

# SFP2-1S-1-10A-230AC-UT - EMC filter surge protection device



1292416

<https://www.phoenixcontact.com/us/products/1292416>

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EMC filter (mains filter) for single-phase AC systems, for mounting on NS 35, integrated surge protective device (type 2 SPD), nominal voltage: 230 V AC, nominal current: 10 A

## Your advantages

- Reliable protection of sensitive equipment against high-frequency conducted interference and against surge voltage and surge current pulses
- Effective attenuation with current-coupled coils and X and Y capacitors
- Versatile in use with universal circuit design
- Effective surge protection on the input and output side of the EMC filter
- User-friendly handling thanks to easy assembly and installation with screw connection technology (UT)

## Commercial data

Item number	1292416
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL29
Product key	CLC161
GTIN	4063151525750
Weight per piece (including packing)	690.6 g
Weight per piece (excluding packing)	690 g
Customs tariff number	85480090
Country of origin	CN

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## Technical data

### Notes

#### General

Note	Only for use in IT systems between L-PE if the exposed conductive parts of the equipment of the low-voltage electrical installation are connected to the grounding system of the transformer station. (common grounding of the HV transformer station and the exposed conductive parts of the LV consumer installation. RE = RA in accordance with IEC 60364-4-44:2007 Figure 44.A1 and Table 44.A1).
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### Product properties

Product type	EMC filters
IEC power supply system	TN
	TT
	IT
Type	DIN rail module, one-piece
Number of positions	2
Surge protection fault message	Optical, remote indicator contact

#### Insulation characteristics

Oversupply category	III
Pollution degree	2
IEC test classification	T2
EN type	T2
Number of ports	Two

### Electrical properties

Maximum power dissipation for nominal condition	≤ 2 W
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#### Indicator/remote signaling

Connection name	Remote fault indicator contact
Switching function	Changeover 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 data

Connection method	Screw terminal blocks
Screw thread	M3
Tightening torque	0.6 Nm ... 0.8 Nm
Conductor cross-section flexible	0.5 mm <sup>2</sup> ... 6 mm <sup>2</sup>

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Conductor cross-section rigid	0.5 mm <sup>2</sup> ... 6 mm <sup>2</sup>
Conductor cross-section AWG	20 ... 10

## Dimensions

Dimensional drawing	
Width	60 mm
Height	130 mm
Depth	133 mm

## Material specifications

Color	light gray (RAL 7035)
Flammability rating according to UL 94	V-0
Insulating material	PC
Housing material	PC-GF10
	Metal

## Mechanical properties

Mechanical data	
Open side panel	No

## Protective circuit

Mode of protection	L-N
	L-PE
	N-PE
Nominal voltage $U_N$	240 V AC (TN)
	240 V AC (TT - only in use with RCD)
	240 V AC (IT - see note)
Nominal frequency $f_N$	50 Hz (60 Hz)
Maximum continuous operating voltage $U_C$	264 V AC
Rated load current $I_L$	10 A (70 °C)
Protective conductor current $I_{PE}$	≤ 0.5 mA
Reference test voltage $U_{REF}$	264 V AC
Nominal discharge current $I_n$ (8/20) $\mu$ s	5 kA
Voltage protection level $U_p$	≤ 1.1 kV
TOV behavior at $U_T$ (L-N)	457 V AC (5 s / withstand mode)
	457 V AC (120 min / safe failure mode)
	457 V AC (5 s / withstand mode)

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TOV behavior at $U_T$ (L-PE)	457 V AC (120 min / withstand mode)
	1464 V AC (200 ms / safe failure mode)
TOV behavior at $U_T$ (N-PE)	1200 V AC (200 ms / safe failure mode)
Response time $t_A$	$\leq 100$ ns
Capacity (L-N)	2x 1 $\mu$ F $\pm 20$ % (X2-250 V)
	10 nF $\pm 20$ % (X2-275 V)
Capacity (L-PE)	2.2 nF $\pm 20$ % (Y2-250 V)
Capacity (N-PE)	2.2 nF $\pm 20$ % (Y2-250 V)
Max. required back-up fuse	10 A (MCB C)
Input attenuation $a_E$ , sym.	20 dB ( $\geq 100$ kHz / 50 $\Omega$ )
Input attenuation $a_E$ , asym.	30 dB ( $\geq 1$ MHz / 50 $\Omega$ )
Short-circuit current rating $I_{SCCR}$	6 kA AC

## Filter data

Discharge resistance	940 k $\Omega$ ( $\pm 1$ %)
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## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 70 °C
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Altitude	$\leq 2000$ m (amsl)
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	15g (Half-sine / 6 ms / 100x $\pm X$ , $\pm Y$ , $\pm Z$ )
Vibration (operation)	1g (1-150 Hz/10 cycles/XYZ)

## Standards and regulations

Standards/specifications	IEC 61643-11
Note	2011
Standards/specifications	EN 61643-11
Note	2012 + A11:2018
Standards/specifications	EN 60939-2
Note	2006 + AMD1:2023

## Mounting

Mounting type	DIN rail: 35 mm
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# SFP2-1S-1-10A-230AC-UT - EMC filter surge protection device

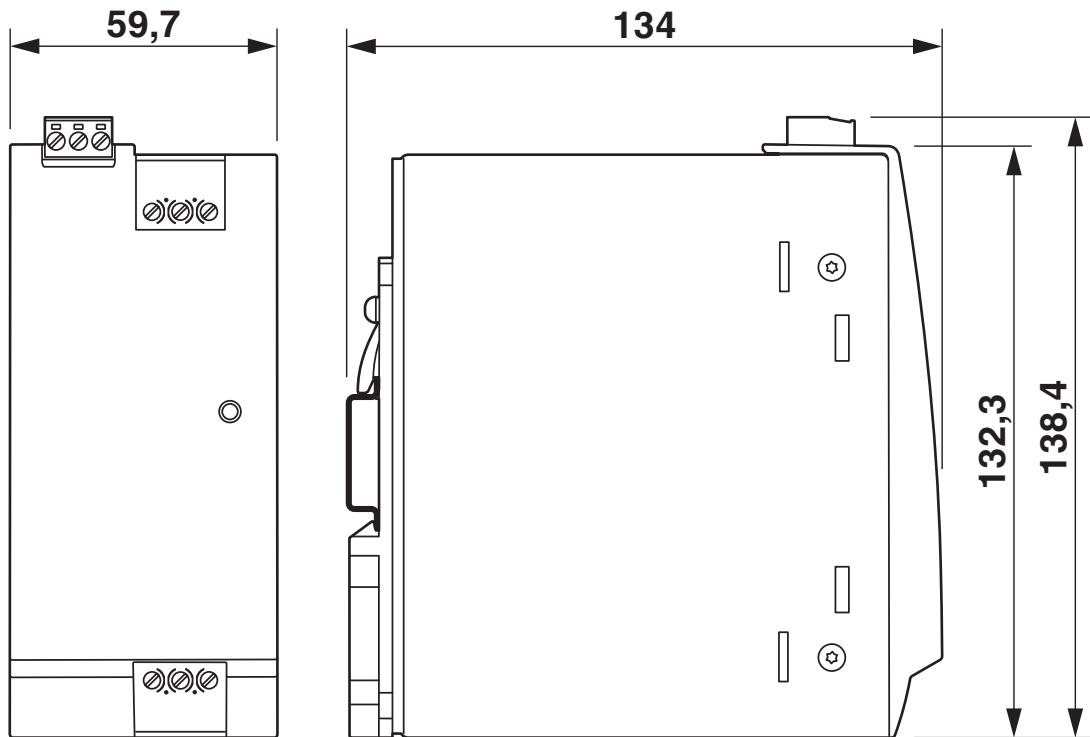


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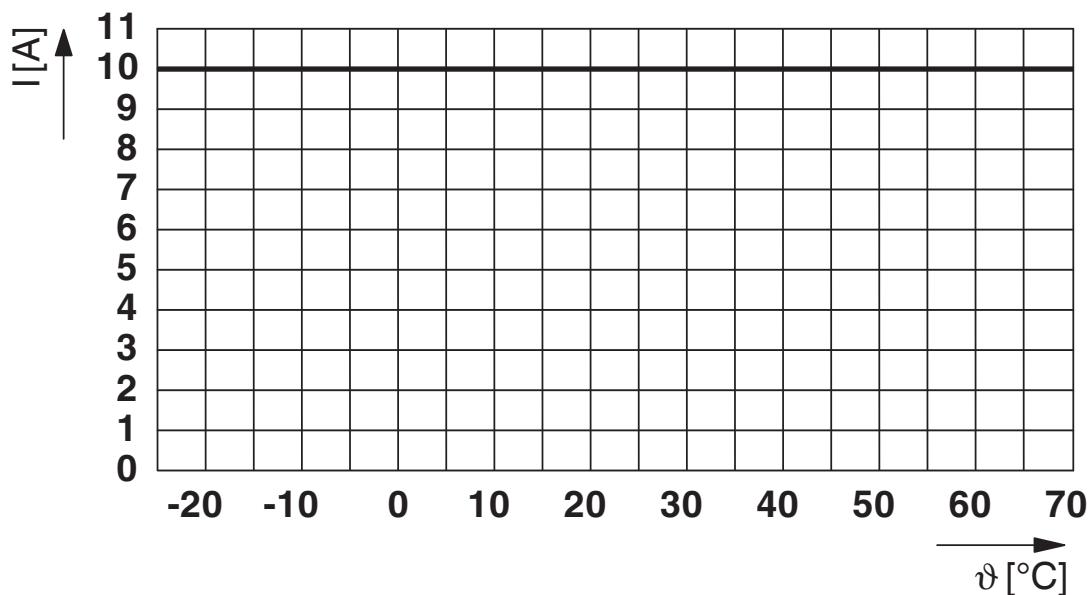
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## Drawings

Dimensional drawing



Diagram



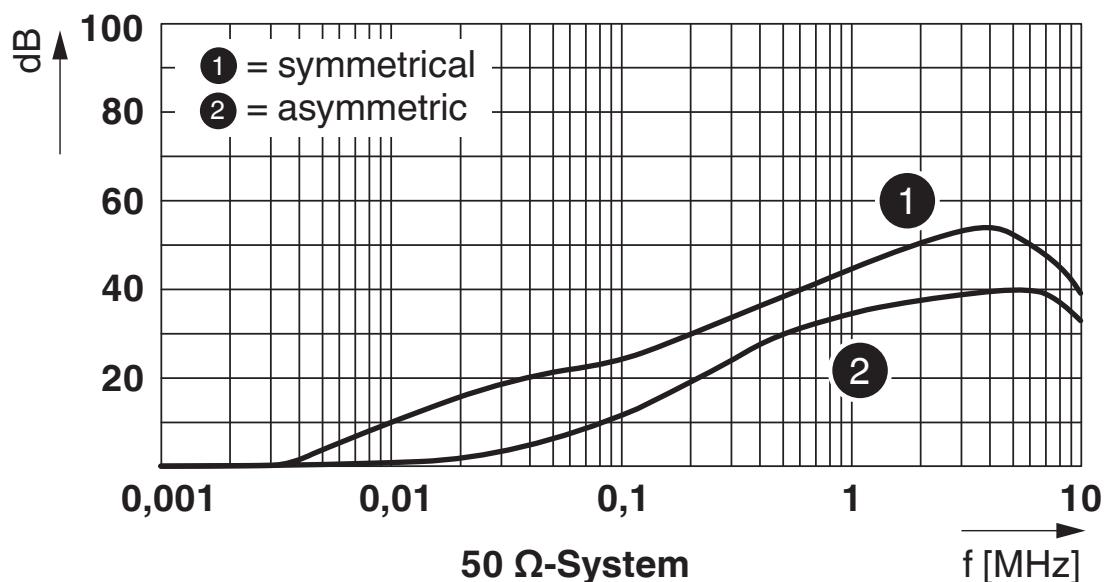
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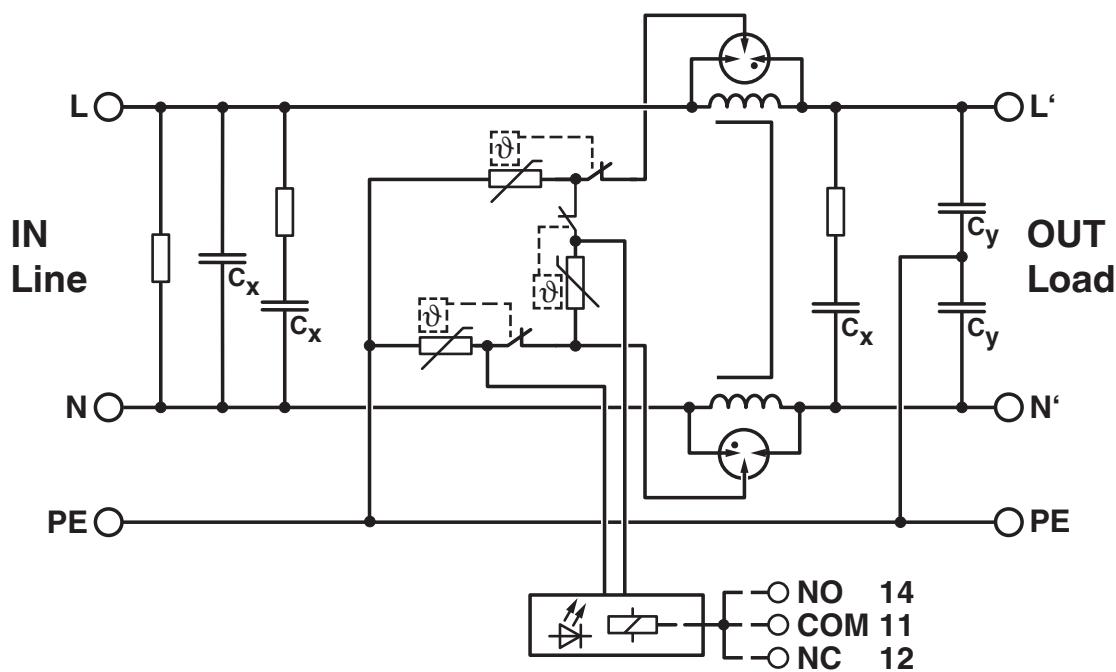
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Diagram



Circuit diagram



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## Approvals

ⓘ To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1292416>



**VDE Zeichengenehmigung**

Approval ID: 40060084

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## Classifications

### ECLASS

ECLASS-13.0	27420208
ECLASS-15.0	27420208

### ETIM

ETIM 9.0	EC002564
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### UNSPSC

UNSPSC 21.0	39121500
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(a)

### China RoHS

Environment friendly use period (EFUP)	EFUP-25  An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.
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### EU REACH SVHC

REACH candidate substance (CAS No.)	Hexahydromethylphthalic anhydride(CAS: n/a)  Lead(CAS: 7439-92-1)
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