

EMC filter surge protection device - SFP 1-20/120AC/EX - 2905220

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Device protection, according to type 3/class III, with network interference suppression filter to prevent high-frequency interference voltages, for 1-phase power supply networks with separate N and PE (3-conductor system: L1, N, PE), with remote indication contact. Can be used in potentially explosive areas in zone 2.

Product Description

Device protection with interference filter

Key Commercial Data

Packing unit	1 STK
Weight per Piece (excluding packing)	620.000 g
Custom tariff number	85363010
Country of origin	Germany

Technical data

Dimensions

Height	93 mm
Width	112 mm
Depth	79 mm

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 40 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C

General

IEC test classification	III
	T3
EN type	T3
Mounting type	DIN rail: 35 mm

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Technical data

General

Color	black
	silver
Housing material	Aluminum
Flammability rating according to UL 94	V-0
Type	Rail-mountable module, one-piece
Number of positions	2
Surge protection fault message	Optical, remote indicator contact
For country-specific use in	USA, CN, BR

Protective circuit

Nominal frequency f_N	50 Hz
	60 Hz
Maximum continuous operating voltage U_C (L-N)	150 V AC
	150 V AC
Nominal current I_N	20 A (40 °C)
Rated load current I_L	20 A (40 °C)
Residual current I_{PE}	≤ 0.5 mA
Nominal discharge current I_n (8/20) μ s (L-N)	3 kA
Nominal discharge current I_n (8/20) μ s (L-PE)	3 kA
Operating effective current I_C at U_C	≤ 10 mA
Max. discharge current I_{max} (8/20) μ s maximum (L-N)	10 kA
Max. discharge current I_{max} (8/20) μ s maximum (L-PE)	10 kA
Combination wave U_{OC}	6 kV (3 kA)
Energy absorption symmetrical	170 J
Energy absorption, asymmetrical	2x 170 J
Voltage protection level U_p (L-N)	≤ 450 V (at 6 kV/3 kA)
Voltage protection level U_p (L-PE)	≤ 450 V (at 6 kV/3 kA)
Voltage protection level U_p (N-PE)	≤ 450 V (at 6 kV/3 kA)
Residual voltage at I_n , (L-N)	≤ 450 V
Residual voltage at I_n , (L-PE)	≤ 450 V
Residual voltage at I_n , (N-PE)	≤ 450 V
Response time t_A (L-N)	≤ 25 ns
Response time t_A (L-PE)	≤ 25 ns
Response time t_A (N-PE)	≤ 25 ns
Inductivity in series	2x 1 mH ± 30 % (with current compensation)
Capacity (L-N)	2 μ F ± 10 % (X2, FOW X2-250V)
Capacity (L-PE)	2.2 nF ± 20 % (Y, FOW X2-250V)

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Protective circuit

Capacity (L-PEN)	2.2 nF $\pm 20\%$ (Y, FOW X2-250V)
Max. required back-up fuse	20 A (gL / gG)
	20 A (MCB, > 125 V, AIC: 14 kA)
Input attenuation aE, sym.	typ. 40 dB (≥ 500 kHz / 50 Ω)
Input attenuation aE, asym.	typ. 30 dB (≥ 1 MHz / 50 Ω)

Indicator/remote signaling

Switching function	PDT contact
Connection method	Pluggable screw connection
Conductor cross section flexible min.	0.14 mm ²
Conductor cross section flexible max.	1.5 mm ²
Conductor cross section solid min.	0.14 mm ²
Conductor cross section solid max.	1.5 mm ²
Conductor cross section AWG min.	28
Conductor cross section AWG max.	16
Screw thread	M2
Tightening torque	0.25 Nm
Stripping length	7 mm

Connection data

Connection name	Input/output
Connection method	Screw terminal blocks
Conductor cross section flexible min.	2.5 mm ²
Conductor cross section flexible max.	4 mm ²
Conductor cross section solid min.	2.5 mm ²
Conductor cross section solid max.	6 mm ²
Screw thread	M3
Tightening torque	0.5 Nm ... 0.6 Nm
	5 lb _f -in. ... 7 lb _f -in.
Stripping length	8 mm

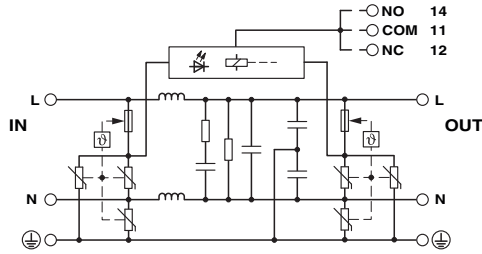
Protective circuit, filter

Discharge resistance	≤ 390 k Ω
Clamping voltage ringwave (L-N)	100 V (category A 100 kHz 6 kV/200 A)
	195 V (category B 100 kHz 6 kV/500 A)
Clamping voltage ringwave (L-PE)	390 V (category A 100 kHz 6 kV/200 A)
	390 V (category B 100 kHz 6 kV/500 A)

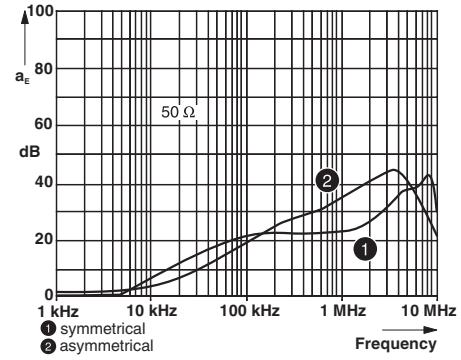
Drawings

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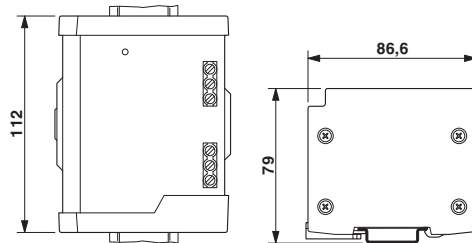
Circuit diagram



Diagram



Dimensional drawing



Classifications

eCl@ss

eCl@ss 4.0	27140201
eCl@ss 4.1	27130801
eCl@ss 5.0	27130801
eCl@ss 5.1	27130801
eCl@ss 6.0	27130806
eCl@ss 7.0	27130806

ETIM

ETIM 2.0	EC000942
ETIM 3.0	EC000942
ETIM 4.0	EC000942

UNSPSC

UNSPSC 6.01	30212010
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Classifications

UNSPSC

UNSPSC 7.0901	39121610
UNSPSC 11	39121610
UNSPSC 12.01	39121610
UNSPSC 13.2	39121620