SIEMENS

Data sheet 6ES7305-1BA80-0AA0

SIMATIC PS305/24-110VDC/24V/2A/Outdoor

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

General information	
Technical Product Detail Page	https://i.siemens.com/1P6ES7305-1BA80-0AA0
product brand name	SIMATIC
product type designation	PS305
product designation	Power supply S7-300
type of current supply	24 V/2 A
input	
type of the power supply network	DC voltage
voltage curve at input	DC
supply voltage at DC	24 ... 110 V
input voltage at DC	16.8 ... 138 V
wide range input	Yes
overvoltage overload capability	154 V; 0.1 s
buffering time for rated value of the output current in the event of power failure minimum	10 ms
operating condition of the mains buffering	at Vin rated
input current	
● at rated input voltage 24 V	2.4 A
● at rated input voltage 110 V	0.6 A
current limitation of inrush current at 25 °C maximum	20 A
duration of inrush current limiting at 25 °C	
● maximum	10 ms
I2t value maximum	5 A²·s
fuse protection type	T 6.3 A/250 V (not accessible)
fuse protection type in the feeder	Recommended miniature circuit breaker: from 10 A characteristic C, suitable for DC
output	
voltage curve at output	Controlled, isolated DC voltage
product function output voltage controlled	Yes
product function output voltage stabilized	Yes
output voltage at DC rated value	24 V
output voltage	
● at output 1 at DC rated value	24 V
output voltage	
● at output 1 at DC	24 V
output voltage adjustable	No; -
relative overall tolerance of the voltage	3 %
relative control precision of the output voltage	
● on slow fluctuation of input voltage	0.2 %
● on slow fluctuation of ohm loading	0.4 %
residual ripple	
● maximum	150 mV
● typical	30 mV
voltage peak	
● maximum	240 mV
● typical	150 mV
display version for normal operation	Green LED for 24 V OK
behavior of the output voltage when switching on	No overshoot of Vout (soft start)

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response delay maximum	3 s
voltage increase time of the output voltage	
● typical	5 ms
output current	
● rated value	2 A
● rated range	0 ... 3 A; 3 A to +60 °C with Ue > 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
bridging of equipment	Yes
number of parallel-switched equipment resources for increasing the power	2
efficiency	
efficiency in percent	75 %
power loss [W]	
● at rated output voltage for rated value of the output current typical	16 W
closed-loop control	
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	0.3 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	2.5 %
setting time	
● load step 50 to 100% typical	2.5 ms
● load step 100 to 50% typical	2.5 ms
setting time	
● maximum	5 ms
protection and monitoring	
design of the overvoltage protection	Additional control loop, shutdown at approx. 30 V, automatic restart
property of the output short-circuit proof	Yes
design of short-circuit protection	Electronic shutdown, automatic restart
response value current limitation	3.3 ... 3.9 A
enduring short circuit current RMS value	
● maximum	2 A
safety	
galvanic isolation between input and output	Yes
galvanic isolation	Output voltage: SELV, ES1 (IEC 62368-1), DVC As (IEC 61204-7)
operating resource protection class	Class I
protection class IP	IP20
EMC	
standard	
● for emitted interference	EN 55011 Class A
● for mains harmonics limitation	not applicable
● for interference immunity	EN 61000-6-2
standards, specifications, approvals	
certificate of suitability	
● CE marking	Yes
● UL approval	Yes; UL-Listed (UL 508), File E143289
● EAC approval	Yes
● NEC Class 2	No
type of certification	
● CB-certificate	No
MTBF at 40 °C	964 506 h
standards, specifications, approvals hazardous environments	
certificate of suitability	

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● IECEx	No
● ATEX	No
● ULhazloc approval	No
● FM registration	No
standards, specifications, approvals marine classification	
shipbuilding approval	No
Marine classification association	
● American Bureau of Shipping Europe Ltd. (ABS)	No
● French marine classification society (BV)	No
● Det Norske Veritas (DNV)	No
● Lloyds Register of Shipping (LRS)	No
standards, specifications, approvals Environmental Product Declaration	
Environmental Product Declaration	Yes
global warming potential [CO2 eq]	
● total	448.9 kg
● during manufacturing	10.8 kg
● during operation	437.6 kg
● after end of life	0.39 kg
ambient conditions	
ambient temperature	
● during operation	-25 ... +70 °C; with natural convection
● during transport	-40 ... +85 °C
● during storage	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K5, transient condensation permitted
connection method	
type of electrical connection	screw terminal
● at input	L+1, M1, PE: 1 screw terminal each for 0.5 ... 2.5 mm² single-core/finely stranded
● at output	L+, M: 3 screw terminals each for 0.5 ... 2.5 mm²
● for auxiliary contacts	-
mechanical data	
width × height × depth of the enclosure	80 × 125 × 120 mm
installation width × mounting height	80 mm × 225 mm
required spacing	
● top	50 mm
● bottom	50 mm
● left	0 mm
● right	0 mm
fastening method	Can be mounted onto S7 rail
● DIN-rail mounting	No
● S7 rail mounting	Yes
● wall mounting	No
housing can be lined up	Yes
net weight	0.57 kg
accessories	
mechanical accessories	Mounting adapter for standard mounting rail (6ES7390-6BA00-0AA0)
further information internet links	
internet link	
● to website: Industry Mall	https://mall.industry.siemens.com
● to web page: selection aid TIA Selection Tool	https://www.siemens.com/tstcloud
● to website: CAx-Download-Manager	https://siemens.com/cax
● to website: Industry Online Support	https://support.industry.siemens.com
additional information	
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information	
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement - and continuously maintain - a holistic,

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Classifications

	Version	Classification
eClass	16	27-04-07-01
eClass	14	27-04-07-01
eClass	12	27-04-07-01
eClass	9.1	27-04-07-01
eClass	9	27-04-07-01
eClass	8	27-04-90-02
eClass	7.1	27-04-90-02
eClass	6	27-04-90-02
ETIM	10	EC002540
ETIM	9	EC002540
ETIM	8	EC002540
ETIM	7	EC002540
IDEA	4	4130
UNSPSC	15	39-12-10-04

Approvals Certificates

Environmental Product Declaration

● global warming potential [CO2 eq] / during manufacturing	10.8 kg
● global warming potential [CO2 eq] / during operation	437.6 kg
● global warming potential [CO2 eq] / after end of life	0.39 kg
● global warming potential [CO2 eq] / total	448.9 kg

Environment | **General Product Approval**

Manufacturer Declaration | Declaration of Conformity | China RoHS

General Product Approval

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