

# TTC-3-2X1-24DC-PT - Surge protection device



2907326

<https://www.phoenixcontact.com/us/products/2907326>

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Surge protection for two signal wires with common reference potential, e.g., Digital IN/OUT.



## Your advantages

- Extremely space-saving installation with the narrowest overall width of just 3.5 mm
- Cost-optimized with tailored product features
- 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	2907326
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL23
Product key	CL2266
Catalog page	Page 131 (C-4-2019)
GTIN	4055626199924
Weight per piece (including packing)	24.3 g
Weight per piece (excluding packing)	24.2 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
Product family	TERMITRAB complete

### Insulation characteristics

Overvoltage category	III
Pollution degree	2

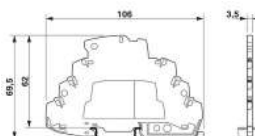
### Electrical properties

Nominal voltage $U_N$	24 V DC
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### Connection data

Connection method	Push-in connection
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.2 mm <sup>2</sup> ... 1 mm <sup>2</sup>
Conductor cross section flexible, with ferrule without plastic sleeve	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section rigid	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section AWG	24 ... 16

### Dimensions

Dimensional drawing	
Width	3.5 mm
Height	106 mm
Depth	69.5 mm (incl. DIN rail 7.5 mm)

### Material specifications

Flammability rating according to UL 94	V-0
Insulating material	PBT
Housing material	PBT

### Mechanical properties

#### Mechanical data

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Open side panel	Yes
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## Protective circuit

Direction of action	Line-Line & Line-Signal Ground/Shield & optional Signal Ground/Shield-Earth Ground
Maximum continuous voltage $U_C$	30 V DC
	21 V AC
Rated current	250 mA (70 °C)
Operating effective current $I_C$ at $U_C$	$\leq 1 \mu\text{A}$
Residual current $I_{PE}$	$\leq 2 \mu\text{A}$
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (line-ground)	5 kA
Pulse discharge current $I_{imp}$ (10/350) $\mu\text{s}$ (line-earth)	0.5 kA
Total discharge current $I_{total}$ (8/20) $\mu\text{s}$	10 kA
Voltage protection level $U_p$ (line-earth)	$\leq 50 \text{ V}$ (C1 - 500 V / 250 A)
	$\leq 100 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 50 \text{ V}$ (C3 - 30 A)
Response time $t_A$ (line-earth)	$\leq 1 \text{ ns}$
Input attenuation aE, asym.	typ. 0.3 dB ( $\leq 600 \text{ kHz} / 150 \Omega$ )
Cut-off frequency $f_g$ (3 dB), asym. (signal ground) in 150 $\Omega$ system	typ. 2.4 MHz
Capacity (Core-Earth)	typ. 1 nF
Resistance per path	2.2 $\Omega \pm 10 \%$
Surge protection fault message	none
Max. required back-up fuse	250 mA (FF)
Impulse durability (line-earth)	C1 - 500 V / 250 A
	C2 - 10 kV / 5 kA
	C3 - 30 A
	D1 - 500 A
Pulse reset time (line-earth)	$\leq 30 \text{ ms}$

## 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

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## Mounting

Mounting type	DIN rail: TH 35 - 7.5 mm
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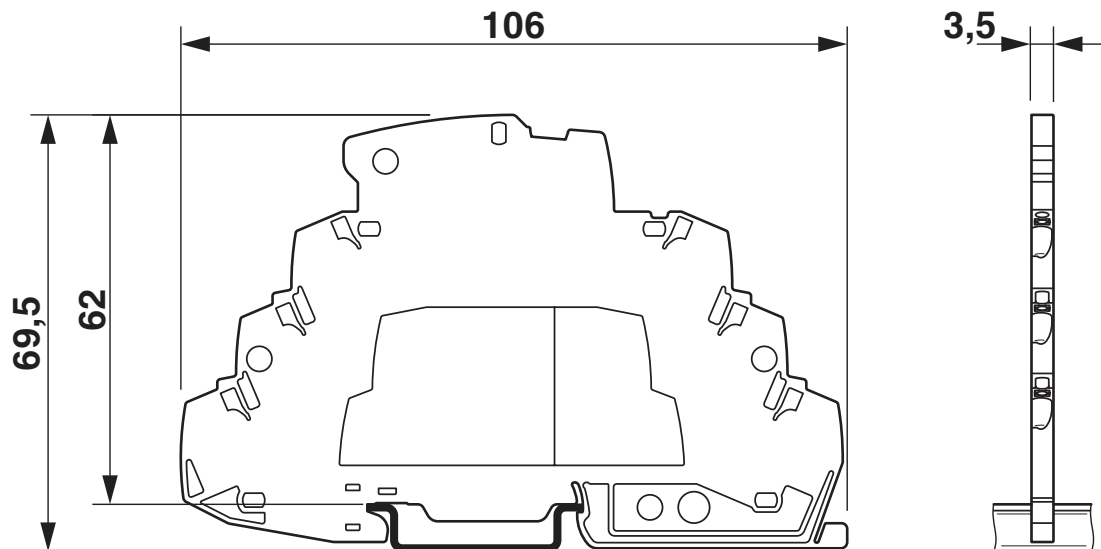
# TTC-3-2X1-24DC-PT - Surge protection device

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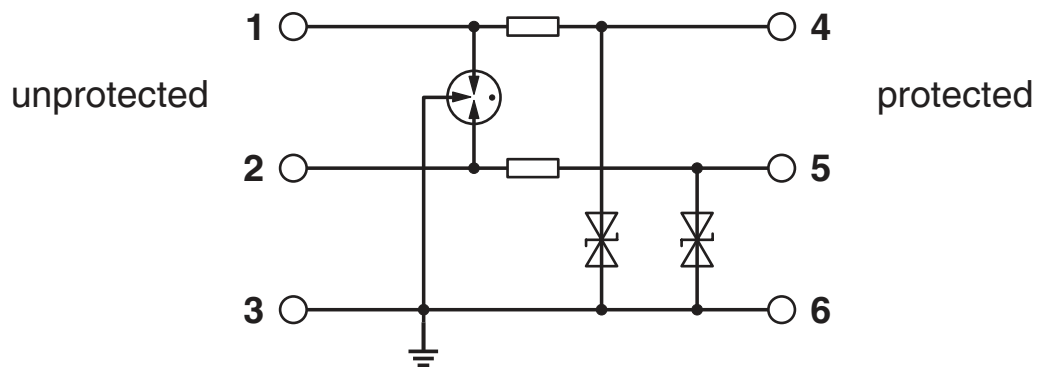
<https://www.phoenixcontact.com/us/products/2907326>

## Drawings

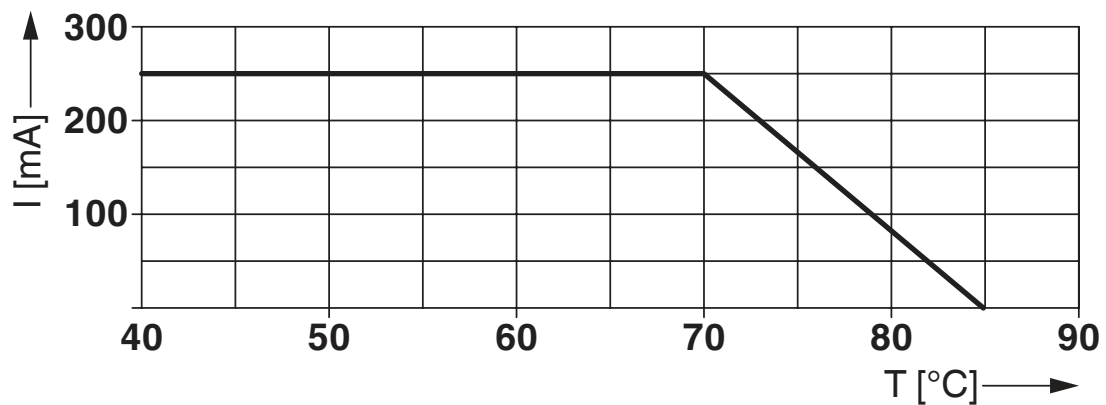
Dimensional drawing



Circuit diagram



Diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2907326>



**CSA**

Approval ID: 70136717



**DNV GL**

Approval ID: TAE000027G



**UL Listed**

Approval ID: FILE E 138168



**CSAus**

Approval ID: 70136717

**cCSAus**

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## Classifications

### ECLASS

ECLASS-11.0	27130807
ECLASS-13.0	27171501

### 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

### ZBF 3,5:UNBEDRUCKT - Zack Marker strip, flat

0829392

<https://www.phoenixcontact.com/us/products/0829392>



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snapped, for terminal block width: 3.5 mm, lettering field size: 3.5 x 5.2 mm, Number of individual labels: 10

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### ZBF 3,5,LGS:FORTL.ZAHLEN - Zack Marker strip, flat

0801406

<https://www.phoenixcontact.com/us/products/0801406>



Zack Marker strip, flat, Strip, white, labeled, printed horizontally: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 100, mounting type: snapped, for terminal block width: 3.5 mm, lettering field size: 5.15 x 3.5 mm, Number of individual labels: 10

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## CLIPFIX 35-5 - End clamp

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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## TTC-3-LCP - Cover

2908843

<https://www.phoenixcontact.com/us/products/2908843>



End cover for terminating a row of TERMITRAB complete TTC-3... terminal blocks

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## AI-S 1 - 8 TQ - Ferrule

1200293

<https://www.phoenixcontact.com/us/products/1200293>



Ferrule, S-Slimline, sleeve length: 8 mm, length: 14.5 mm, color: turquoise

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## 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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