

TTC-6-2XTVSD-12DC-PT - Surge protection device



2906807

<https://www.phoenixcontact.com/us/products/2906807>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



Fine surge protection for two signal wires with common reference potential. Can be used in safety-related circuits up to SIL 3.

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	2906807
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL23
Product key	CL2262
Catalog page	Page 148 (C-4-2019)
GTIN	4055626135717
Weight per piece (including packing)	31.2 g
Weight per piece (excluding packing)	25 g
Customs tariff number	85363010
Country of origin	DE

TTC-6-2XTVSD-12DC-PT - Surge protection device



2906807

<https://www.phoenixcontact.com/us/products/2906807>

Technical data

Product properties

Product type	Surge protection for MCR technology
Product family	TERMITRAB complete
IEC test classification	C1
	C2
	C3
Type	DIN rail module, one-piece

Insulation characteristics

Overvoltage category	III
Pollution degree	2

Electrical properties

Nominal voltage U_N	12 V DC
-----------------------	---------

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 ... 4 mm ²
Conductor cross section AWG	24 ... 12

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 grey (RAL 7035)
Flammability rating according to UL 94	V-0
Insulating material	PBT
Housing material	PBT

Mechanical properties

Mechanical data

Open side panel	No
-----------------	----

TTC-6-2XTVSD-12DC-PT - Surge protection device



2906807

<https://www.phoenixcontact.com/us/products/2906807>

Protective circuit

Direction of action	Line-Earth Ground
Maximum continuous voltage U_C	15 V DC
	10 V AC
Rated current	6 A (55 °C)
Residual current I_{PE}	$\leq 200 \mu A$
Nominal discharge current I_n (8/20) μs (line-ground)	0.5 kA
Total discharge current I_{total} (8/20) μs	2 kA
Voltage protection level U_p (line-earth)	$\leq 35 V$ (C1 - 1 kV / 500 A)
	$\leq 40 V$ (C2 - 2 kV/1 kA)
	$\leq 25 V$ (C3 - 25 A)
	$\leq 25 V$ (C3 - 100 A)
Response time t_A (line-earth)	$\leq 1 ns$
Input attenuation aE, asym.	typ. 0.3 dB ($\leq 130 kHz/150 \Omega$)
Cut-off frequency f_g (3 dB), asym. (PE) in 150 Ω system	typ. 420 kHz
Capacity (Core-Earth)	typ. 5.2 nF
Resistance per path	$\leq 100 m\Omega$
Surge protection fault message	none
Max. required back-up fuse	6.3 A (FF)
Impulse durability (line-earth)	C1 - 1 kV / 500 A
	C2 - 2 kV / 1 kA
	C3 - 100 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	IEC 61643-21
Note	2000 + corrigendum 2001 + A1:2008, modified + A2:2012

EN 61643-21

Standards/specifications	EN 61643-21
Note	2001 + A1:2009 + A2:2013

Mounting

Mounting type	DIN rail: TH 35 - 7.5 mm
---------------	--------------------------

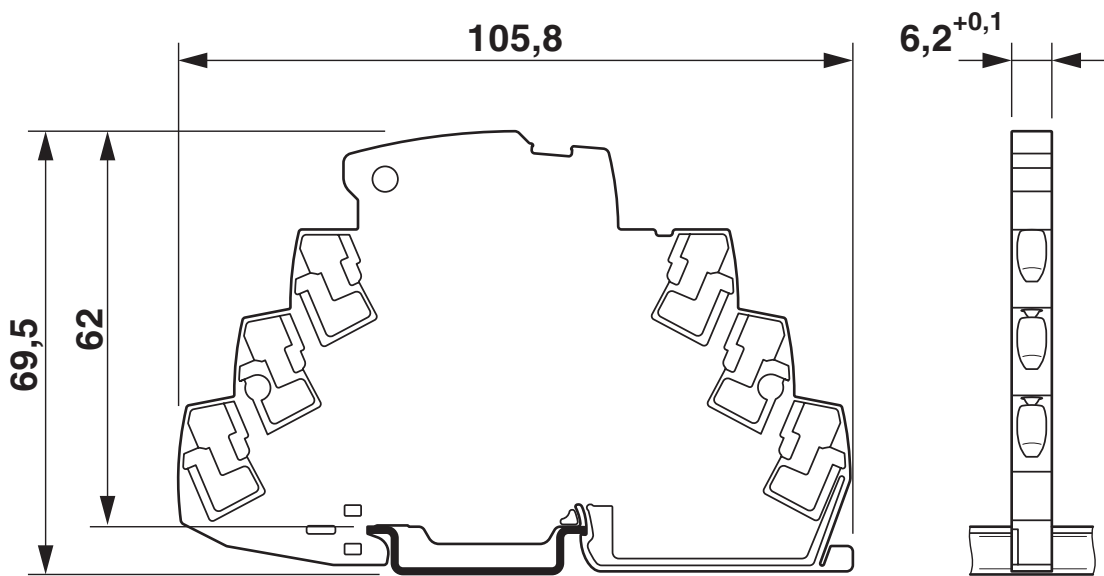
TTC-6-2XTVSD-12DC-PT - Surge protection device



2906807
<https://www.phoenixcontact.com/us/products/2906807>

Drawings

Dimensional drawing

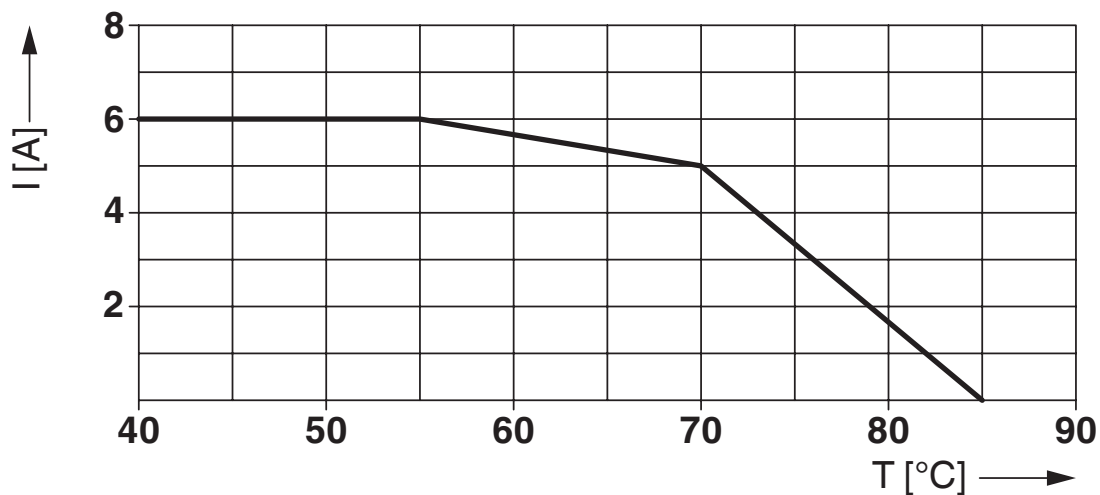


Schematic diagram

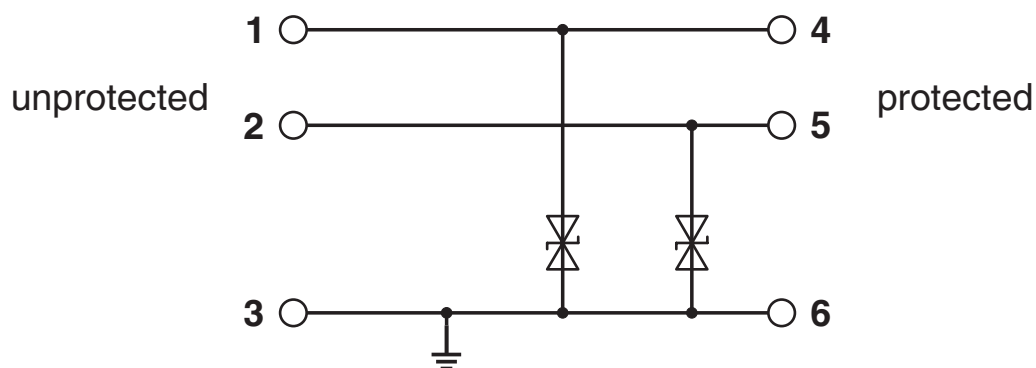
TTC-6-2XTVSD-...									
Category	1oo1 architecture, HFT=0				1oo2 architecture, HFT=1				
	PFD _{AVG}	PFH	Used budget of SIL 2 SiF		PFD _{AVG}	PFH	CCF	Used budget of SIL 3 SiF	
			PFD _{AVG}	PFH				PFD _{AVG}	PFH
	1.12·10 ⁻⁶	2.00·10 ⁻¹⁰ 1/h	0.0%	0.0%	5.62·10 ⁻⁸	1.00·10 ⁻¹¹ 1/h	5%	0.0%	0.0%
					1.12·10 ⁻⁷	2.00·10 ⁻¹¹ 1/h	10%	0.0%	0.0%
Calculation based on exida report, Phoenix Contact 16/06-072 R023 V3R1 exida Profile 1, FMEDA Analysis 2, T _{proof} : 1 year, MT: 10 years, MTTR: 24 hours, PTC: 99% Used standards IEC/EN 61508, edition 2010 (device specific) IEC/EN 61511, edition 2016 + COR1:2016 + A1:2017 (system specific)									

Functional safety scenarios

Diagram



Circuit diagram



TTC-6-2XTVSD-12DC-PT - Surge protection device



2906807

<https://www.phoenixcontact.com/us/products/2906807>

Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2906807>



CSA

Approval ID: 70136717



DNV GL

Approval ID: TAE000027G



UL Listed

Approval ID: FILE E 138168



CSAus

Approval ID: 70136717

UAE-RoHS

Approval ID: 22-06-16191

Functional Safety

Approval ID: 16-06-072 R023 V3R1

cCSAus

TTC-6-2XTVSD-12DC-PT - Surge protection device



2906807

<https://www.phoenixcontact.com/us/products/2906807>

Classifications

ECLASS

ECLASS-11.0	27130807
ECLASS-13.0	27171501

ETIM

ETIM 9.0	EC001625
----------	----------

UNSPSC

UNSPSC 21.0	39121600
-------------	----------

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.)	Lead(CAS: 7439-92-1)
SCIP	d60d1ef8-b222-40c6-9278-1336f12f6f1e

TTC-6-2XTVSD-12DC-PT - Surge protection device



2906807

<https://www.phoenixcontact.com/us/products/2906807>

Accessories

ZBF 6 CUS - Zack Marker strip, flat

0825027

<https://www.phoenixcontact.com/us/products/0825027>



Zack Marker strip, flat, Strip, can be ordered: Strip, white, labeled according to customer specifications, mounting type: snap into flat marker groove, for terminal block width: 6.2 mm, lettering field size: 5.15 x 6.15 mm, Number of individual labels: 10

ZBF 6:UNBEDRUCKT - Zack Marker strip, flat

0808710

<https://www.phoenixcontact.com/us/products/0808710>



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snapped, for terminal block width: 6.2 mm, lettering field size: 5.15 x 6.15 mm, Number of individual labels: 10

TTC-6-2XTVSD-12DC-PT - Surge protection device



2906807

<https://www.phoenixcontact.com/us/products/2906807>

ZBF 6/WH-100:UNBEDRUCKT - Zack Marker strip, flat

0808736

<https://www.phoenixcontact.com/us/products/0808736>



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snapped, for terminal block width: 6.2 mm, lettering field size: 5.15 x 6.15 mm, Number of individual labels: 1000

ZBF 6,QR:FORTL.ZAHLEN - Zack Marker strip, flat

0808765

<https://www.phoenixcontact.com/us/products/0808765>



Zack Marker strip, flat, Strip, white, labeled, Printed vertically: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 100, mounting type: snapped, for terminal block width: 6.2 mm, lettering field size: 5.15 x 6.15 mm, Number of individual labels: 10

TTC-6-2XTVSD-12DC-PT - Surge protection device



2906807

<https://www.phoenixcontact.com/us/products/2906807>

CLIPFIX 35-5 - End bracket

3022276

<https://www.phoenixcontact.com/us/products/3022276>



Quick mounting end clamp for NS 35/7,5 DIN rail or NS 35/15 DIN rail, with marking option, with parking option for FBS...5, FBS...6, KSS 5, KSS 6, width: 5.15 mm, color: gray

SSA 3-6 - Shield connection

2839295

<https://www.phoenixcontact.com/us/products/2839295>



Shield fast connection for 3 ... 6 mm cable diameter. Potential connecting cable: 200 mm, 1 mm², color: black

TTC-6-2XTVSD-12DC-PT - Surge protection device



2906807

<https://www.phoenixcontact.com/us/products/2906807>

SSA 5-10 - Shield connection

2839512

<https://www.phoenixcontact.com/us/products/2839512>



Shield fast connection for 5 ... 10 mm cable diameter. Potential connecting cable:
200 mm, 1 mm², color: black

X-PEN 0,35 - Marker pen

0811228

<https://www.phoenixcontact.com/us/products/0811228>



Marker pen without ink cartridge, for manual labeling of markers, labeling
extremely wipe-proof, line thickness 0.35 mm

Phoenix Contact 2024 © - all rights reserved

<https://www.phoenixcontact.com>

Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com