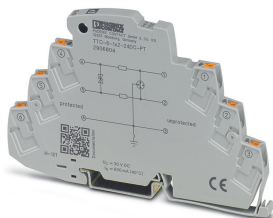


## Surge protection device - TTC-6-1X2-24DC-PT - 2906804

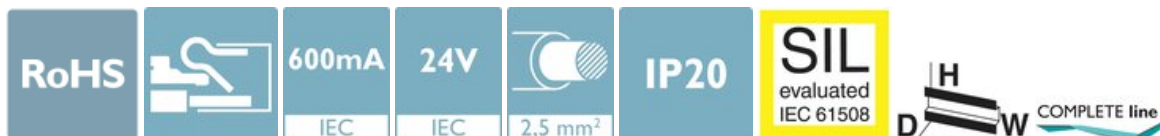
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Surge protection for a 2-wire floating signal circuit, e.g., 0(4) ... 20 mA current loop, HART-compatible.




### Your advantages

- ✓ Space-saving and cost-saving with a narrow overall width of just 6 mm
- ✓ Quick and tool-free installation of surge protective devices, thanks to Push-in connection technology
- ✓ Finding the right product for all possible requirements in MCR applications is easy, thanks to the complete range of products with customized features



### Key Commercial Data

|              |                                                                                                         |
|--------------|---------------------------------------------------------------------------------------------------------|
| Packing unit | 1 pc                                                                                                    |
| GTIN         | <br>4 055626 135588 |
| GTIN         | 4055626135588                                                                                           |

### Technical data

#### Dimensions

|        |                                 |
|--------|---------------------------------|
| Height | 105.8 mm                        |
| Width  | 6.2 mm +0.1 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                                   |

#### General

|                  |     |
|------------------|-----|
| Housing material | PBT |
|------------------|-----|

# Surge protection device - TTC-6-1X2-24DC-PT - 2906804

## Technical data

### General

|                                        |                                                                                    |
|----------------------------------------|------------------------------------------------------------------------------------|
| Flammability rating according to UL 94 | V-0                                                                                |
| Color                                  | traffic grey A RAL 7042                                                            |
| 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                                                         | 600 mA (40 °C)                                        |
| Operating effective current $I_C$ at $U_C$                            | $\leq 5 \mu\text{A}$                                  |
| Residual current $I_{PE}$                                             | $\leq 1 \mu\text{A}$                                  |
| Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (line-line)      | 5 kA                                                  |
| Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (line-earth)     | 5 kA                                                  |
| Pulse discharge current $I_{imp}$ (10/350) $\mu\text{s}$ (line-line)  | 0.5 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-line)                            | $\leq 55 \text{ V}$ (C1 - 1 kV/500 A)                 |
|                                                                       | $\leq 65 \text{ V}$ (C2 - 10 kV / 5 kA)               |
|                                                                       | $\leq 50 \text{ V}$ (C3 - 25 A)                       |
|                                                                       | $\leq 55 \text{ V}$ (C3 - 100 A)                      |
| Voltage protection level $U_p$ (line-earth)                           | $\leq 750 \text{ V}$ (C1 - 1 kV/500 A)                |
|                                                                       | $\leq 750 \text{ V}$ (C2 - 10 kV / 5 kA)              |
|                                                                       | $\leq 700 \text{ V}$ (C3 - 25 A)                      |
|                                                                       | $\leq 750 \text{ V}$ (C3 - 100 A)                     |
| Voltage protection level $U_p$ static (line-line)                     | $\leq 50 \text{ V}$ (C1 - 1 kV/500 A)                 |
|                                                                       | $\leq 65 \text{ V}$ (C2 - 10 kV / 5 kA)               |
| Voltage protection level $U_p$ static (line-earth)                    | $\leq 750 \text{ V}$ (C1 - 1 kV/500 A)                |
|                                                                       | $\leq 750 \text{ V}$ (C2 - 10 kV / 5 kA)              |
| Response time $t_A$ (line-line)                                       | $\leq 1 \text{ ns}$                                   |
| Response time $t_A$ (line-earth)                                      | $\leq 100 \text{ ns}$                                 |
| Input attenuation aE, sym.                                            | typ. 0.3 dB ( $\leq 250 \text{ kHz}$ / 150 $\Omega$ ) |
| Cut-off frequency $f_g$ (3 dB), sym. in 150 $\Omega$ system           | typ. 940 kHz                                          |
| Capacity (line-line)                                                  | typ. 2.2 nF                                           |
| Resistance per path                                                   | 1.65 $\Omega \pm 20 \%$                               |

# Surge protection device - TTC-6-1X2-24DC-PT - 2906804

## Technical data

### Protective circuit

|                                 |                   |
|---------------------------------|-------------------|
| Surge protection fault message  | none              |
| Max. required back-up fuse      | 630 mA (FF)       |
| Impulse durability (line-line)  | C1 - 1 kV / 500 A |
|                                 | C2 - 10 kV / 5 kA |
|                                 | C3 - 100 A        |
| Impulse durability (line-earth) | C1 - 1 kV / 500 A |
|                                 | C2 - 10 kV / 5 kA |
|                                 | C3 - 100 A        |
|                                 | D1 - 500 A        |
| Pulse reset time (line-line)    | ≤ 700 ms          |
| Pulse reset time (line-earth)   | ≤ 1500 ms         |

### Additional technical data

|                                                            |            |
|------------------------------------------------------------|------------|
| Max. total discharge current $I_{total\ max} (8/20) \mu s$ | 20 kA (1x) |
|------------------------------------------------------------|------------|

### Connection data

|                                  |                                             |
|----------------------------------|---------------------------------------------|
| Connection method                | Push-in connection                          |
| Stripping length                 | 8 mm                                        |
| Conductor cross section flexible | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| Conductor cross section solid    | 0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup>   |
| Conductor cross section AWG      | 24 ... 12                                   |

### 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

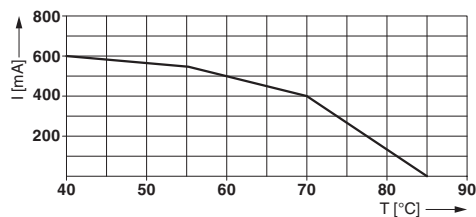
|            |                                                                                                     |
|------------|-----------------------------------------------------------------------------------------------------|
| REACH SVHC | Lead 7439-92-1                                     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

## Drawings

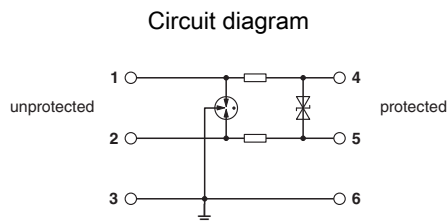
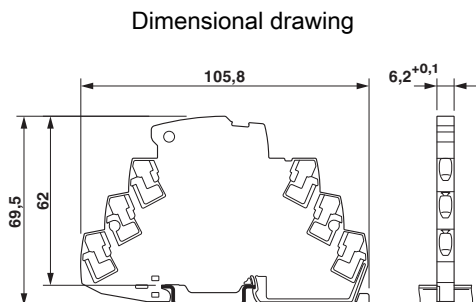
### Pictogram



### Diagram



# Surge protection device - TTC-6-1X2-24DC-PT - 2906804



## Classifications

### eCl@ss

|               |          |
|---------------|----------|
| eCl@ss 10.0.1 | 27130807 |
| eCl@ss 11.0   | 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 9.0    | 27130807 |

### ETIM

|          |          |
|----------|----------|
| ETIM 2.0 | EC000943 |
| ETIM 3.0 | EC000943 |
| ETIM 4.0 | 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 |

## Approvals

### Approvals

# Surge protection device - TTC-6-1X2-24DC-PT - 2906804

## Approvals

Approvals

DNV GL / CSA / UL Listed / CSAus / cCSAus

Ex Approvals

## 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

Labeled terminal marker

## Surge protection device - TTC-6-1X2-24DC-PT - 2906804

### Accessories

Zack Marker strip, flat - ZBF 6 CUS - 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

Zack Marker strip, flat - ZBF 6,QR:FORTL.ZAHLEN - 0808765



Zack Marker strip, flat, Strip, white, labeled, Printed vertically: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 100, 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

### 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

### Terminal marking

Zack Marker strip, flat - ZBF 6:UNBEDRUCKT - 0808710



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: 6.2 mm, lettering field size: 5.15 x 6.15 mm, Number of individual labels: 10

Zack Marker strip, flat - ZBF 6/WH-100:UNBEDRUCKT - 0808736



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: 6.2 mm, lettering field size: 5.15 x 6.15 mm, Number of individual labels: 10

### Additional products

## Surge protection device - TTC-6-1X2-24DC-PT - 2906804

### Accessories

#### Shield connection - SSA 3-6 - 2839295



Shield fast connection for 3 ... 6 mm cable diameter. Potential connecting cable: 200 mm, 1 mm<sup>2</sup>, color: black

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#### Shield connection - SSA 5-10 - 2839512



Shield fast connection for 5 ... 10 mm cable diameter. Potential connecting cable: 200 mm, 1 mm<sup>2</sup>, color: black

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