

TTC-6-SFP-24AC-PT - EMC filter surge protection device



1316312

<https://www.phoenixcontact.com/us/products/1316312>

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Surge protection with filter function for a 2-wire floating signal circuit, e.g., 0(4) ... 20 mA current loop, HART-compatible.

Your advantages

- Space-saving and cost-saving with a narrow overall width of just 6 mm
- Quick and tool-free installation of surge protective devices, thanks to Push-in connection technology
- Finding the right product for all possible requirements in MCR applications is easy, thanks to the complete range of products with customized features

Commercial data

Item number	1316312
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL23
Product key	CLC142
GTIN	4063151598587
Weight per piece (including packing)	34.7 g
Weight per piece (excluding packing)	34.7 g
Customs tariff number	85363010
Country of origin	DE

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Technical data

Product properties

Product type	EMC filters
Product family	TERMITRAB complete
IEC test classification	C1
	C3
Type	DIN rail module, one-piece

Insulation characteristics

Overvoltage category	III
Pollution degree	2

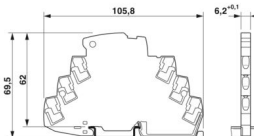
Electrical properties

Nominal voltage U_N	24 V DC
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Connection data

Connection method	Push-in connection
Conductor cross-section flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross-section rigid	0.2 mm ² ... 2.5 mm ²
Conductor cross-section AWG	24 ... 14

Dimensions

Dimensional drawing	
Width	6.2 mm +0.1 mm
Height	105.8 mm
Depth	69.5 mm (incl. DIN rail 7.5 mm)

Material specifications

Color	gray (RAL 7042)
	light gray (RAL 7035)
Flammability rating according to UL 94	V-0
Insulating material	PBT
Housing material	PBT

Mechanical properties

Mechanical data

Open side panel	No
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Protective circuit

Nominal voltage U_N	24 V DC
Maximum continuous operating voltage U_C	38 V DC
	30 V AC
Rated current	500 mA
Operating effective current I_C at U_C	$\leq 0.1 \mu A$
Protective conductor current I_{PE}	$\leq 10 \mu A$
Nominal discharge current I_n (8/20) μs (line-ground)	350 A
Total discharge current I_{Total} (8/20) μs	700 A
Voltage protection level U_p (line-earth)	$\leq 80 V$ (C1 - 0.5 kV / 250 A)
	$\leq 80 V$ (C3 - 20 A)
Response time t_A (line-earth)	$\leq 25 ns$
Input attenuation aE, sym.	typ. 0.3 dB ($\leq 50 kHz$ / 150 Ω)
Input attenuation aE, asym.	typ. 0.3 dB ($\leq 30 kHz$ / 50 Ω)
Cut-off frequency f_g (3 dB), sym. in 50 Ω system	typ. 85 kHz
Cut-off frequency f_g (3 dB), sym. in 150 Ω system	typ. 95 kHz
Cut-off frequency f_g (3 dB), asym. (PE) in 50 Ω system	typ. 100 kHz
Capacity (Core-Earth)	50 nF ($\pm 30 \%$)
Inductivity in series	100 μH ($\pm 30 \%$)
Resistance per path	typ. 0.35 Ω
Surge protection fault message	none
Max. required back-up fuse	500 mA (FF)
Impulse durability (line-line)	C3 - 20 A
Impulse durability (line-earth)	C1 - 0.5 kV / 250 A
	C3 - 20 A

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 85 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	$\leq 4000 m$ (amsl)
Permissible humidity (operation)	5 % ... 95 %

Standards and regulations

Standards/specifications	EN 60939-1
Note	2011
Standards/specifications	EN 60939-2
Note	2006
Standards/specifications	EN 61643-21
Note	2001 + A1:2009 + A2:2013
Standards/specifications	IEC 61643-21
Note	2000 + corrigendum 2001 + A1:2008, modified + A2:2012

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Mounting

Mounting type	DIN rail: TH 35 - 7.5 mm
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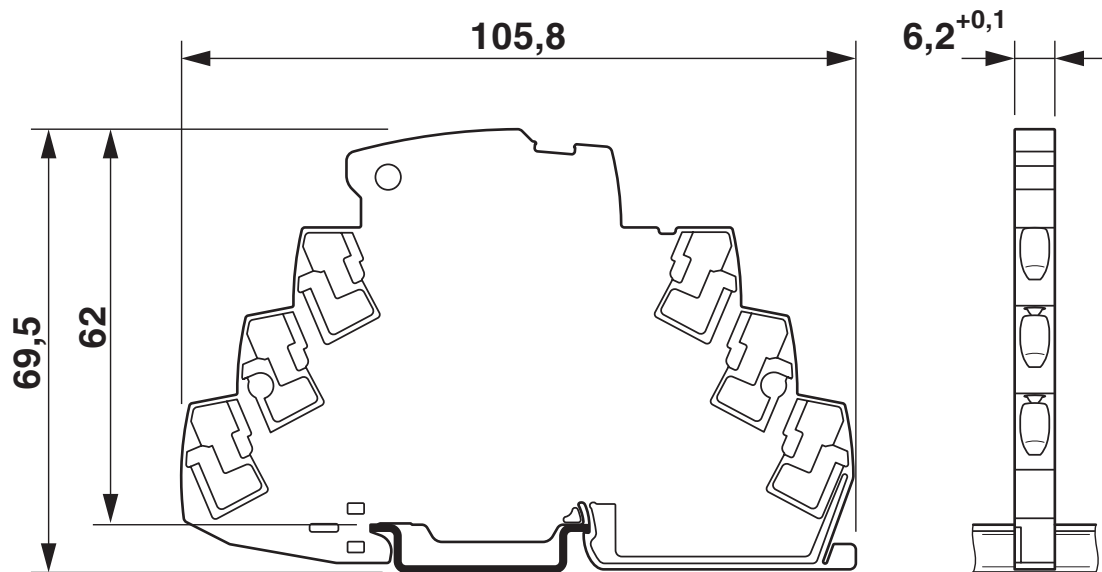
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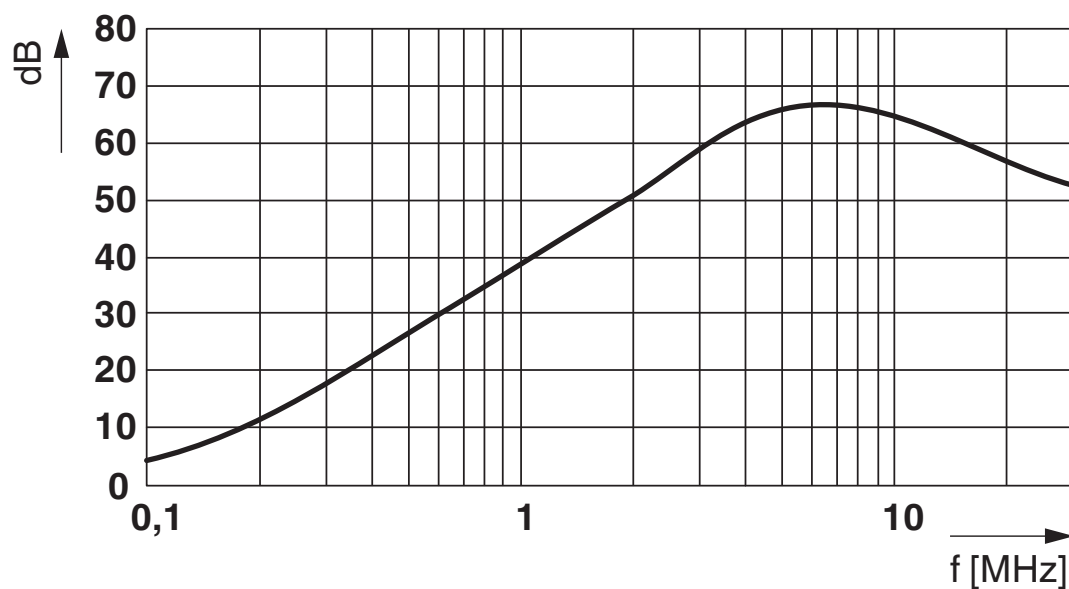
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Drawings

Dimensional drawing



Diagram



Frequency-response curve symmetrical (50 ohms)

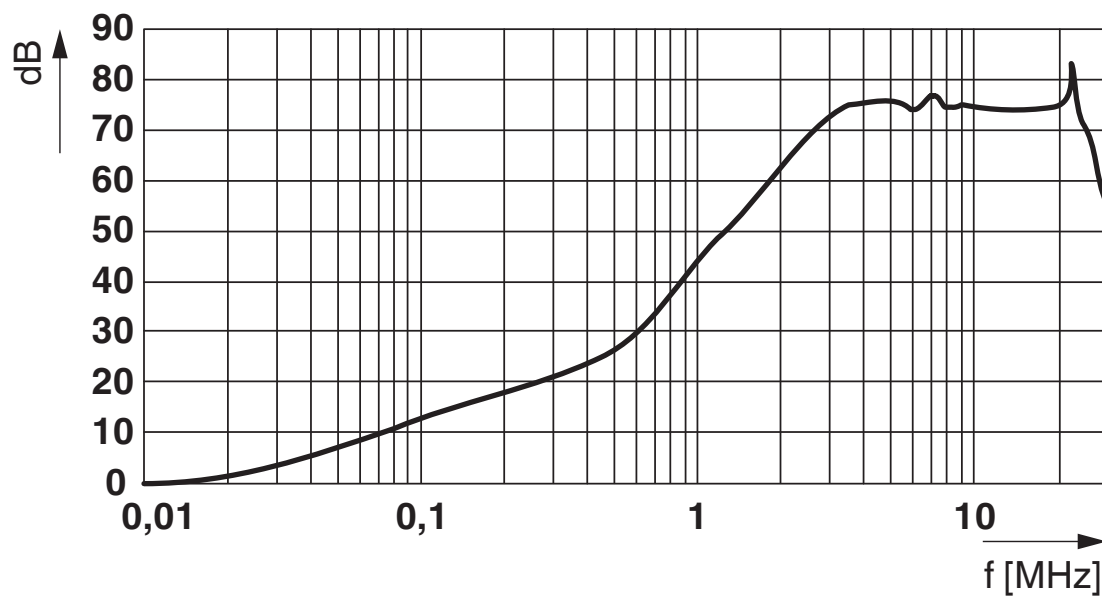
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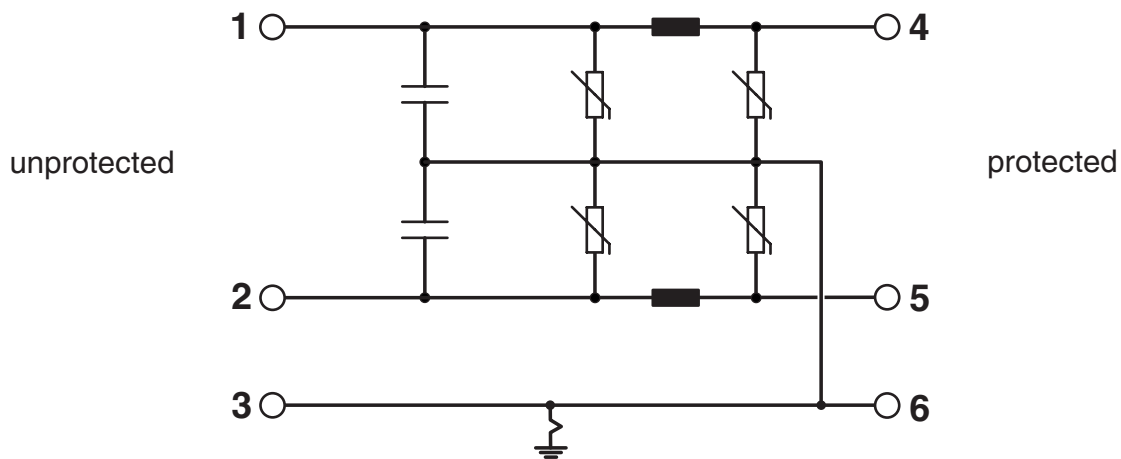
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Diagram



Frequency-response curve asymmetrical (150 ohms)

Circuit diagram



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Approvals

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DNV GL

Approval ID: TAE000027G



UL Listed

Approval ID: FILE E 138168

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Classifications

ECLASS

ECLASS-13.0	27420290
ECLASS-15.0	27420208

ETIM

ETIM 10.0	EC002564
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UNSPSC

UNSPSC 21.0	39121600
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Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
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China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

EU REACH SVHC

REACH candidate substance (CAS No.)	No substance above 0.1 wt%
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EF3.1 Climate Change

CO2e kg	1.665 kg CO2e
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