

PS305 24 V/ 2 A OUTDOOR
 SIMATIC S7-300 with Regulated power supply PS305 input: 24-110
 V DC output: 24 V DC/2 A



Figure similar

Input	
Input	DC voltage
Supply voltage	
• at DC	24 ... 110 V
Input voltage	
• at DC	16.8 ... 138 V
Wide-range input	Yes
Oversvoltage resistance	154 V; 0.1 s
Mains buffering	at V_{in} rated
Mains buffering at I_{out} rated, min.	10 ms; at V_{in} rated
Input current	
• at rated input voltage 24 V	2.4 A
• at rated input voltage 110 V	0.6 A
Switch-on current limiting (+25 °C), max.	20 A
Duration of inrush current limiting at 25 °C	
• maximum	10 ms
I^2t , max.	5 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, suitable for DC

Output

Output	Controlled, isolated DC voltage
Rated voltage V_{out} DC	24 V
Total tolerance, static \pm	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.	30 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	240 mV
Spikes peak-peak, typ. (bandwidth: 20 MHz)	150 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.	5 ms
Rated current value I_{out} rated	2 A
Current range	0 ... 3 A
• Note	3 A up to +60°C at $V_{in} > 24$ V
Supplied active power typical	48 W
Short-term overload current	
• on short-circuiting during the start-up typical	9 A
• at short-circuit during operation typical	9 A
Duration of overloading capability for excess current	
• on short-circuiting during the start-up	270 ms
• at short-circuit during operation	270 ms
Parallel switching for enhanced performance	Yes
Numbers of parallel switchable units for enhanced performance	2

Efficiency

Efficiency at V_{out} rated, I_{out} rated, approx.	75 %
Power loss at V_{out} rated, I_{out} rated, approx.	16 W

Closed-loop control

Dynamic mains compensation (V_{in} rated ± 15 %), max.	0.3 %
Dynamic load smoothing (I_{out} : 50/100/50 %), $U_{out} \pm$ typ.	2.5 %
Load step setting time 50 to 100%, typ.	2.5 ms
Load step setting time 100 to 50%, typ.	2.5 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	3.3 ... 3.9 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 	2 A
Overload/short-circuit indicator	-

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
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	-
FM approval	-
CB approval	No
Marine approval	-

EMC

Emitted interference	EN 55011 Class A
Supply harmonics limitation	not applicable
Noise immunity	EN 61000-6-2

environmental conditions

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 • Auxiliary 	L+1, M1, 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 -

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	964 506 h
Other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)