual ripple peak-peak, max.	50 mV
Residual ripple peak-peak, typ.	15 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	150 mV
Spikes peak-peak, typ. (bandwidth: 20 MHz)	60 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.	2 s
Voltage rise, typ.	10 ms
Rated current value I_{out} rated	10 A
Current range	0 ... 10 A
Supplied active power typical	240 W
Short-term overload current	
• on short-circuiting during the start-up typical	38 A
• at short-circuit during operation typical	38 A
Duration of overloading capability for excess current	
• on short-circuiting during the start-up	80 ms
• at short-circuit during operation	80 ms
Parallel switching for enhanced performance	Yes

Efficiency	
Efficiency at V_{out} rated, I_{out} rated, approx.	90 %
Power loss at V_{out} rated, I_{out} rated, approx.	27 W

Closed-loop control	
Dynamic mains compensation (V_{in} rated ± 15 %), max.	0.1 %
Dynamic load smoothing (I_{out} : 50/100/50 %), $U_{out} \pm$ typ.	2 %
Setting time maximum	0.1 ms

Protection and monitoring

Output overvoltage protection	Additional control loop, shutdown at < 28.8 V, automatic restart
Current limitation	11 ... 12 A
Property of the output Short-circuit proof	Yes
Short-circuit protection	Electronic shutdown, automatic restart
Enduring short circuit current RMS value • maximum	12 A
Overload/short-circuit indicator	-

Safety

Primary/secondary isolation	Yes
Galvanic isolation	Safety extra-low output voltage U _{out} acc. to EN 60950-1 and EN 50178
Protection class	Class I
Leakage current • maximum • typical	3.5 mA 0.6 mA
CE mark	Yes
UL/cUL (CSA) approval	cULus-Listed (UL 508, CSA C22.2 No. 142), File E143289
Explosion protection	ATEX (EX) II 3G Ex nA II T4; cULus (ISA 12.12.01, CSA C22.2 No.213) Class I, Div. 2, Group ABCD, T4, File E330455
FM approval	Class I, Div. 2, Group ABCD, T4
CB approval	No
Marine approval	In S7-300 system
Degree of protection (EN 60529)	IP20

EMC

Emitted interference	EN 55022 Class B
Supply harmonics limitation	EN 61000-3-2
Noise immunity	EN 61000-6-2

Operating data

Ambient temperature • during operation — Note • during transport • during storage	0 ... 60 °C with natural convection -40 ... +85 °C -40 ... +85 °C
Humidity class according to EN 60721	Climate class 3K3, no condensation

Mechanics

Connection technology	screw-type terminals
Connections • Supply input • Output • Auxiliary	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm ² single-core/finely stranded L+, M: 4 screw terminals each for 0.5 ... 2.5 mm ² -
Width of the enclosure	80 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
Weight, approx.	0.8 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 (6EP1971-1BA00)
MTBF at 40 °C	1 504 280 h
Other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)