

# 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
Type	C3
	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 <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross-section rigid	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
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

Maximum continuous operating voltage $U_C$	38 V DC 30 V AC
Rated current	500 mA
Operating effective current $I_C$ at $U_C$	$\leq 0.1 \mu\text{A}$
Protective conductor current $I_{PE}$	$\leq 10 \mu\text{A}$
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (line-ground)	350 A
Total discharge current $I_{Total}$ (8/20) $\mu\text{s}$	700 A
Voltage protection level $U_p$ (line-earth)	$\leq 80 \text{ V (C1 - 0.5 kV / 250 A)}$ $\leq 80 \text{ V (C3 - 20 A)}$
Response time $t_A$ (line-earth)	$\leq 25 \text{ ns}$
Input attenuation $a_E$ , sym.	typ. 0.3 dB ( $\leq 50 \text{ kHz / } 150 \Omega$ )
Input attenuation $a_E$ , asym.	typ. 0.3 dB ( $\leq 30 \text{ kHz / } 50 \Omega$ )
Cut-off frequency $f_g$ (3 dB), sym. in $50 \Omega$ system	typ. 85 kHz
Cut-off frequency $f_g$ (3 dB), sym. in $150 \Omega$ system	typ. 95 kHz
Cut-off frequency $f_g$ (3 dB), asym. (PE) in $50 \Omega$ system	typ. 100 kHz
Capacity (Core-Earth)	50 nF ( $\pm 30 \%$ )
Inductivity in series	100 $\mu\text{H}$ ( $\pm 30 \%$ )
Resistance per path	typ. 0.35 $\Omega$
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	$\leq 4000 \text{ m (amsl)}$
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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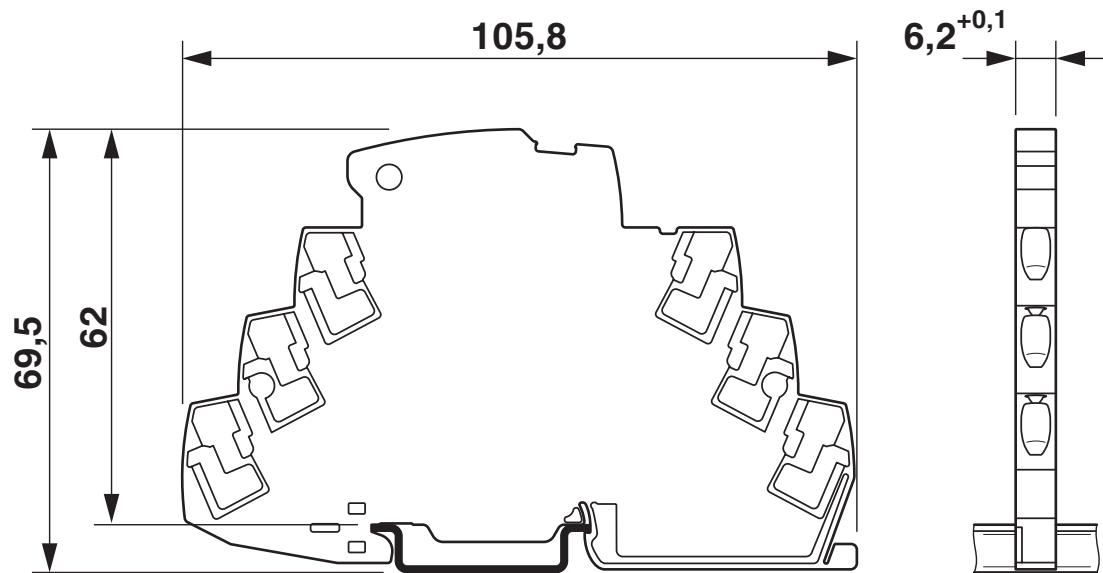


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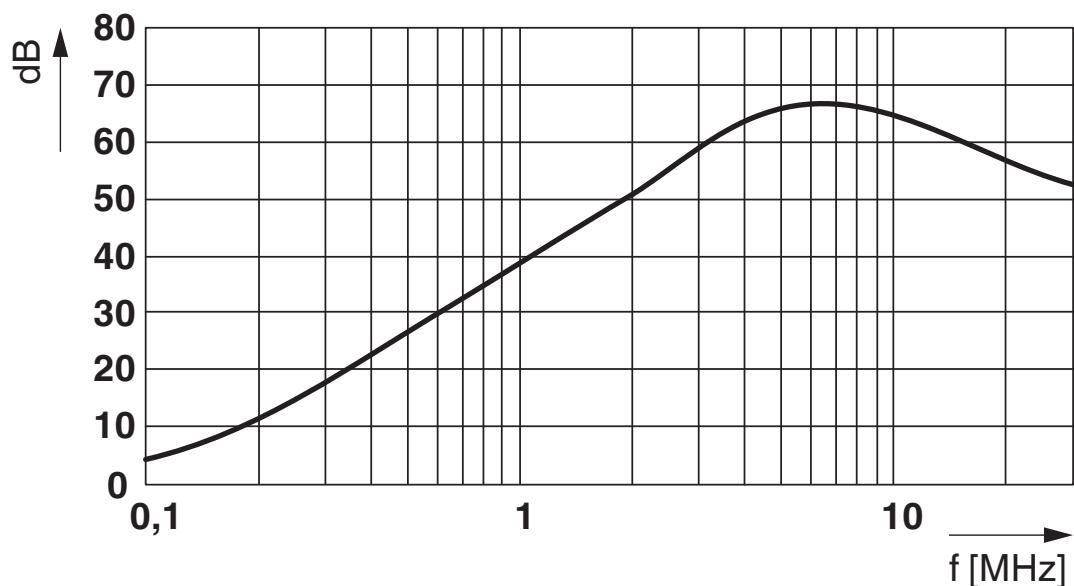
<https://www.phoenixcontact.com/us/products/1316312>

## Drawings

Dimensional drawing



Diagram



Frequency-response curve symmetrical (50 ohms)

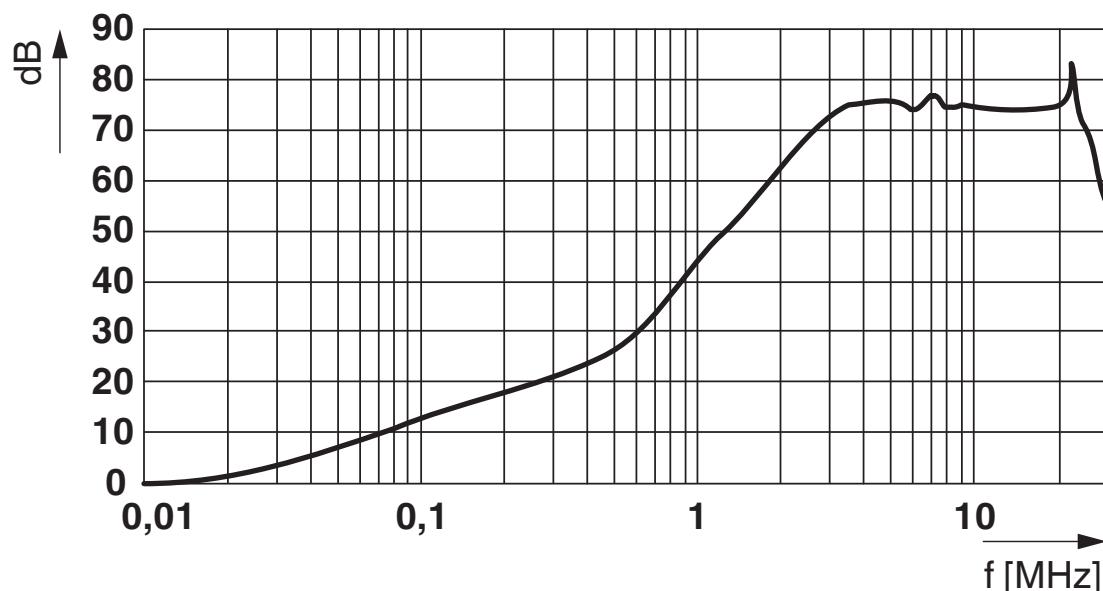
# TTC-6-SFP-24AC-PT - EMC filter surge protection device



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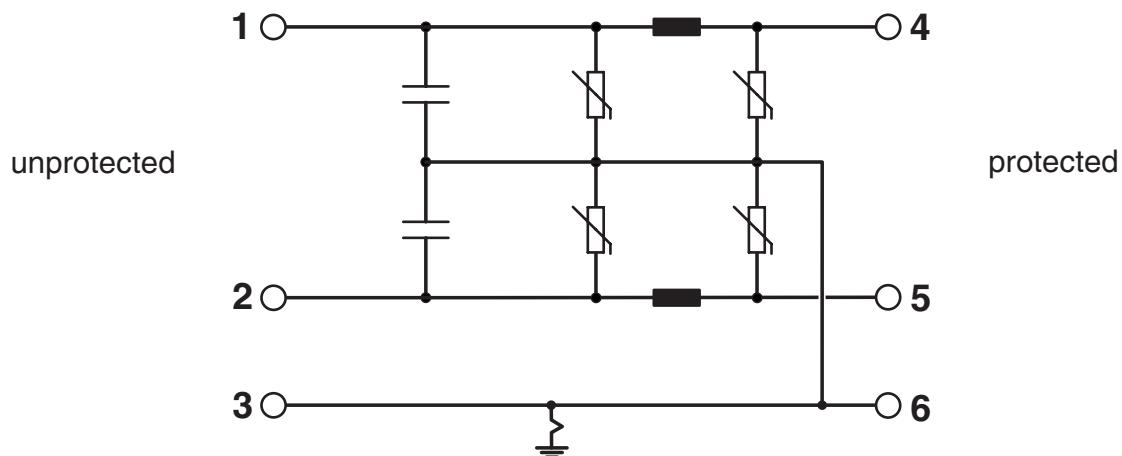
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Diagram



Frequency-response curve asymmetrical (150 ohms)

Circuit diagram



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## Approvals

ⓘ To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1316312>



**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	27420290

### ETIM

ETIM 9.0	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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