

## EMC filter surge protection device - SFP 1-20/120AC - 2856702

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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.

### Product Description

Device protection with interference filter

### Your advantages

- ✔ Can be installed in industrial environments
- ✔ Thermal monitoring of the protective circuit
- ✔ Combined protective circuit for absorbing transient surge voltages and high-frequency interference voltages
- ✔ Disconnection status signaled via floating remote indication contact
- ✔ Integrated power display switches off automatically when there is a malfunction due to overload.

### Key Commercial Data

Packing unit	1 pc
GTIN	 4 017918 952648
GTIN	4017918952648
Weight per Piece (excluding packing)	571.280 g
Custom tariff number	85363010
Country of origin	Germany

### Technical data

#### Dimensions

Height	86.6 mm
Width	112 mm
Depth	79 mm

#### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 70 °C

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## Technical data

### Ambient conditions

Ambient temperature (storage/transport)	-25 °C ... 70 °C
Permissible humidity (operation)	5 % ... 95 %

### General

EN type	T3
Number of ports	Two
Mode of protection	L-N
	L-PE
	N-PE
Mounting type	DIN rail: 35 mm
Color	black
	silver
Housing material	Aluminum
Degree of pollution	2
Flammability rating according to UL 94	V-0
Type	DIN rail 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 voltage $U_N$	120 V AC (TN)
	120 V AC (TT - only in use with RCD)
	120 V AC (IT)
Nominal frequency $f_N$	50 Hz (60 Hz)
Maximum continuous voltage $U_C$	150 V AC
Rated load current $I_L$	20 A (40 °C)
Residual current $I_{PE}$	$\leq 0.6$ mA
Nominal discharge current $I_n$ (8/20) $\mu$ s	3 kA
Standby power consumption $P_C$	$\leq 7.5$ VA (at $U_{REF}$ )
	$\leq 10$ VA (at $U_C$ )
Reference test voltage $U_{REF}$	132 V AC
Combination wave $U_{OC}$	6 kV (3 kA)
Voltage protection level $U_p$	$\leq 0.45$ kV
TOV behavior at $U_T$ (L-N)	175 V AC (5 s / withstand mode)
	240 V AC (5 s / safe failure mode)
	208 V AC (120 min / safe failure mode)
TOV behavior at $U_T$ (L-PE)	208 V AC (5 s / withstand mode)
	175 V AC (120 min / withstand mode)
	1332 V AC (200 ms / safe failure mode)
TOV behavior at $U_T$ (N-PE)	1200 V AC (200 ms / safe failure mode)

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## Technical data

### Protective circuit

Response time $t_A$	$\leq 25$ ns
Capacity (L-N)	1 $\mu$ F $\pm 10$ %
	10 nF $\pm 10$ % (X2-275 V)
Capacity (L-PE)	2.2 nF $\pm 20$ % (Y2-250 V)
Capacity (L-PEN)	2.2 nF $\pm 20$ % (Y2-250 V)
Max. required back-up fuse	20 A (MCB B/general purpose)
	16 A (IT - MCB B/general purpose)
Input attenuation aE, sym.	20 dB ( $\geq 100$ kHz / 50 $\Omega$ )
Input attenuation aE, asym.	30 dB ( $\geq 1$ MHz / 50 $\Omega$ )
Short-circuit current rating $I_{SCCR}$	5 kA AC (TN/TT)
	1 kA AC (IT)

### Indicator/remote signaling

Switching function	PDT contact
Operating voltage	12 V AC ... 250 V AC
	250 V DC (250 mA DC)
Operating current	100 mA AC ... 1 A AC
	1 A DC (48 V DC)
Connection method	Pluggable screw connection
Conductor cross section flexible	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section solid	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section AWG	26 ... 16
Screw thread	M2
Tightening torque	0.25 Nm
Stripping length	7 mm

### Connection data

Connection method	Screw terminal blocks
Conductor cross section flexible	2.5 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Conductor cross section solid	2.5 mm <sup>2</sup> ... 6 mm <sup>2</sup>
Conductor cross section AWG	14 ... 10
Screw thread	M3
Tightening torque	0.5 Nm ... 0.6 Nm
	4.5 lb <sub>f</sub> -in. ... 5.5 lb <sub>f</sub> -in.
Stripping length	8 mm

### UL specifications

SPD Type	2CA
Maximum continuous operating voltage MCOV (L-N)	150 V AC
Maximum continuous operating voltage MCOV (L-G)	150 V AC
Maximum continuous operating voltage MCOV (N-G)	150 V AC
Mode of protection	L-N

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### Technical data

#### UL specifications

	L-G
	N-G
Power distribution system	Single phase
Nominal frequency	50/60 Hz
Voltage protection rating VPR (L-N)	500 V
Voltage protection rating VPR (L-G)	500 V
Voltage protection rating VPR (N-G)	500 V
Nominal discharge current $I_n$	3 kA
Short-circuit current rating (SCCR)	5 kA

#### Protective circuit, filter

Discharge resistance	820 k $\Omega$
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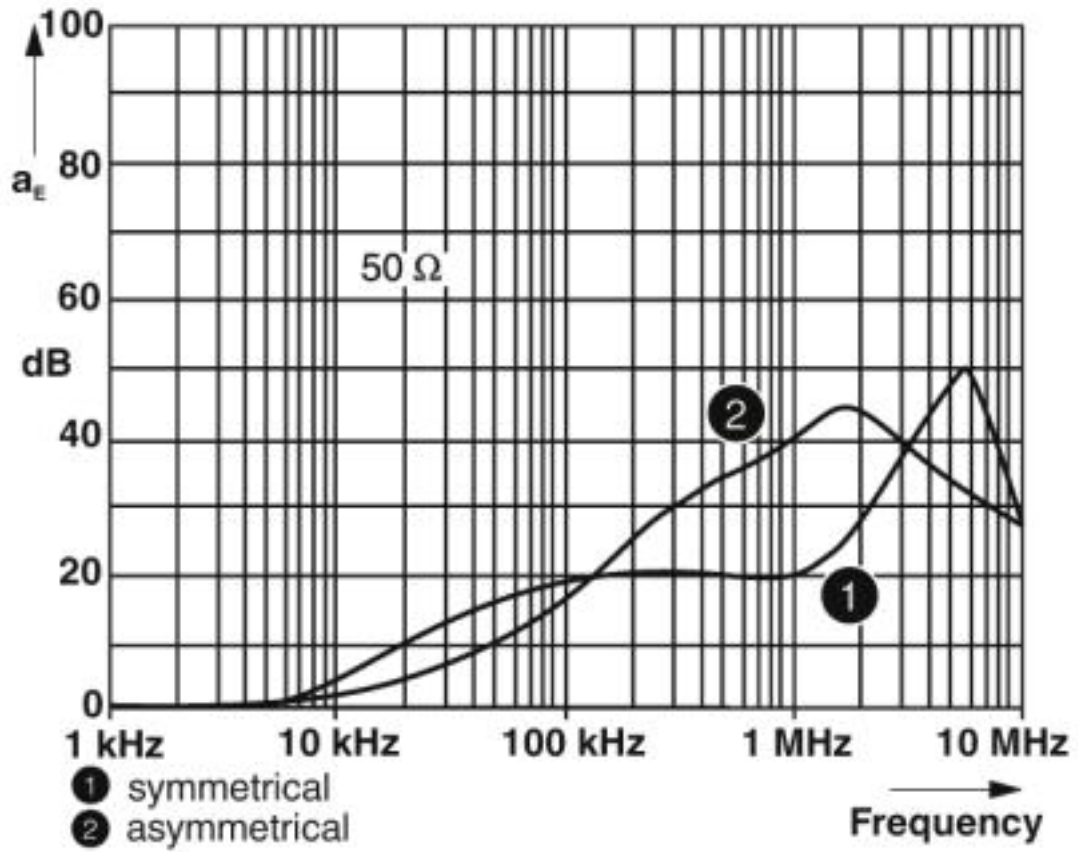
#### Environmental Product Compliance

	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

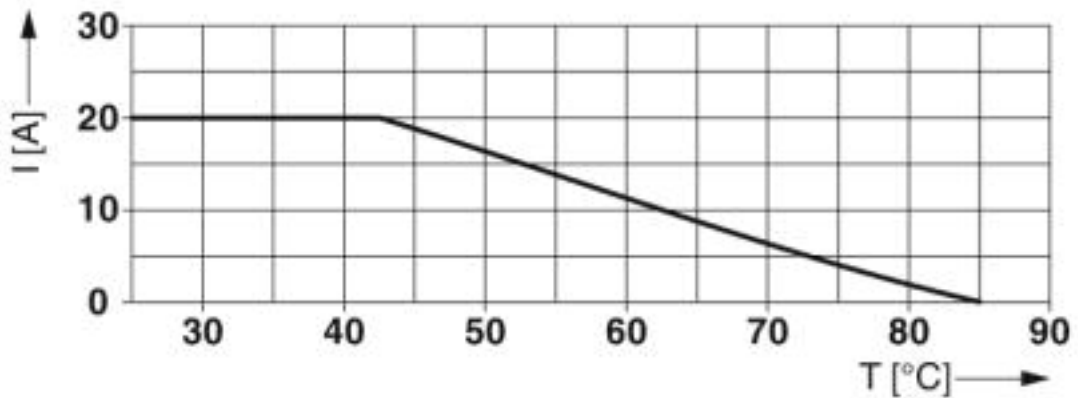
### Drawings

# EMC filter surge protection device - SFP 1-20/120AC - 2856702

Diagram

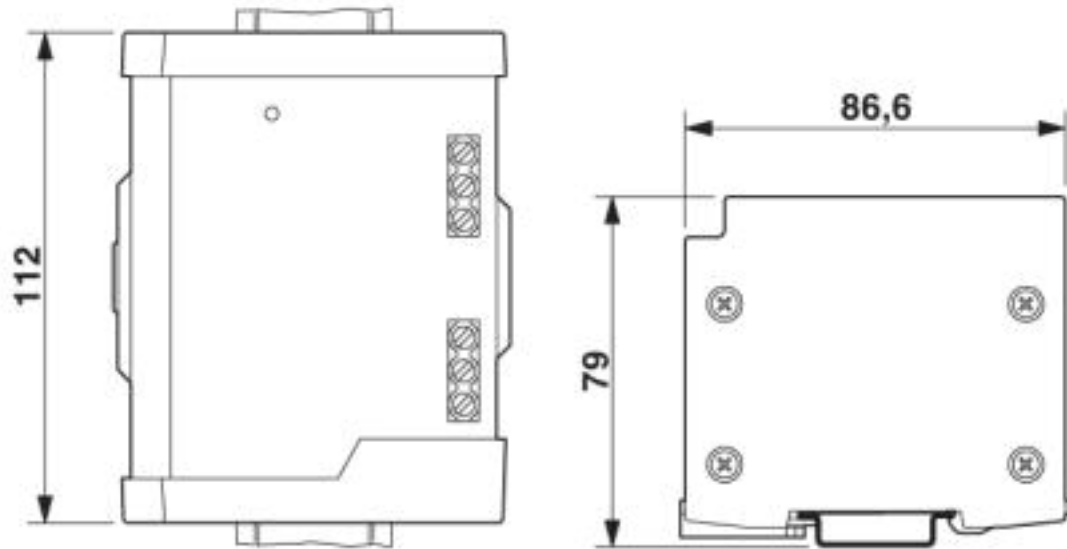


Diagram

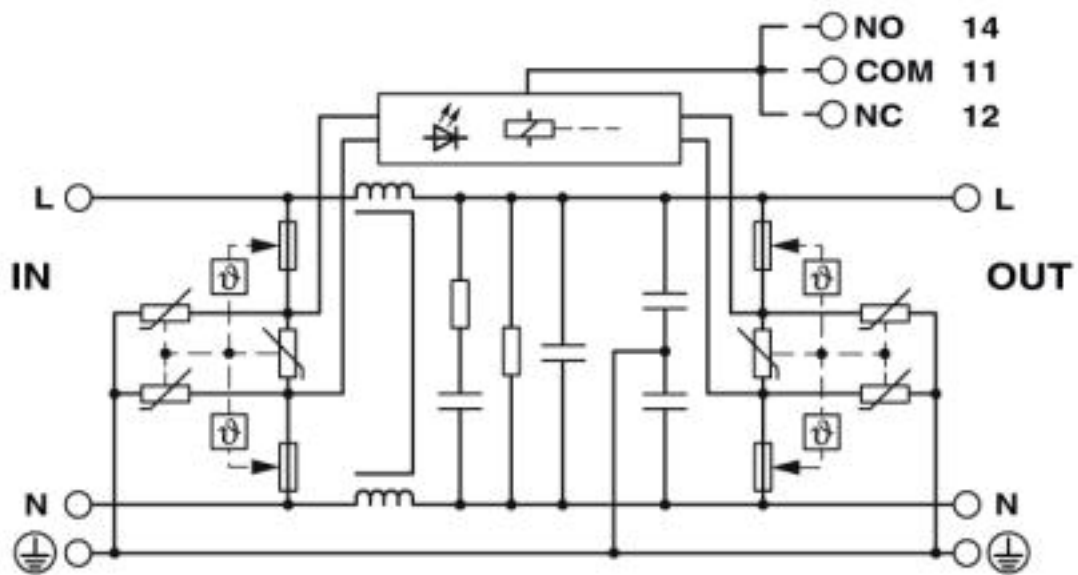


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Dimensional drawing



Circuit diagram



## Classifications

eCl@ss

eCl@ss 4.0	27130800
eCl@ss 4.1	27130800
eCl@ss 5.0	27130800
eCl@ss 5.1	27130800
eCl@ss 6.0	27130800
eCl@ss 7.0	27130806

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## Classifications

### eCl@ss

eCl@ss 8.0	27130806
eCl@ss 9.0	27130806

### ETIM

ETIM 2.0	EC000942
ETIM 3.0	EC000942
ETIM 4.0	EC000942
ETIM 5.0	EC000942
ETIM 6.0	EC000942
ETIM 7.0	EC000942

### UNSPSC

UNSPSC 6.01	30212010
UNSPSC 7.0901	39121610
UNSPSC 11	39121610
UNSPSC 12.01	39121610
UNSPSC 13.2	39121620
UNSPSC 18.0	39121620
UNSPSC 19.0	39121620
UNSPSC 20.0	39121620
UNSPSC 21.0	39121620

## Approvals

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CSA / UL Recognized / cUL Recognized / CSAus / EAC / cULus Recognized

#### Ex Approvals


### Approval details

CSA		<a href="http://www.csagroup.org/services-industries/product-listing/">http://www.csagroup.org/services-industries/product-listing/</a>	70205391
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UL Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 330181
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CSAus		<a href="http://www.csagroup.org/services-industries/product-listing/">http://www.csagroup.org/services-industries/product-listing/</a>	70205391
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cULus Recognized			
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