

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 with integrated status indicator for one signal wire with grounded 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
- Continuous monitoring of protective devices, plus mechanical status indicator with optional remote signaling
- 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	2906849
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL23
Product key	CL2265
Catalog page	Page 148 (C-4-2019)
GTIN	4055626137056
Weight per piece (including packing)	27.2 g
Weight per piece (excluding packing)	22.7 g
Customs tariff number	85363010
Country of origin	DE

TTC-6-TVSD-C-48DC-PT-I - Surge protection device



2906849

<https://www.phoenixcontact.com/us/products/2906849>

Technical data

Product properties

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

Data management status

Article revision	08
------------------	----

Insulation characteristics

Overvoltage category	III
Pollution degree	2

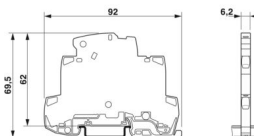
Electrical properties

Nominal voltage U_N	48 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
Height	92 mm
Depth	69.5 mm (incl. DIN rail 7.5 mm)

Material specifications

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

Mechanical properties

Mechanical data

Open side panel	Yes
-----------------	-----

TTC-6-TVSD-C-48DC-PT-I - Surge protection device



2906849

<https://www.phoenixcontact.com/us/products/2906849>

Protective circuit

Direction of action	Line-Earth Ground
Maximum continuous voltage U_C	53 V DC
	37 V AC
Rated current	10 A (60 °C)
Operating effective current I_C at U_C	$\leq 5 \mu\text{A}$
Residual current I_{PE}	$\leq 5 \mu\text{A}$
Nominal discharge current I_n (8/20) μs (line-ground)	90 A
Voltage protection level U_p (line-earth)	$\leq 80 \text{ V}$ (C3 - 18 A)
Response time t_A (line-earth)	$\leq 1 \text{ ns}$
Input attenuation aE, asym.	typ. 0.3 dB ($\leq 1 \text{ MHz}$ / 150 Ω)
Cut-off frequency f_g (3 dB), asym. (PE) in 150 Ω system	typ. 3.5 MHz
Capacity (Core-Earth)	1 nF
Resistance per path	$\leq 100 \text{ m}\Omega$
Surge protection fault message	optical
Impulse durability (line-earth)	C3 - 18 A

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20 (with end cover)
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	IEC 61643-21
Note	2000 + corrigendum 2001 + A1:2008, modified + A2:2012

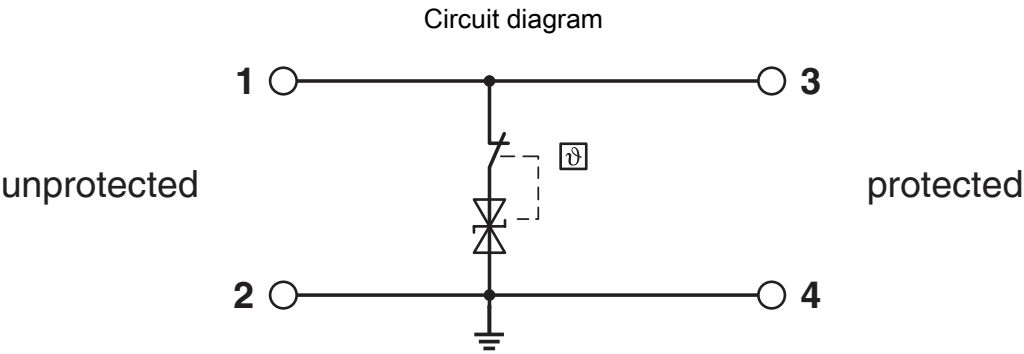
EN 61643-21

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

Mounting

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

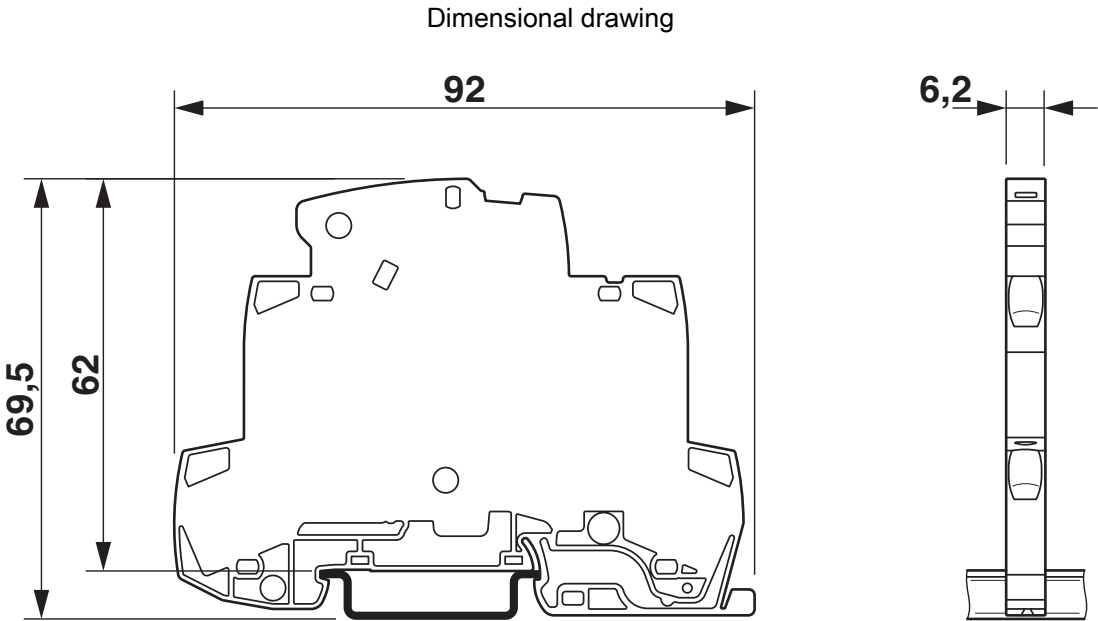
Drawings



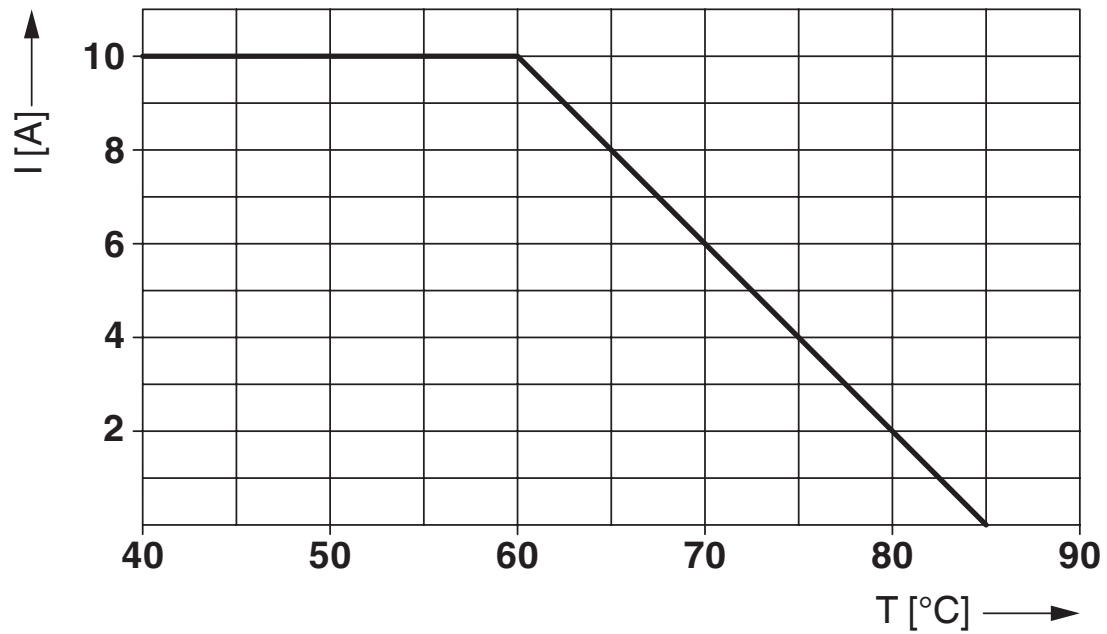
Schematic diagram

TTC-6-TVSD									
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
	5.62·10 ⁻⁷	1.00·10 ⁻¹⁰ 1/h	0.0 %	0.0 %	2.81·10 ⁻⁸	5.00·10 ⁻¹² 1/h	5 %	0.0 %	0.0 %
				5.62·10 ⁻⁹	1.00·10 ⁻¹¹ 1/h	10 %	0.0 %	0.0 %	
Calculation based on exida report, Phoenix Contact 16/06-072 R024 V2R0 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



TTC-6-TVSD-C-48DC-PT-I - Surge protection device



2906849

<https://www.phoenixcontact.com/us/products/2906849>

Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2906849>



CSA

Approval ID: 70136717



DNV GL

Approval ID: TAE000027G



UL Listed

Approval ID: FILE E 138168



CSAus

Approval ID: 70136717

UAE-RoHS

Approval ID: 22-06-16783

Functional Safety

Approval ID: 16-06-072 R024 V2R0

cCSAus

TTC-6-TVSD-C-48DC-PT-I - Surge protection device



2906849

<https://www.phoenixcontact.com/us/products/2906849>

Classifications

ECLASS

ECLASS-11.0	27130807
ECLASS-13.0	27171501

ETIM

ETIM 9.0	EC000943
----------	----------

UNSPSC

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

Environmental product compliance

EU RoHS	
Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I
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	c5ac9b50-ad4d-47e0-8fec-2126f0994e98

TTC-6-TVSD-C-48DC-PT-I - Surge protection device



2906849

<https://www.phoenixcontact.com/us/products/2906849>

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-TVSD-C-48DC-PT-I - Surge protection device



2906849

<https://www.phoenixcontact.com/us/products/2906849>

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-TVSD-C-48DC-PT-I - Surge protection device

2906849

<https://www.phoenixcontact.com/us/products/2906849>



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

TTC-6-FMRS-PT - Remote signaling set

2907811

<https://www.phoenixcontact.com/us/products/2907811>



Module set for the optical monitoring and floating remote signaling of adjacent surge protective devices in the TERMITRAB complete or CLIXTRAB product family. Suitable for directly grounded DIN rails.

TTC-6-TVSD-C-48DC-PT-I - Surge protection device



2906849

<https://www.phoenixcontact.com/us/products/2906849>

TTC-6-LCP - Cover

2908729

<https://www.phoenixcontact.com/us/products/2908729>



End cover for terminating a row of TERMITRAB complete TTC-6... terminal blocks

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-TVSD-C-48DC-PT-I - Surge protection device

2906849

<https://www.phoenixcontact.com/us/products/2906849>



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