

# EMC filter surge protection device - SFP 1-20/230AC - 2859987

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Device surge protection filter to limit powerful surge voltages, mounting on NS 35.

## Product Description

Device protection with interference filter

## Product Features

- Can be installed in industrial environments
- Combined protective circuit for absorbing transient surge voltages and high-frequency interference voltages
- Thermal monitoring of the protective circuit
- Disconnection status signaled via floating remote indication contact



## Key commercial data

package_quantity	1
GTIN	4046356098175

## Technical data

### Dimensions

Height	93 mm
Width	112 mm
Depth	79 mm

### Ambient conditions

Degree of protection	IP20
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Ambient temperature (operation)	-40 °C ... 70 °C

### General

Housing material	ABS, V0(UL-94)
Inflammability class according to UL 94	V0
Color	aluminum
Standards for air and creepage distances	DIN VDE 0110-1
Standards for air and creepage distances	IEC 60664-1
Standards for air and creepage distances	IEC 61643-1

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## Technical data

### General

<b>Type</b>	Rail-mountable module, one-piece
<b>Mounting type</b>	DIN rail: 35 mm
<b>Number of positions</b>	2
<b>For country-specific use in</b>	D, A, I, NL, S, E, FIN, P
<b>Direction of action</b>	L-N & L(N)-PE

### Protective circuit

<b>IEC test classification</b>	III
<b>IEC test classification</b>	T3
<b>EN type</b>	T3
<b>Nominal voltage <math>U_N</math></b>	230 V AC
<b>Arrester rated voltage <math>U_c</math> (L-N)</b>	264 V AC
<b>Nominal frequency <math>f_N</math></b>	50 Hz
<b>Nominal frequency <math>f_N</math></b>	60 Hz
<b>Nominal current <math>I_N</math></b>	20 A (40°C)
<b>Residual current <math>I_{PE}</math></b>	≤ 0.57 mA
<b>Nominal discharge current <math>I_n</math> (8/20) μs (L-N)</b>	5 kA
<b>Nominal discharge current <math>I_n</math> (8/20) μs (L-PE)</b>	5 kA
<b>Max. discharge current <math>I_{max}</math> (8/20) μs maximum (L-N)</b>	10 kA
<b>Max. discharge current <math>I_{max}</math> (8/20) μs maximum (L-PE)</b>	10 kA
<b>Combined surge <math>U_{oc}</math></b>	10 kV
<b>Voltage protection level <math>U_p</math> (L-N)</b>	≤ 1 kV
<b>Voltage protection level <math>U_p</math> (L-PE)</b>	≤ 1 kV
<b>Voltage protection level <math>U_p</math> (N-PE)</b>	≤ 1 kV
<b>Response time <math>t_A</math> (L-N)</b>	≤ 25 ns
<b>Response time <math>t_A</math> (L-PE)</b>	≤ 25 ns
<b>Response time <math>t_A</math> (N-PE)</b>	≤ 25 ns
<b>Inductivity in series</b>	2x 1 mH ±30 % (with current compensation)
<b>Capacity (L-N)</b>	1 μF ±10 % (X2-275 V)
<b>Capacity (L-PE)</b>	2.2 nF ±20 % (Y2-250 V)
<b>Capacity (L-PEN)</b>	2.2 nF ±20 % (Y2-250 V)
<b>Max. required back-up fuse</b>	20 A (gL / gG)
<b>Input attenuation aE, sym.</b>	20 dB (≥ 100 kHz / 50 Ω)
<b>Input attenuation aE, asym.</b>	30 dB (≥ 1 MHz / 50 Ω)
<b>Surge protection fault message</b>	Remote indicator contact

### Non-heating apparatus connection, power supply

<b>Connection name</b>	Input/output
<b>Connection method</b>	Screw terminal blocks
<b>Connection type IN</b>	Screw terminal blocks
<b>Connection type OUT</b>	Screw terminal blocks
<b>Connection method</b>	3-conductor (shielded)

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## Technical data

Non-heating apparatus connection, power supply

<b>Screw thread</b>	M3
<b>Stripping length</b>	8 mm
<b>Conductor cross section stranded min.</b>	4 mm <sup>2</sup>
<b>Conductor cross section stranded max.</b>	4 mm <sup>2</sup>
<b>Conductor cross section solid min.</b>	4 mm <sup>2</sup>
<b>Conductor cross section solid max.</b>	6 mm <sup>2</sup>
<b>Conductor cross section AWG/kcmil min.</b>	12
<b>Conductor cross section AWG/kcmil max</b>	10

Remote indicator contact

<b>Connection name</b>	Remote fault indicator contact
<b>Switching function</b>	PDT, 1-pos.
<b>Connection method</b>	Pluggable screw connection
<b>Screw thread</b>	M2
<b>Tightening torque</b>	0.25 Nm
<b>Stripping length</b>	7 mm
<b>Conductor cross section stranded min.</b>	0.14 mm <sup>2</sup>
<b>Conductor cross section stranded max.</b>	1.5 mm <sup>2</sup>
<b>Conductor cross section solid min.</b>	0.14 mm <sup>2</sup>
<b>Conductor cross section solid max.</b>	1.5 mm <sup>2</sup>
<b>Conductor cross section AWG/kcmil min.</b>	28
<b>Conductor cross section AWG/kcmil max</b>	16
<b>Maximum operating voltage <math>U_{max. AC}</math></b>	250 V AC
<b>Max. operating current <math>I_{max}</math></b>	1 A (250 V AC)
<b>Max. operating current <math>I_{max}</math></b>	0.25 A (250 V DC)
<b>Max. operating current <math>I_{max}</math></b>	1 A (48 V DC)

Standards and Regulations

<b>Standards/regulations</b>	IEC 61643-1
<b>Standards/regulations</b>	EN 61643-11/A11

Protective circuit, filter

<b>Discharge resistor</b>	≤ 680 kΩ
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## classifications

eCl@ss

<b>eCl@ss 4.0</b>	27140201
<b>eCl@ss 4.1</b>	27130801
<b>eCl@ss 5.0</b>	27130801
<b>eCl@ss 5.1</b>	27130801
<b>eCl@ss 6.0</b>	27130806
<b>eCl@ss 7.0</b>	27130806

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## classifications

### eCl@ss

eCl@ss 8.0	27130806
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### ETIM

ETIM 2.0	EC000942
ETIM 3.0	EC000942
ETIM 4.0	EC000942
ETIM 5.0	EC000942

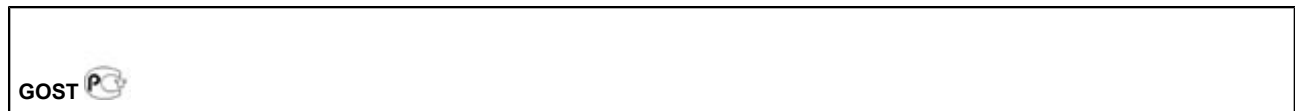
### UNSPSC

UNSPSC 6.01	30212010
UNSPSC 7.0901	39121610
UNSPSC 11	39121610
UNSPSC 12.01	39121610
UNSPSC 13.2	39121620

## approvals

GOST /

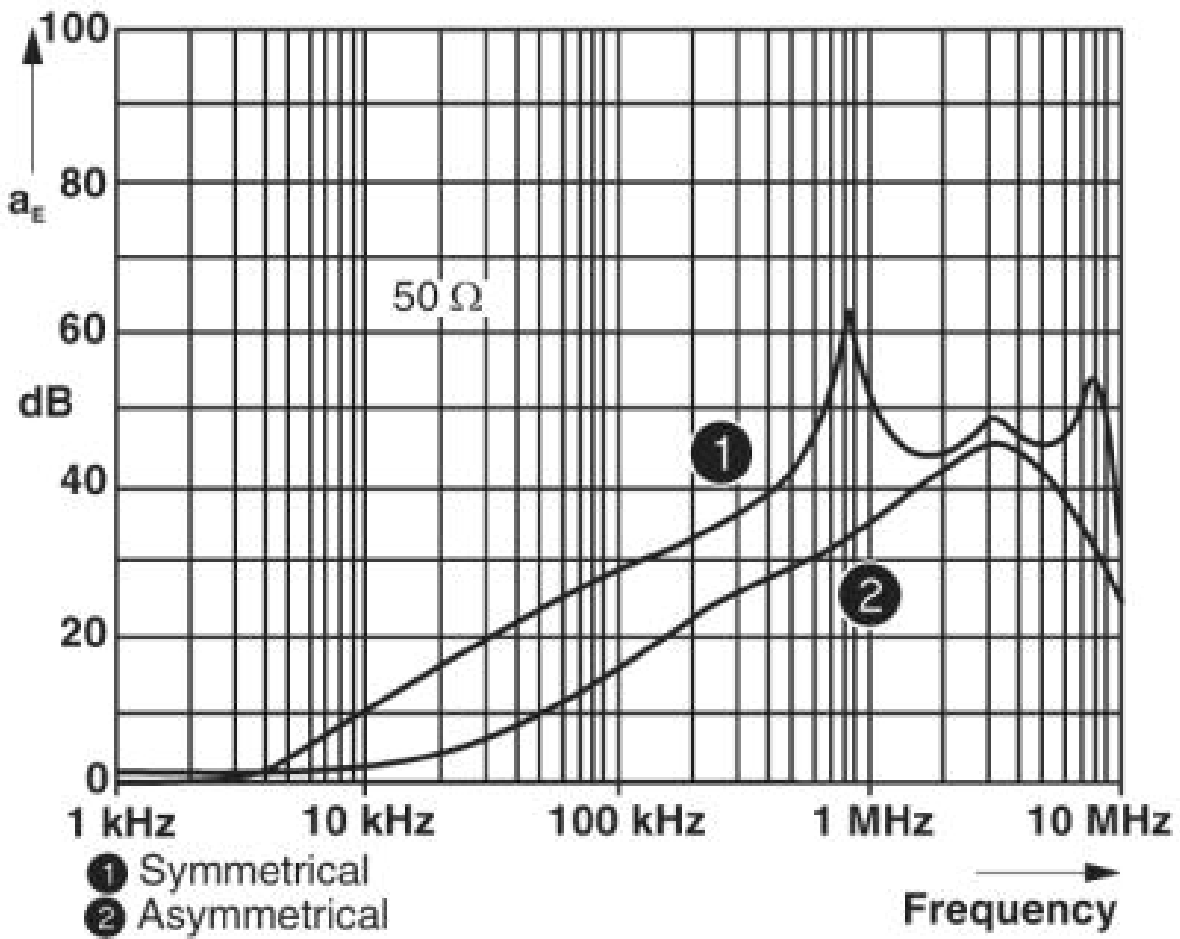
### Approval details



## Drawings

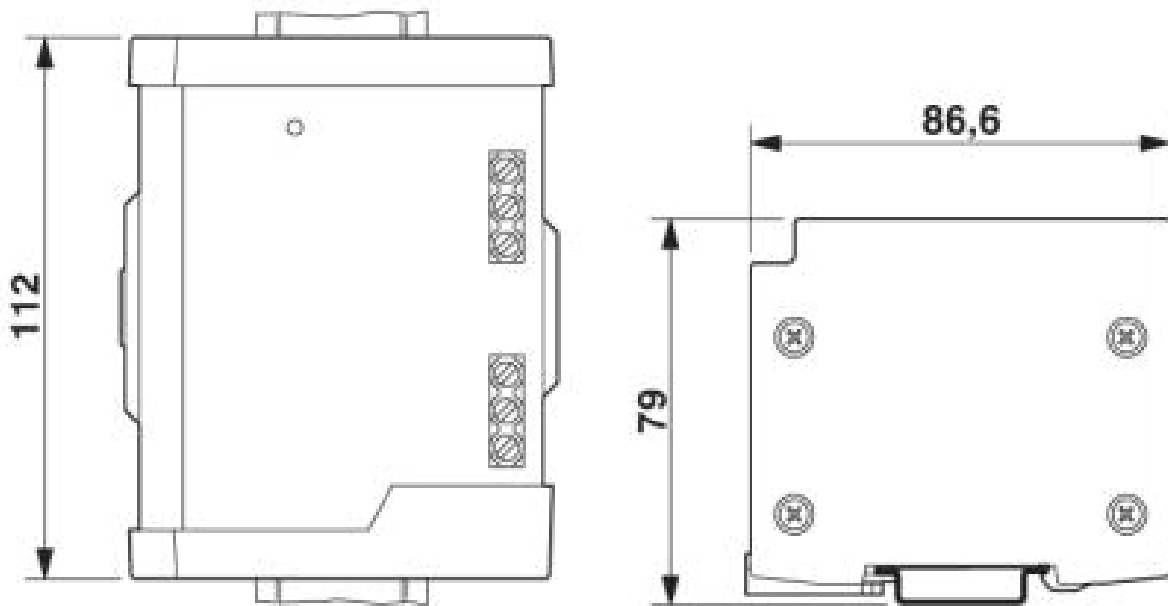
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Diagram



# EMC filter surge protection device - SFP 1-20/230AC - 2859987

Dimensioned drawing



Circuit diagram

