

Surge protection device - TTC-6-2X1-F-M-24DC-PT-I



2906776

<https://www.phoenixcontact.com/us/products/2906776>

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Surge protection with integrated status indicator and disconnect knife for two signal wires with common reference potential. Indirect grounding via gas-filled surge arrester, e.g., Digital IN/OUT.

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
- Signal circuits easily interrupted for maintenance work, thanks to vertical knife disconnection

Commercial Data

Item number	2906776
Packing unit	1 pc
Minimum order quantity	1 pc
Note	Made to Order (non-returnable)
Sales Key	C07
Product Key	CL2262
Catalog Page	Page 130 (C-4-2019)
GTIN	4055626135342
Weight per Piece (including packing)	38.4 g
Weight per Piece (excluding packing)	31.76 g
Customs tariff number	85363010
Country of origin	DE

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Technical Data

Product properties

IEC test classification	C1
	C2
	C3
	D1
Type	DIN rail module, one-piece
Product type	Surge protection for MCR technology

Insulation characteristics

Overvoltage category	III
Pollution degree	2

Connection data

Connection method	Push-in connection
Conductor cross section flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross section solid	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	83.5 mm (incl. DIN rail 7.5 mm)

Material specifications

Color	traffic grey A RAL 7042
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

Direction of action	Line-Line & Line-Signal Ground/Shield & optional Signal Ground/Shield-Earth Ground
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Maximum continuous voltage U_C	30 V DC
	21 V AC
Rated current	600 mA (40 °C)
Operating effective current I_C at U_C	$\leq 5 \mu A$
Residual current I_{PE}	$\leq 1 \mu A$
Nominal discharge surge current I_n (8/20) μs (Core-Earth)	5 kA
Nominal discharge current I_n (8/20) μs (line-signal ground)	5 kA
Pulse discharge current I_{imp} (10/350) μs (line-earth)	0.5 kA
Pulse discharge current I_{imp} (10/350) μs (line-signalground)	0.5 kA
Total discharge current I_{total} (8/20) μs	10 kA
Voltage protection level U_p (line-earth)	$\leq 750 V$ (C1 - 1 kV / 500 A)
	$\leq 750 V$ (C2 - 10 kV / 5 kA)
	$\leq 1.1 kV$ (C3 - 25 A)
	$\leq 1.15 kV$ (C3 - 100 A)
Voltage protection level U_p (line-signalground)	$\leq 140 V$ (C1 - 1 kV / 500 A)
	$\leq 130 V$ (C2 - 10 kV / 5 kA)
	$\leq 45 V$ (C3 - 25 A)
	$\leq 50 V$ (C3 - 100 A)
Voltage protection level U_p static (line-earth)	$\leq 750 V$ (C1 - 1 kV / 500 A)
	$\leq 750 V$ (C2 - 10 kV / 5 kA)
Voltage protection level U_p static (line-signalground)	$\leq 55 V$ (C1 - 1 kV / 500 A)
	$\leq 80 V$ (C2 - 10 kV / 5 kA)
Response time t_A (line-earth)	$\leq 100 ns$
Response time t_A (line-signalground)	$\leq 1 ns$
Input attenuation aE, asym.	typ. 0.3 dB ($\leq 270 kHz/150 \Omega$)
Cut-off frequency f_g (3 dB), asym. (signal ground) in 150 Ω system	typ. 960 kHz
Capacity (line-signalground)	typ. 2.2 nF
Resistance per path	1.65 $\Omega \pm 20 \%$
Surge protection fault message	optical
Max. required back-up fuse	630 mA (FF)
Impulse durability (line-earth)	C1 - 1 kV / 500 A
	C2 - 10 kV / 5 kA
	C3 - 100 A
	D1 - 500 A
Impulse durability (line-signalground)	C1 - 1 kV / 500 A
	C2 - 10 kV / 5 kA
	C3 - 100 A
	D1 - 500 A
Pulse reset time (line-earth)	$\leq 30 ms$
Pulse reset time (line-signalground)	$\leq 300 ms$

Additional technical data

Max. total discharge current $I_{total max}$ (8/20) μs	20 kA (1x)
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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	≤ 4000 m (amsl (above mean sea level))
Permissible humidity (operation)	5 % ... 95 %

Standards and regulations

Standards/specifications	IEC 61643-21
Standards/specifications	EN 61643-21

Mounting

Mounting type	DIN rail: TH 35 - 7.5 mm
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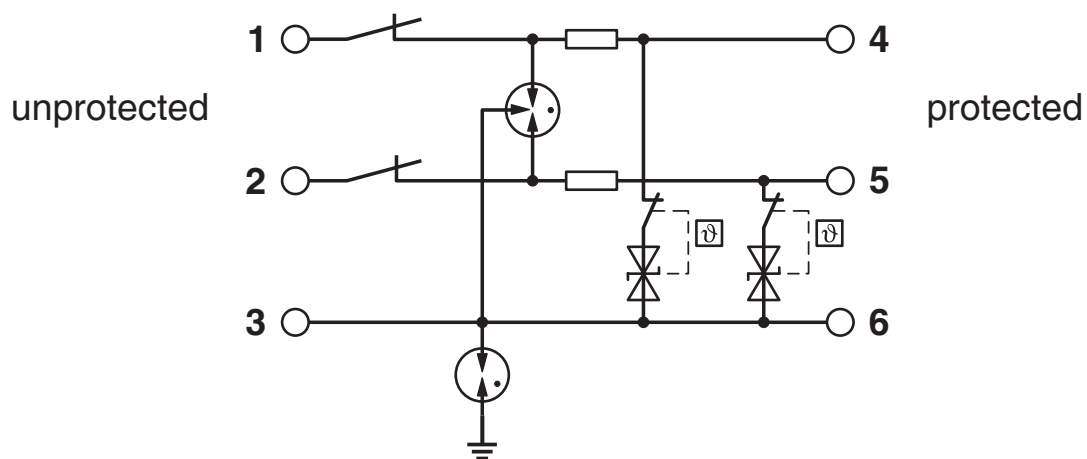


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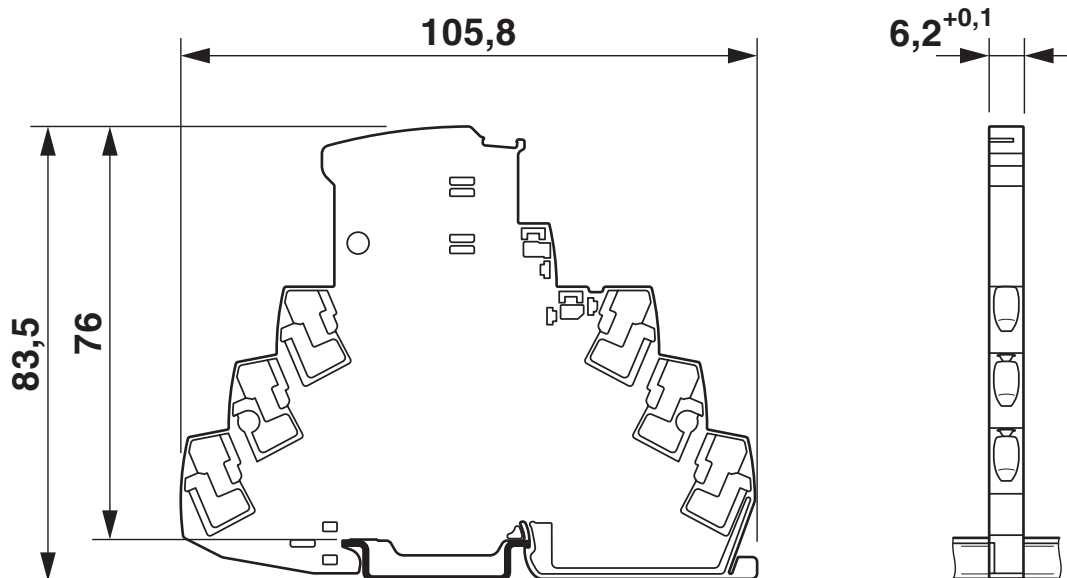
<https://www.phoenixcontact.com/us/products/2906776>

Drawings

Circuit diagram



Dimensional drawing

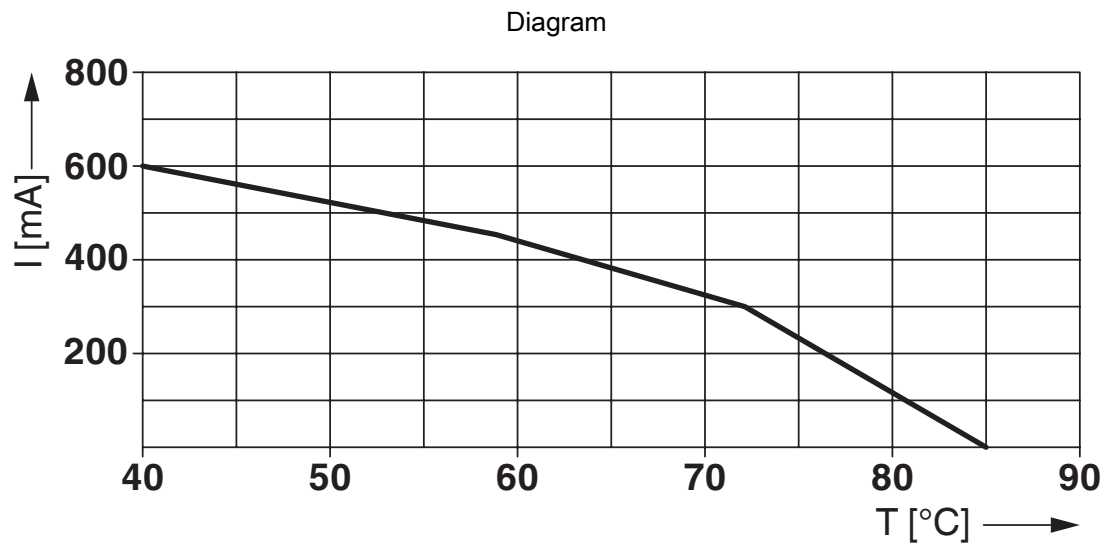


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Approvals



CSA
Approval ID: 70136717

	DNV GL Approval ID: TAE000027G			
	Nominal Voltage U _N	Nominal Current I _N	Cross Section AWG	Cross Section mm ²
			-	-



UL Listed
Approval ID: FILE E 138168



CSAus
Approval ID: 70136717

cCSAus

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Classifications

ECLASS

ECLASS-9.0	27130807
ECLASS-10.0.1	27130807
ECLASS-11.0	27130807

ETIM

ETIM 8.0	EC000943
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UNSPSC

UNSPSC 21.0	39121600
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Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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Accessories

Marker pen

Marker pen - X-PEN 0,35 - 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

Zack Marker strip, flat

Zack Marker strip, flat - ZBF 6 CUS - 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

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Zack Marker strip, flat

Zack Marker strip, flat - ZBF 6:UNBEDRUCKT - 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

Zack Marker strip, flat

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

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Zack Marker strip, flat

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

End clamp

End clamp - CLIPFIX 35-5 - 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

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Remote signaling set

Remote signaling set - TTC-6-FMRS-PT - 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.

Shield connection

Shield connection - SSA 3-6 - 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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Shield connection

Shield connection - SSA 5-10 - 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

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