



SIMATIC PS307/1AC/24VDC/2A

SIMATIC S7-300 Regulated power supply PS307 input: 120/230 V AC, output: 24 V DC/2 A

Input	
type of the power supply network	1-phase AC
supply voltage at AC	Automatic range selection
<ul style="list-style-type: none"> initial value 	
supply voltage	
<ul style="list-style-type: none"> 1 at AC rated value 2 at AC rated value 	120 V 230 V
input voltage	
<ul style="list-style-type: none"> 1 at AC 2 at AC 	85 ... 132 V 170 ... 264 V
design of input wide range input	No
overvoltage overload capability	2.3 × Vin rated, 1.3 ms
operating condition of the mains buffering	at Vin = 93/187 V
buffering time for rated value of the output current in the event of power failure minimum	20 ms
operating condition of the mains buffering	at Vin = 93/187 V
line frequency	
<ul style="list-style-type: none"> 1 rated value 2 rated value 	50 Hz 60 Hz
line frequency	47 ... 63 Hz
input current	
<ul style="list-style-type: none"> at rated input voltage 120 V at rated input voltage 230 V 	0.9 A 0.5 A
current limitation of inrush current at 25 °C maximum	22 A
duration of inrush current limiting at 25 °C	
<ul style="list-style-type: none"> maximum 	3 ms
I2t value maximum	1 A²·s
fuse protection type	T 1.6 A/250 V (not accessible)
<ul style="list-style-type: none"> in the feeder 	Recommended miniature circuit breaker: 3 A characteristic C
Output	
voltage curve at output	Controlled, isolated DC voltage
output voltage at DC rated value	24 V
output voltage	
<ul style="list-style-type: none"> at output 1 at DC rated value 	24 V
relative overall tolerance of the voltage	3 %
relative control precision of the output voltage	
<ul style="list-style-type: none"> on slow fluctuation of input voltage on slow fluctuation of ohm loading 	0.1 % 0.2 %
residual ripple	
<ul style="list-style-type: none"> maximum typical 	50 mV 5 mV
voltage peak	

<ul style="list-style-type: none"> • maximum • typical 	150 mV
product function output voltage adjustable	20 mV
type of output voltage setting	No
display version for normal operation	-
behavior of the output voltage when switching on	Green LED for 24 V OK
response delay maximum	No overshoot of Vout (soft start)
voltage increase time of the output voltage	2 s
<ul style="list-style-type: none"> • typical 	10 ms
output current	
<ul style="list-style-type: none"> • rated value • rated range 	2 A
supplied active power typical	0 ... 2 A
short-term overload current	48 W
<ul style="list-style-type: none"> • on short-circuiting during the start-up typical • at short-circuit during operation typical 	9 A
duration of overloading capability for excess current	9 A
<ul style="list-style-type: none"> • on short-circuiting during the start-up • at short-circuit during operation 	90 ms
product feature	90 ms
<ul style="list-style-type: none"> • bridging of equipment 	Yes
number of parallel-switched equipment resources for increasing the power	2

Efficiency

efficiency in percent	84 %
power loss [W]	
<ul style="list-style-type: none"> • at rated output voltage for rated value of the output current typical 	9 W

Closed-loop control

relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	0.1 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	0.8 %
setting time	
<ul style="list-style-type: none"> • load step 50 to 100% typical • load step 100 to 50% typical 	0.5 ms
setting time	0.5 ms
<ul style="list-style-type: none"> • maximum 	1 ms

Protection and monitoring

design of the overvoltage protection	Additional control loop, shutdown at < 28.8 V, automatic restart
response value current limitation	2.2 ... 2.6 A
property of the output short-circuit proof	Yes
design of short-circuit protection	Electronic shutdown, automatic restart
enduring short circuit current RMS value	
<ul style="list-style-type: none"> • maximum 	2 A
display version for overload and short circuit	-

Safety

galvanic isolation between input and output	Yes
galvanic isolation	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178
operating resource protection class	Class I
leakage current	
<ul style="list-style-type: none"> • maximum • typical 	3.5 mA
protection class IP	0.5 mA
	IP20

Approvals

certificate of suitability	Yes
<ul style="list-style-type: none"> • CE marking • UL approval • CSA approval • cCSAus, Class 1, Division 2 • ATEX 	Yes; cULus-Listed (UL 508, CSA C22.2 No. 142), File E143289
certificate of suitability	Yes; cULus-Listed (UL 508, CSA C22.2 No. 142), File E143289
<ul style="list-style-type: none"> • relating to ATEX 	No
	Yes; ATEX (EX) II 3G Ex nA nC IIC T4 Gc
	IECEx Ex nA nC IIC T4 Gc; ATEX (EX) II 3G Ex nA nC IIC T4 Gc; cULus (ANSI/ISA 12.12.01, CSA C22.2 No.213) Class I, Div. 2, Group

<ul style="list-style-type: none"> • IECEX • NEC Class 2 • ULhazloc approval • FM registration 	ABCD, T4, File E330455 Yes; IECEX Ex nA nC IIC T4 Gc No Yes Yes; Class I, Div. 2, Group ABCD, T4 No
type of certification CB-certificate certificate of suitability <ul style="list-style-type: none"> • EAC approval 	Yes Yes In S7-300 system
certificate of suitability shipbuilding approval shipbuilding approval Marine classification association <ul style="list-style-type: none"> • American Bureau of Shipping Europe Ltd. (ABS) • French marine classification society (BV) • DNV GL • Lloyds Register of Shipping (LRS) • Nippon Kaiji Kyokai (NK) 	No No No No No
EMC	
standard <ul style="list-style-type: none"> • for emitted interference • for mains harmonics limitation • for interference immunity 	EN 55022 Class B not applicable EN 61000-6-2
environmental conditions	
ambient temperature <ul style="list-style-type: none"> • during operation • during transport • during storage environmental category according to IEC 60721	0 ... 60 °C; with natural convection -40 ... +85 °C -40 ... +85 °C Climate class 3K3, 5 ... 95% no condensation
Mechanics	
type of electrical connection <ul style="list-style-type: none"> • at input • at output • for auxiliary contacts width of the enclosure height of the enclosure depth of the enclosure required spacing <ul style="list-style-type: none"> • top • bottom • left • right net weight product feature of the enclosure housing can be lined up fastening method mechanical accessories MTBF at 40 °C other information	screw-type terminals L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm ² single-core/finely stranded L+, M: 2 screw terminals each for 0.5 ... 2.5 mm ² - 40 mm 125 mm 120 mm 40 mm 40 mm 0 mm 0 mm 0.4 kg Yes Can be mounted onto S7 rail Mounting adapter for standard mounting rail (6EP1971-1BA00) 2 320 078 h Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)

