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Product data sheet 6ES7307-1EA01-0AA0

SIMATIC S7-300 STABILIZED POWER SUPPLY PS307
INPUT: 120/230 V AC OUTPUT: DC 24 V DC/5 A

Technical specifications	
Product	PS 307
Power supply, type	24 V/5 A
Input	
Input	1-phase AC
Supply voltage / 1 / at AC / nominal value	120 V
Supply voltage / 2 / at AC / nominal value	230 V
Voltage range	
• Note	Automatic range selection
Input voltage / 1 / at AC	85 … 132 V
Input voltage / 2 / at AC	170 … 264 V
Wide-range input	No
Overvoltage resistance	2.3 × Vin rated, 1.3 ms
Mains buffering at Iout 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 nominal level of the input voltage 120 V	2.3 A
Input current / at nominal level of the input voltage 230 V	1.2 A
Switch-on current limiting (+25 °C), max.	20 A
Duration of current limiting / at 25 °C / maximum	3 ms

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I^2t, max.	1.2 $A^2 \cdot s$
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 6 A characteristic C
Output	
Output	Controlled, isolated DC voltage
Rated voltage Vout DC	24 V
Total tolerance, static ±	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.	10 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	150 mV
Spikes peak-peak, typ. (bandwidth: 20 MHz)	20 mV
Product feature / output voltage adjustable	No
Output voltage setting	-
Status display	Green LED for 24 V OK
On/off behavior	No overshoot of Vout (soft start)
Startup delay, max.	2 s
Voltage rise, typ.	10 ms
Rated current value Iout rated	5 A
Current range	0 … 5 A
delivered active power / typ.	120 W
short-term overload current / at short-circuit during run-up / typical	20 A
Duration of overloading ability for excess current / on short-circuiting during the start-up	100 ms
short-term overload current / at short-circuit during operation / typical	20 A
Duration of overloading ability for excess current / on short-circuiting during the operational phase	100 ms
Parallel switching for enhanced performance	Yes
Efficiency	
Efficiency at Vout rated, Iout rated, approx.	87 %
Power loss at Vout rated, Iout rated, approx.	18 W
Closed-loop control	
Dynamic mains compensation (Vin rated ±15 %), max.	0.1 %
Dynamic load smoothing (Iout: 50/100/50 %), Uout ± typ.	1 %
Load step setting time 50 to 100%, typ.	0.3 ms
Load step setting time 100 to 50%, typ.	0.3 ms
Protection and monitoring	
Output overvoltage protection	Additional control loop, shutdown at < 28.8 V, automatic restart
Current limitation	5.5 … 6.5 A

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Characteristic feature of the output / short-circuit protected	Yes
Short-circuit protection	Electronic shutdown, automatic restart
Enduring short circuit current / Effective level / maximum	7 A
Safety	
Primary/secondary isolation	Yes
Potential separation	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178
Protection class	Class I
stray current / maximum	3.5 mA
stray 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
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 / in operation	0 … 60 °C
• Note	with natural convection
Ambient temperature / on transport	-40 … +85 °C
Ambient temperature / in 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 mm² single-core/finely stranded
Connections / Output	L+, M: 3 screw terminals each for 0.5 ... 2.5 mm²
Connections / Auxiliary	-
Width / of the housing	60 mm
Height / of the housing	125 mm
Depth / of the housing	120 mm
Installation width	60 mm
Mounting height	205 mm

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Weight, approx.	0.6 kg
Product feature / of the housing / housing for side-by-side mounting	Yes
Mounting type / wall mounting	No
Type of mounting / 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)

letzte Änderung: May 31, 2014

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