

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



2856702

<https://www.phoenixcontact.com/gb/products/2856702>

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Device protection, according to type 3/class III, with mains interference 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

- Optimized protective effect with combined protective circuit for absorbing transient overvoltages for attenuating high-frequency interference
- Symmetrical design of the protective circuit with surge protection components on the input and output sides of the filter
- Protection against excessive heating with thermal monitoring of the protective circuit
- Versatile in use with universal circuit design

Commercial data

Item number	2856702
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CLC131
Product key	CLC131
GTIN	4017918952648
Weight per piece (including packing)	615.4 g
Weight per piece (excluding packing)	571.28 g
Customs tariff number	85363010
Country of origin	DE

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Technical data

Notes

General

Note	For IT systems: only install the device in 120 V IT systems with common HV/LV grounding system.
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Product properties

Product type	EMC filters
Product family	SFP
Type	DIN rail module, one-piece
Number of positions	2
For country-specific use in	USA, CN, BR
Surge protection fault message	Optical, remote indicator contact

Insulation characteristics

Overvoltage category	III
Pollution degree	2
IEC test classification	III
	T3
EN type	T3
Number of ports	Two

Electrical properties

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	0.5 Nm ... 0.6 Nm
	4.5 lb _F -in. ... 5.5 lb _F -in.
Conductor cross-section flexible	2.5 mm ² ... 4 mm ²
Conductor cross-section rigid	2.5 mm ² ... 6 mm ²
Conductor cross-section AWG	14 ... 10

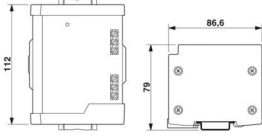
Dimensions

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Dimensional drawing	
Width	112 mm
Height	86.6 mm
Depth	79 mm

Material specifications

Color	black (RAL 9005) silver-colored
Flammability rating according to UL 94	V-0
Insulating material	ABS
Housing material	Aluminum

Mechanical properties

Mechanical data

Open side panel	No
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Protective circuit

Mode of protection	L-N L-PE N-PE
Direction of action	L-N & L(N)-PE
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 operating voltage U_C	150 V AC
Rated load current I_L	20 A (40 °C)
Protective conductor current I_{PE}	≤ 0.6 mA
Standby power consumption P_C	≤ 7.5 VA (at U_{REF}) ≤ 10 VA (at U_C)
Reference test voltage U_{REF}	132 V AC
Nominal discharge current I_n (8/20) μ s	3 kA
Combination wave U_{OC}	6 kV (3 kA)
Voltage protection level U_p	≤ 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) 208 V AC (5 s / withstand mode)

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TOV behavior at U_T (L-PE)	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)
Response time t_A	≤ 25 ns
Capacity (L-N)	1 μ F ± 10 %
	10 nF ± 10 % (X2-275 V)
Capacity (L-PE)	2.2 nF ± 20 % (Y2-250 V)
Capacity (N-PE)	2.2 nF ± 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 (≥ 100 kHz / 50 Ω)
Input attenuation aE, asym.	30 dB (≥ 1 MHz / 50 Ω)
Short-circuit current rating I_{SCCR}	5 kA AC (TN/TT)
	1 kA AC (IT)

Filter data

Discharge resistance	820 k Ω
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Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 70 °C
Ambient temperature (storage/transport)	-25 °C ... 70 °C
Permissible humidity (operation)	5 % ... 95 %

Approvals

UL specifications

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
Short-circuit current rating (SCCR)	5 kA
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
Mode of protection	L-N
	L-G
	N-G
Power distribution system	Single phase
Nominal frequency	50/60 Hz
SPD Type	2CA

UL indicator/remote signaling

Operating voltage	12 V AC ... 250 V AC
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DC operating voltage	250 V DC (250 mA DC)
AC operating current	100 mA AC ... 1 A AC
DC operating current	1 A DC (48 V DC)

UL connection data

Tightening torque	5 lb _F -in. ... 7 lb _F -in.
Conductor cross-section AWG	12 ... 10

Standards and regulations

Air clearances and creepage distances

Standards/regulations	DIN VDE 0110-1 / IEC 60664-1 / IEC 61643-1
Standards/specifications	IEC 61643-11
Note	2011
Standards/specifications	EN 61643-11
Note	2012

Mounting

Mounting type	DIN rail: 35 mm
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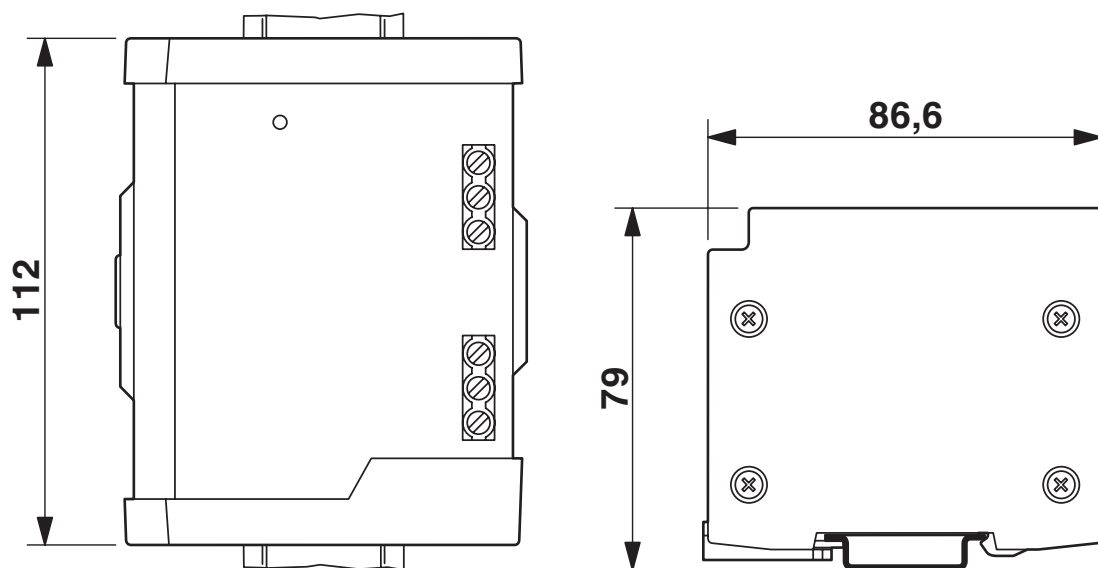


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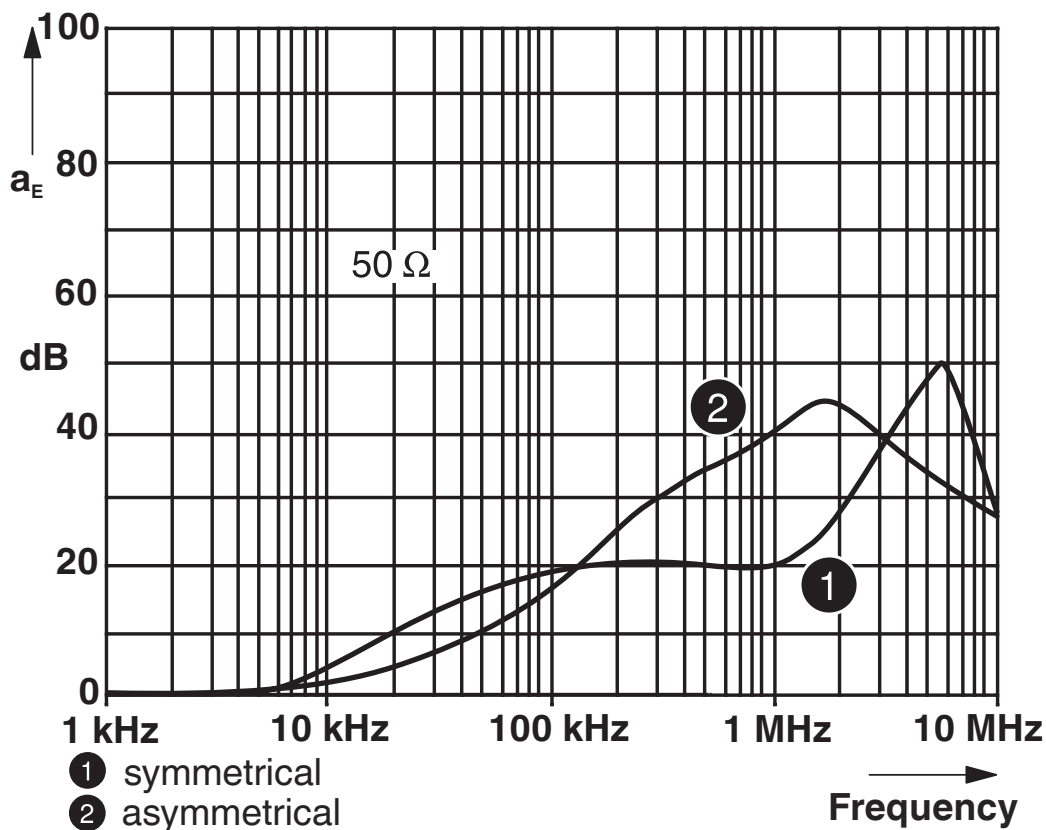
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Drawings

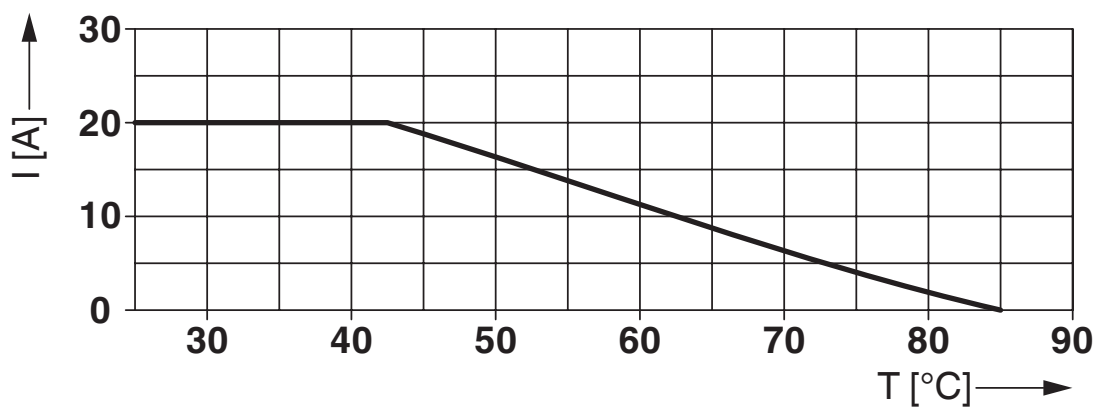
Dimensional drawing



Diagram



Diagram



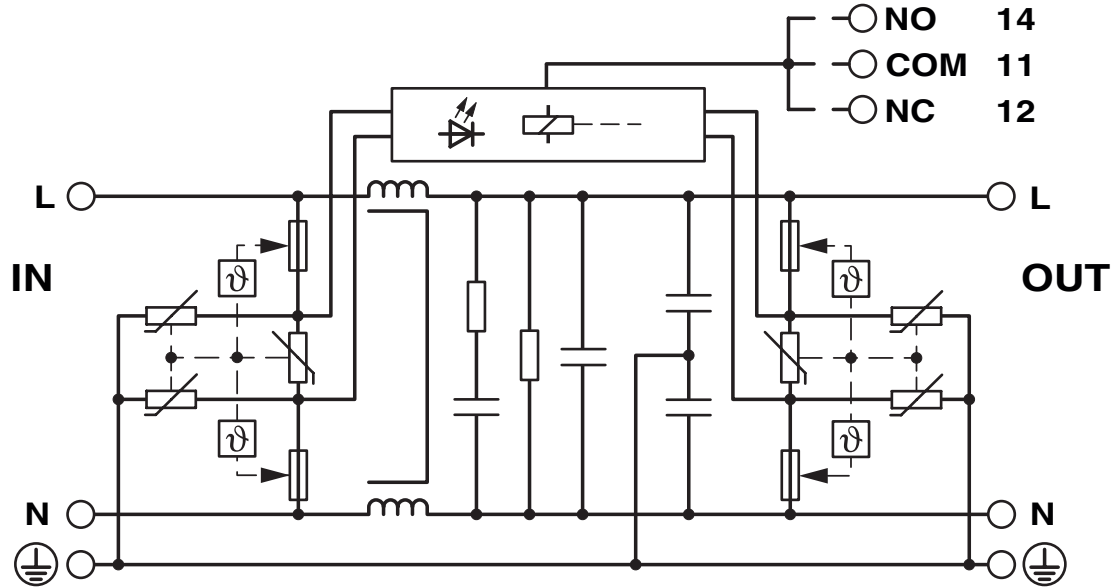
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Circuit diagram



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Approvals

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cUL Recognized
Approval ID: FILE E 330181



UL Recognized
Approval ID: FILE E 330181



CSA
Approval ID: 13631



CSAus
Approval ID: 13631

UAE-RoHS

Approval ID: 23-10-88892

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Classifications

ECLASS

ECLASS-13.0	27171203
ECLASS-15.0	27171203

ETIM

ETIM 9.0	EC000942
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UNSPSC

UNSPSC 21.0	39121600
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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-50
	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.

EU REACH SVHC

REACH candidate substance (CAS No.)	Hexahydromethylphthalic anhydride(CAS: n/a)
	Lead(CAS: 7439-92-1)
	6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol(CAS: 119-47-1)
SCIP	8324e944-6f22-47f8-9eb7-1180e0f66012

EF3.0 Climate Change

CO2e kg	10.965 kg CO2e
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