

# Surge protection device - TTC-3-1X2-24DC-PT - 2907325

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Surge protection for a 2-wire floating signal circuit, e.g., 0(4) ... 20 mA current loop, HART-compatible.

## Your advantages

- Extremely space-saving installation due to the narrowest overall width of just 3.5 mm
- Quick and tool-free installation of surge protective devices, thanks to Push-in connection technology



## Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 199917
GTIN	4055626199917

## Technical data

### Dimensions

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

### Ambient conditions

Ambient temperature (operation)	-40 °C ... 85 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	5 % ... 95 %
Altitude	≤ 4000 m (amsl (above mean sea level))
Degree of protection	IP20 (with end cover)

### General

Housing material	PBT
Flammability rating according to UL 94	V-0
Color	traffic grey A RAL 7042

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## Technical data

### General

Mounting type	DIN rail: TH 35 - 7.5 mm
Type	DIN rail module, one-piece
Direction of action	Line-Line & Line-Signal Ground/Shield & optional Signal Ground/Shield-Earth Ground

### Protective circuit

IEC test classification	C1
	C2
	C3
	D1
Nominal voltage $U_N$	24 V DC
Maximum continuous voltage $U_C$	30 V DC
	21 V AC
Rated current	250 mA (70°C)
Operating effective current $I_C$ at $U_C$	$\leq 1 \mu A$
Residual current $I_{PE}$	$\leq 1 \mu A$
Nominal discharge current $I_n$ (8/20) $\mu s$ (line-line)	5 kA
Nominal discharge current $I_n$ (8/20) $\mu s$ (line-earth)	5 kA
Pulse discharge current $I_{imp}$ (10/350) $\mu s$ (line-earth)	0.5 kA
Total discharge current $I_{total}$ (8/20) $\mu s$	10 kA
Voltage protection level $U_p$ (line-line)	$\leq 50 V$ (C1 - 500 V / 250 A)
	$\leq 70 V$ (C2 - 10 kV / 5 kA)
	$\leq 45 V$ (C3 - 30 A)
Voltage protection level $U_p$ (line-earth)	$\leq 1000 V$ (C2 - 10 kV / 5 kA)
	$\leq 1000 V$ (C3 - 100 A)
Voltage protection level $U_p$ static (line-line)	$\leq 50 V$ (C1 - 1 kV/500 A)
Response time $t_A$ (line-line)	$\leq 1 ns$
Input attenuation aE, sym.	typ. 0.3 dB ( $\leq 600 kHz / 150 \Omega$ )
Cut-off frequency $f_g$ (3 dB), sym. in 150 Ohm system	typ. 2.4 MHz
Capacity (line-line)	typ. 1 nF
Resistance per path	2.2 $\Omega \pm 10 \%$
Impulse durability (line-line)	C1 - 500 V / 250 A
	C2 - 10 kV / 5 kA
	C3 - 30 A
Impulse durability (line-earth)	C2 - 10 kV / 5 kA
	C3 - 100 A
	D1 - 500 A
Pulse reset time (line-line)	$\leq 30 ms$

### Connection data

Connection method	Push-in connection
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## Technical data

### Connection data

Stripping length	8 mm
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
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 solid	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section AWG	24 ... 16

### Standards and Regulations

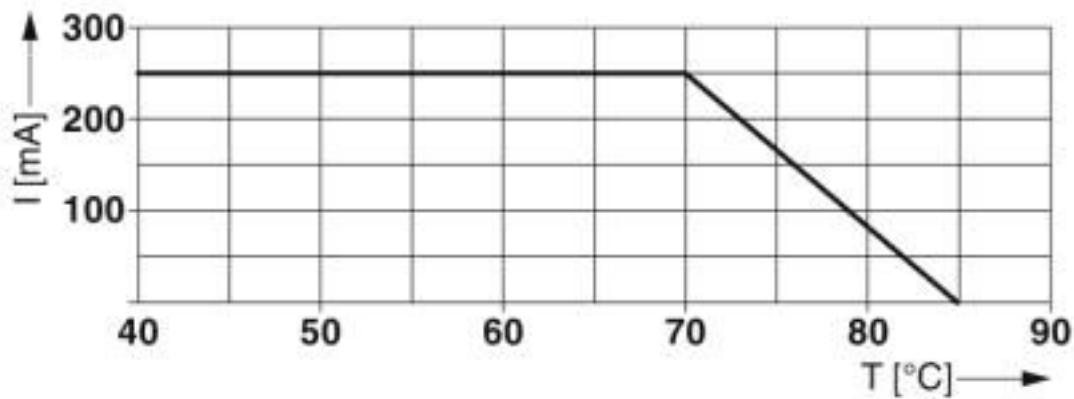
Standards/specifications	IEC 61643-21 2000 + corrigendum 2001 + A1:2008, modified + A2:2012
	EN 61643-21 2001 + A1:2009 + A2:2013

### Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

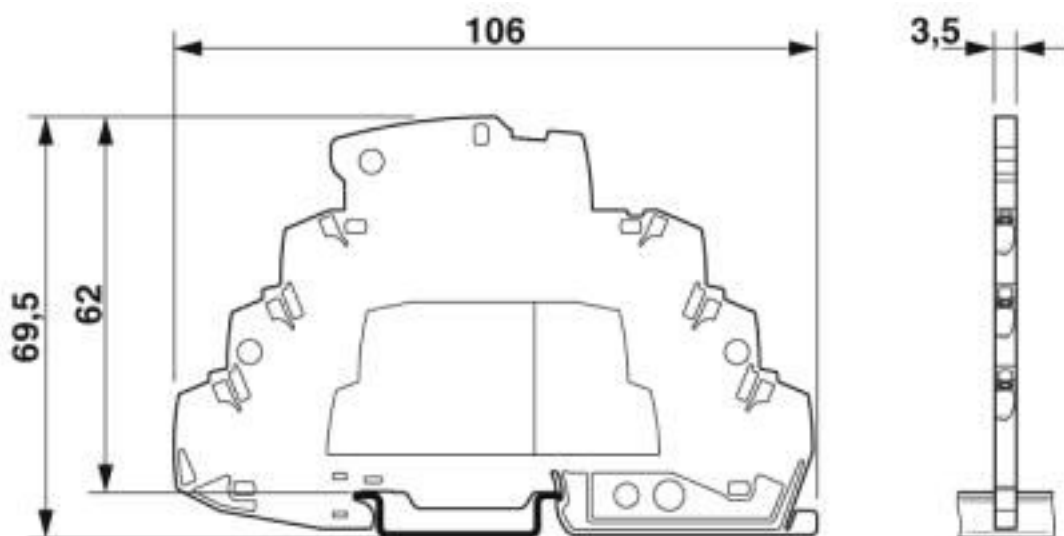
## Drawings

Diagram

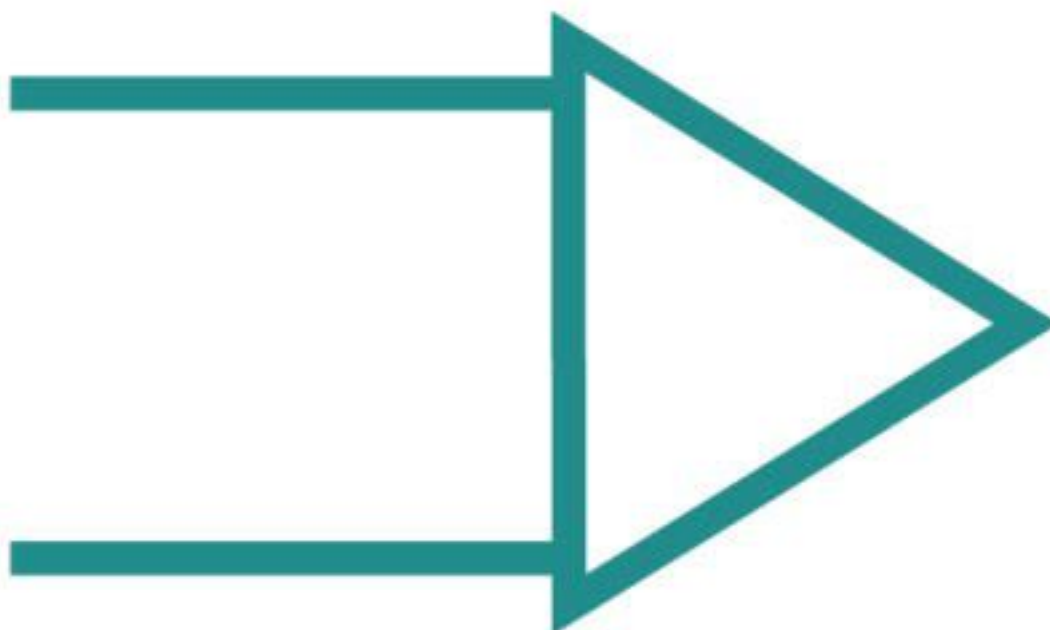


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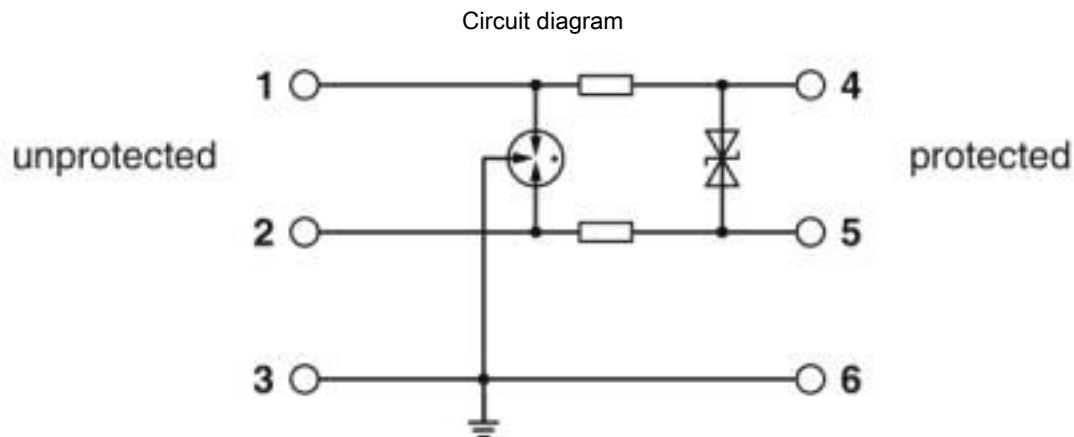
Dimensional drawing



Pictogram



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### Classifications

#### eCl@ss

eCl@ss 10.0.1	27130807
eCl@ss 4.0	27140201
eCl@ss 4.1	27130801
eCl@ss 5.0	27130801
eCl@ss 5.1	27130801
eCl@ss 6.0	27130800
eCl@ss 7.0	27130807
eCl@ss 8.0	27130807
eCl@ss 9.0	27130807

#### ETIM

ETIM 3.0	EC000943
ETIM 4.0	EC000943
ETIM 5.0	EC000943
ETIM 6.0	EC000943
ETIM 7.0	EC000943

#### UNSPSC

UNSPSC 6.01	30212010
UNSPSC 7.0901	39121610
UNSPSC 11	39121610
UNSPSC 12.01	39121610
UNSPSC 13.2	39121620
UNSPSC 18.0	39121620
UNSPSC 19.0	39121620
UNSPSC 20.0	39121620
UNSPSC 21.0	39121620

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## Approvals

### Approvals

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#### Approvals

DNV GL / CSA / UL Listed / CSAus / cCSAus

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#### Ex Approvals

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### Approval details

DNV GL		<a href="https://approvalfinder.dnvgl.com/">https://approvalfinder.dnvgl.com/</a>	TAE000027G
CSA		<a href="http://www.csagroup.org/services-industries/product-listing/">http://www.csagroup.org/services-industries/product-listing/</a>	70136717
UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 138168
CSAus		<a href="http://www.csagroup.org/services-industries/product-listing/">http://www.csagroup.org/services-industries/product-listing/</a>	70136717
cCSAus			

## Accessories

### Accessories

#### End block

End clamp - CLIPFIX 35-5 - 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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#### Labeled terminal marker

Zack Marker strip, flat - ZBF 3,5,LGS:FORTL.ZAHLEN - 0801406



Zack Marker strip, flat, Strip, white, labeled, printed horizontally: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 100, mounting type: snap into flat marker groove, 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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#### Marker pen

Marker pen - X-PEN 0,35 - 0811228



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

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#### Terminal marking

Zack Marker strip, flat - ZBF 3,5:UNBEDRUCKT - 0829392



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snap into flat marker groove, 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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#### Additional products

Cover - TTC-3-LCP - 2908843



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

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Ferrule - AI-S 1 - 8 TQ - 1200293



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

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