

TTC-6-MOV-C-48DC-UT-I - Surge protection device



2906838

<https://www.phoenixcontact.com/us/products/2906838>

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Medium 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	2906838
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL23
Product key	CL2264
Catalog page	Page 150 (C-4-2019)
GTIN	4055626136943
Weight per piece (including packing)	29.8 g
Weight per piece (excluding packing)	24.83 g
Customs tariff number	85363010
Country of origin	DE

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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
Surge protection fault message	optical

Data management status

Article revision	08
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Insulation characteristics

Overvoltage category	III
Pollution degree	2

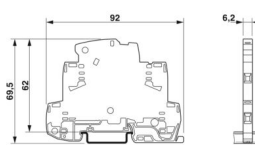
Electrical properties

Nominal voltage U_N	48 V DC
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Connection data

Connection method	Screw connection
Screw thread	M3
Tightening torque	0.5 Nm ... 0.6 Nm
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

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Mechanical properties

Mechanical data

Open side panel	Yes
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Protective circuit

Direction of action	Line-Earth Ground
Maximum continuous voltage U_C	60 V DC
	42 V AC
Rated current	10 A (60 °C)
Operating effective current I_C at U_C	$\leq 100 \mu\text{A}$
Residual current I_{PE}	$\leq 100 \mu\text{A}$
Nominal discharge current I_n (8/20) μs (line-ground)	2 kA
Voltage protection level U_p (line-earth)	$\leq 200 \text{ V}$ (C1 - 600 A)
	$\leq 220 \text{ V}$ (C2 - 4 kV)
	$\leq 150 \text{ V}$ (C3 - 25 A)
	$\leq 160 \text{ V}$ (C3 - 35 A)
Response time t_A (line-earth)	$\leq 25 \text{ ns}$
Input attenuation aE, asym.	typ. 0.3 dB ($\leq 200 \text{ kHz} / 150 \Omega$)
Cut-off frequency f_g (3 dB), asym. (PE) in 150 Ω system	typ. 650 kHz
Capacity (Core-Earth)	5 nF
Resistance per path	$\leq 100 \text{ m}\Omega$
Surge protection fault message	optical
Impulse durability (line-earth)	C1 - 600 A
	C2 - 2 kA
	C3 - 35 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

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Mounting type	DIN rail: 35 mm
Thread type	()

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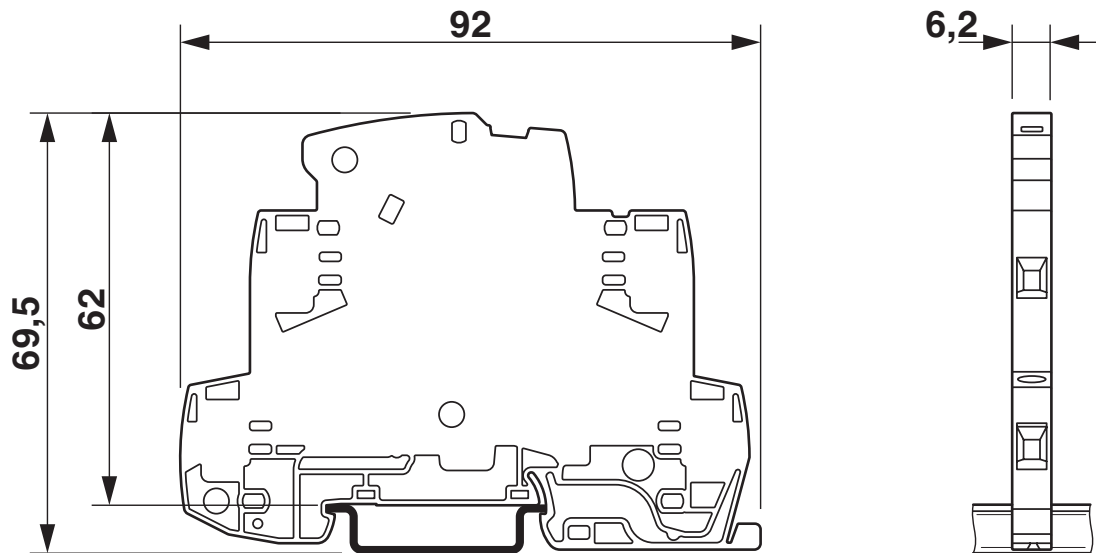


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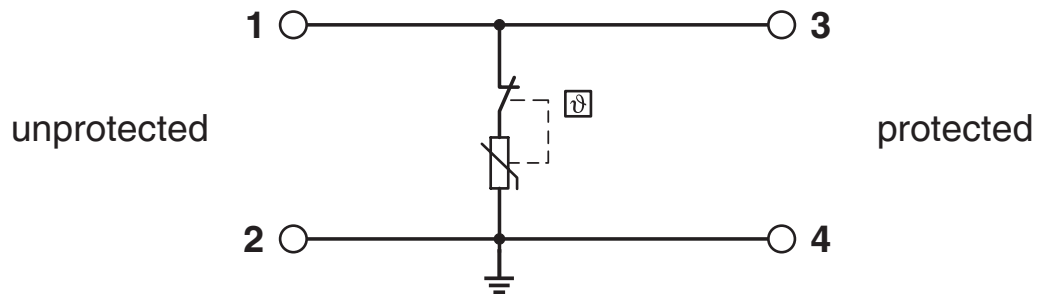
<https://www.phoenixcontact.com/us/products/2906838>

Drawings

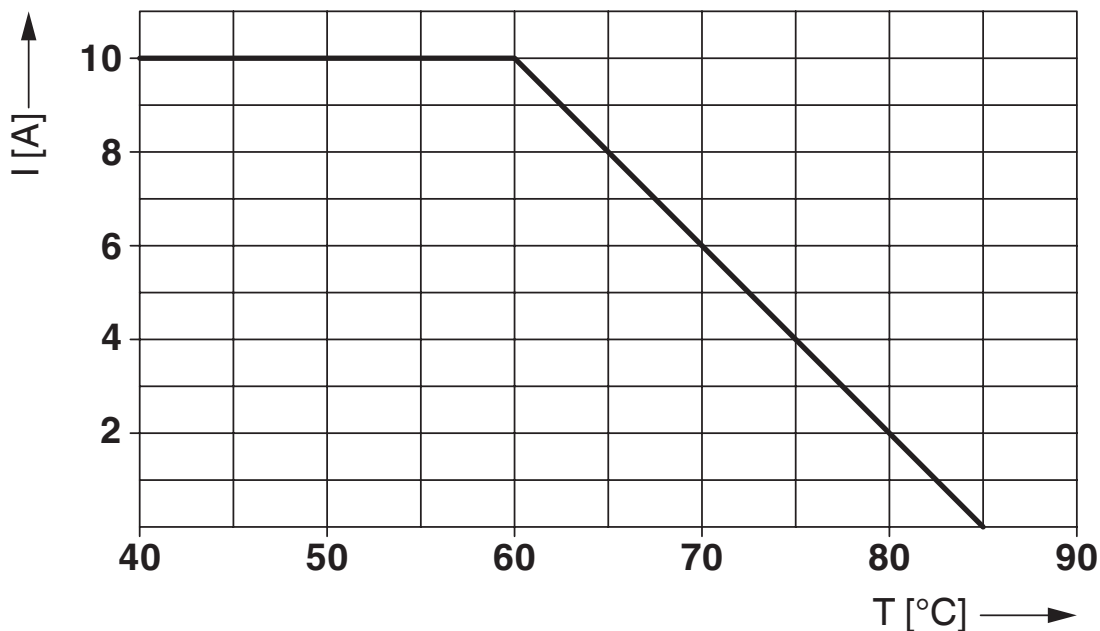
Dimensional drawing



Circuit diagram



Diagram



Schematic diagram

TTC-6-MOV									
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
	1.57·10 ⁻⁵	2.80·10 ⁻⁹ 1/h	0.2 %	0.3 %	7.87·10 ⁻⁷	1.40·10 ⁻¹⁰ 1/h	5 %	0.1 %	0.1 %
					1.57·10 ⁻⁶	2.80·10 ⁻¹⁰ 1/h	10 %	0.2 %	0.3 %
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

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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2906838>



CSA

Approval ID: 70136717



DNV GL

Approval ID: TAE000027G



UL Listed

Approval ID: FILE E 138168



CSAus

Approval ID: 70136717

UAE-RoHS

Approval ID: 22-06-16192

Functional Safety

Approval ID: 16-06-072 R024 V2R0

cCSAus

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Classifications

ECLASS

ECLASS-11.0	27130807
ECLASS-13.0	27171501

ETIM

ETIM 9.0	EC000943
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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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EF3.0 Climate Change

CO2e kg	0.144 kg CO2e
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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: latching, for terminal block width: 6.2 mm, lettering field size: 5.15 x 6.15 mm, Number of individual labels: 10

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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: latching, 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: latching, for terminal block width: 6.2 mm, lettering field size: 5.15 x 6.15 mm, Number of individual labels: 10

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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-UT - Remote signaling set

2907810

<https://www.phoenixcontact.com/us/products/2907810>



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.

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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

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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

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SZS 0,6X3,5 VDE - Screwdriver

1212602

<https://www.phoenixcontact.com/us/products/1212602>



Screwdriver, slot-headed, VDE insulated, size: 0.6 x 3.5 x 100 mm, 2-component grip, with non-slip grip

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