

SIMATIC S7-300 STABILIZED POWER SUPPLY PS307 INPUT:  
120/230 V AC OUTPUT: DC 24 V DC/2 A



## Technical specifications

Product	PS 307
Power supply, type	24 V/2 A

## Input

Input	1-phase AC
Supply voltage 1 with AC Rated value	120 V
Supply voltage 2 with AC Rated value	230 V
• Note	Automatic range selection
Input voltage 1 with AC	85 ... 132 V
Input voltage 2 with 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
Mains buffering	at Vin = 93/187 V
Rated line frequency	50 ... 60 Hz
Rated line range	47 ... 63 Hz
Input current at rated input voltage 120 V Rated value	0.9 A
Input current at rated input voltage 230 V Rated value	0.5 A

Switch-on current limiting (+25 °C), max.	22 A
Duration of inrush current limiting at 25 °C maximum	3 ms
I <sup>2</sup> t, max.	1 A <sup>2</sup> ·s
Built-in incoming fuse	T 1.6 A/250 V (not accessible)
Protection in the mains power input (IEC 898)	Recommended miniature circuit breaker: 3 A characteristic C

## Output

Output	Controlled, isolated DC voltage
Rated voltage V <sub>out</sub> DC	24 V
Total tolerance, static ±	3 %
Static mains compensation, approx.	0.1 %
Static load balancing, approx.	0.2 %
Residual ripple peak-peak, max.	50 mV
Residual ripple peak-peak, typ.	5 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	150 mV
Spikes peak-peak, typ. (bandwidth: 20 MHz)	20 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 <sub>out</sub> (soft start)
Startup delay, max.	2 s
Voltage rise, typ.	10 ms
Rated current value I <sub>out</sub> rated	2 A
Current range	0 ... 2 A
Active power supplied typical	48 W
Short-term overload current on short-circuiting during the start-up typical	9 A
Duration of overloading capability for excess current on short-circuiting during the start-up	90 ms
Short-term overload current at short-circuit during operation typical	9 A
Duration of overloading capability for excess current at short-circuit during operation	90 ms
Parallel switching for enhanced performance	Yes

## Efficiency

Efficiency at V <sub>out</sub> rated, I <sub>out</sub> rated, approx.	84 %
Power loss at V <sub>out</sub> rated, I <sub>out</sub> rated, approx.	9 W

## Closed-loop control

Dynamic mains compensation (V <sub>in</sub> rated ±15 %), max.	0.1 %
Dynamic load smoothing (I <sub>out</sub> : 50/100/50 %), U <sub>out</sub> ± typ.	0.8 %
Load step setting time 50 to 100%, typ.	0.5 ms
Load step setting time 100 to 50%, typ.	0.5 ms
Setting time maximum	1 ms

## Protection and monitoring

Output overvoltage protection	Additional control loop, shutdown at < 28.8 V, automatic restart
Current limitation	2.2 ... 2.6 A
Property of the output Short-circuit proof	Yes
Short-circuit protection	Electronic shutdown, automatic restart
Enduring short circuit current RMS value maximum	2 A
Overload/short-circuit indicator	-

## Safety

Primary/secondary isolation	Yes
Galvanic isolation	Safety extra-low output voltage U <sub>out</sub> acc. to EN 60950-1 and EN 50178
Protection class	Class I
Leakage current maximum	3.5 mA
Leakage current typical	0.5 mA
CE mark	Yes
UL/CSA approval	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
Certificate of suitability IECEx	No
Certificate of suitability NEC Class 2	No
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	not applicable
Noise immunity	EN 61000-6-2

## Operating data

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

## Mechanics

Connection technology	screw-type terminals
Connections Supply input	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm <sup>2</sup> single-core/finely stranded
Connections Output	L+, M: 2 screw terminals each for 0.5 ... 2.5 mm <sup>2</sup>
Connections Auxiliary	-
Width of the enclosure	40 mm
Height of the enclosure	125 mm
Depth of the enclosure	120 mm

Installation width	40 mm
Installation height	205 mm
Weight, approx.	0.4 kg
Product property of the enclosure housing for side-by-side mounting	Yes
Mounting type wall mounting	No
Mounting type Standard rail mounting	No
Mounting type S7 rail mounting	Yes
Installation	Can be mounted onto S7 rail
Mechanical accessories	Mounting adapter for standard mounting rail (6EP1971-1BA00)
Other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)