

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



2906794

<https://www.phoenixcontact.com/gb/products/2906794>

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

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
- Easy testing and documentation with CHECKMASTER 2 with pluggable protective modules
- The signal is not influenced during maintenance work, thanks to the impedance-neutral insertion and removal of protective plugs

Commercial Data

| | |
|--------------------------------------|---------------------|
| Item number | 2906794 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales Key | CL2162 |
| Product Key | CL2162 |
| Catalog Page | Page 129 (C-4-2019) |
| GTIN | 4055626135496 |
| Weight per Piece (including packing) | 43 g |
| Weight per Piece (excluding packing) | 37.92 g |
| Customs tariff number | 85363010 |
| Country of origin | DE |

Technical Data

Product properties

| | |
|-------------------------|---|
| IEC test classification | C1 |
| | C2 |
| | C3 |
| | D1 |
| Type | DIN rail module, two-section, divisible |
| Product type | Surge protection for MCR technology |

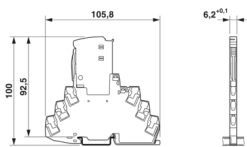
Insulation characteristics

| | |
|----------------------|-----|
| 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 | 100 mm (incl. DIN rail 7.5 mm) |

Material specifications

| | |
|--|-------------------------|
| Color | traffic grey A RAL 7042 |
| | light grey RAL 7035 |
| Flammability rating according to UL 94 | V-0 |
| Insulating material | PBT |
| Housing material | PBT |

Mechanical properties

Mechanical data

| | |
|-----------------|----|
| Open side panel | No |
|-----------------|----|

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 (56 °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 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) | $\leq 750 \text{ V}$ (C1 - 1 kV / 500 A) |
| | $\leq 800 \text{ V}$ (C2 - 10 kV / 5 kA) |
| | $\leq 1.1 \text{ kV}$ (C3 - 25 A) |
| | $\leq 1.15 \text{ kV}$ (C3 - 100 A) |
| Voltage protection level U_p (line-signalground) | $\leq 140 \text{ V}$ (C1 - 1 kV / 500 A) |
| | $\leq 190 \text{ V}$ (C2 - 10 kV / 5 kA) |
| | $\leq 45 \text{ V}$ (C3 - 25 A) |
| | $\leq 50 \text{ V}$ (C3 - 100 A) |
| Voltage protection level U_p static (line-earth) | $\leq 750 \text{ V}$ (C1 - 1 kV / 500 A) |
| | $\leq 800 \text{ V}$ (C2 - 10 kV / 5 kA) |
| Voltage protection level U_p static (line-signalground) | $\leq 55 \text{ V}$ (C1 - 1 kV / 500 A) |
| | $\leq 120 \text{ V}$ (C2 - 10 kV / 5 kA) |
| Response time t_A (line-earth) | $\leq 100 \text{ ns}$ |
| Response time t_A (line-signalground) | $\leq 1 \text{ ns}$ |
| Input attenuation aE, asym. | typ. 0.3 dB ($\leq 270 \text{ kHz}/150 \Omega$) |
| 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) | $\leq 30 \text{ ms}$ |
| Pulse reset time (line-signalground) | $\leq 300 \text{ ms}$ |

Additional technical data

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

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

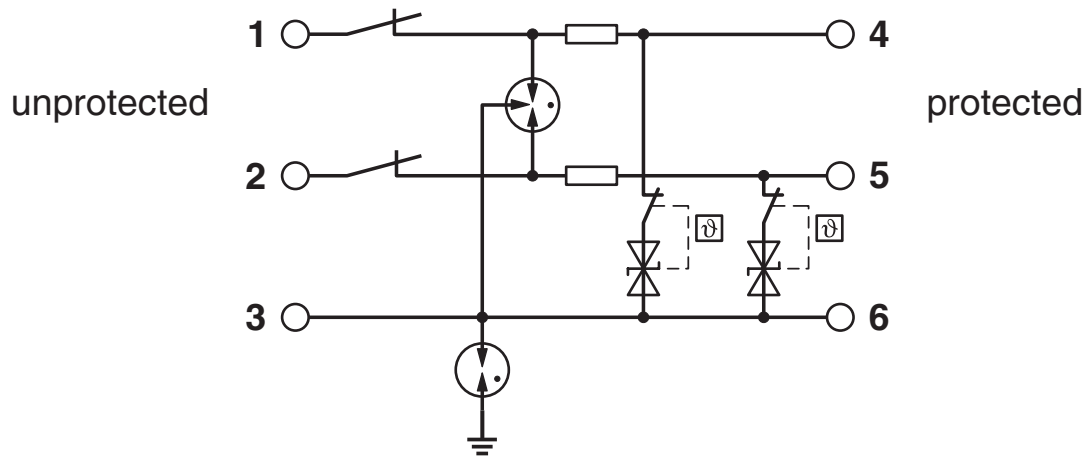
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|--------------------------|--------------|
| Standards/specifications | IEC 61643-21 |
| Standards/specifications | EN 61643-21 |

Mounting

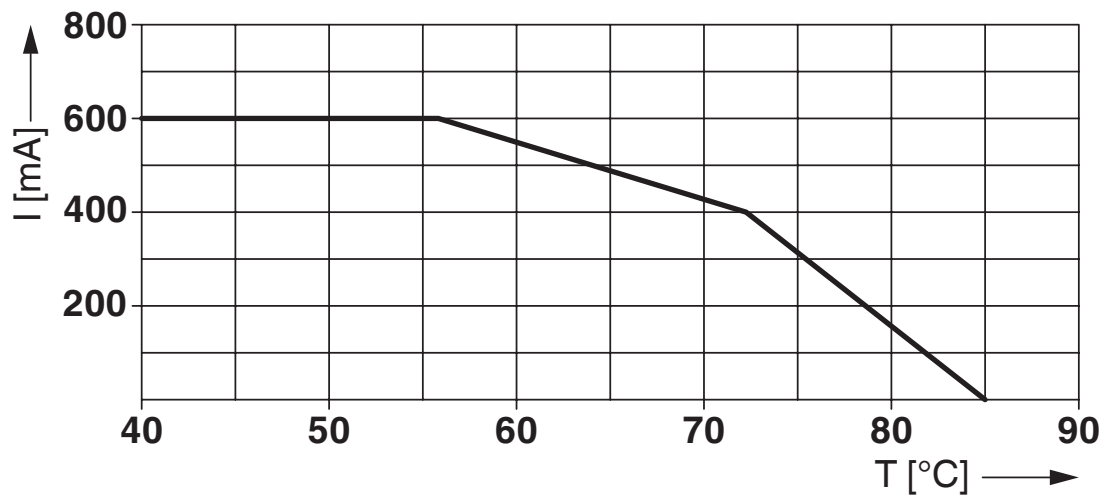
| | |
|---------------|--------------------------|
| Mounting type | DIN rail: TH 35 - 7.5 mm |
|---------------|--------------------------|

Drawings

Circuit diagram



Diagram



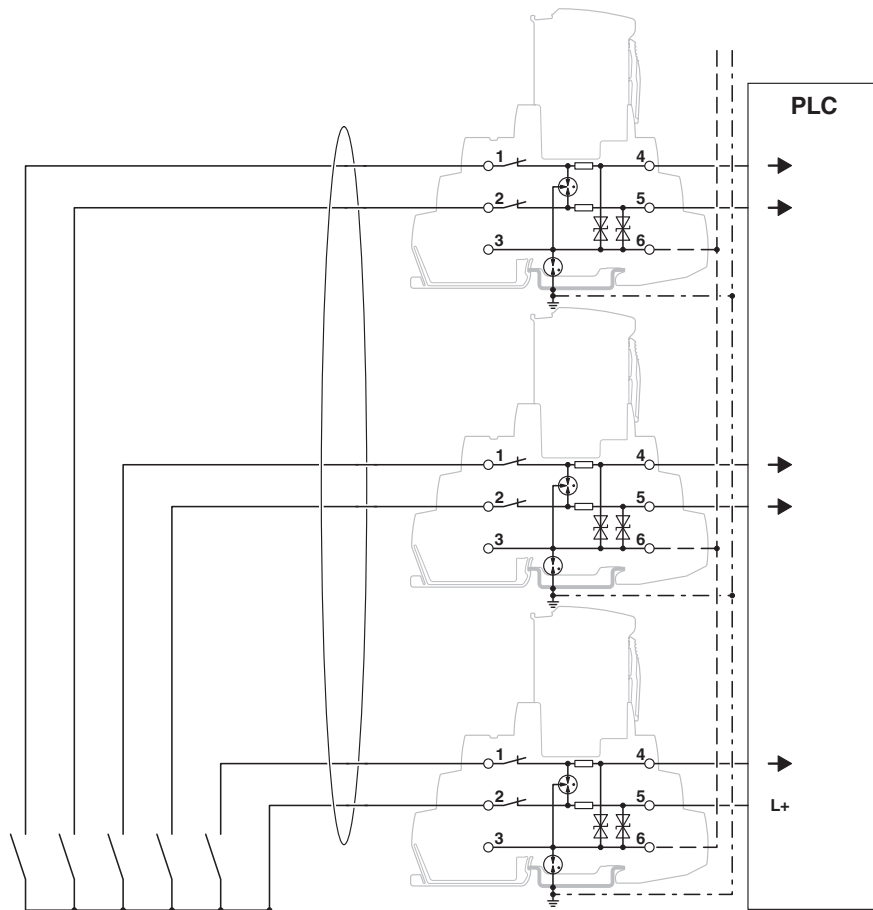
Surge protection device - TTC-6P-2X1-F-M-24DC-PT-I



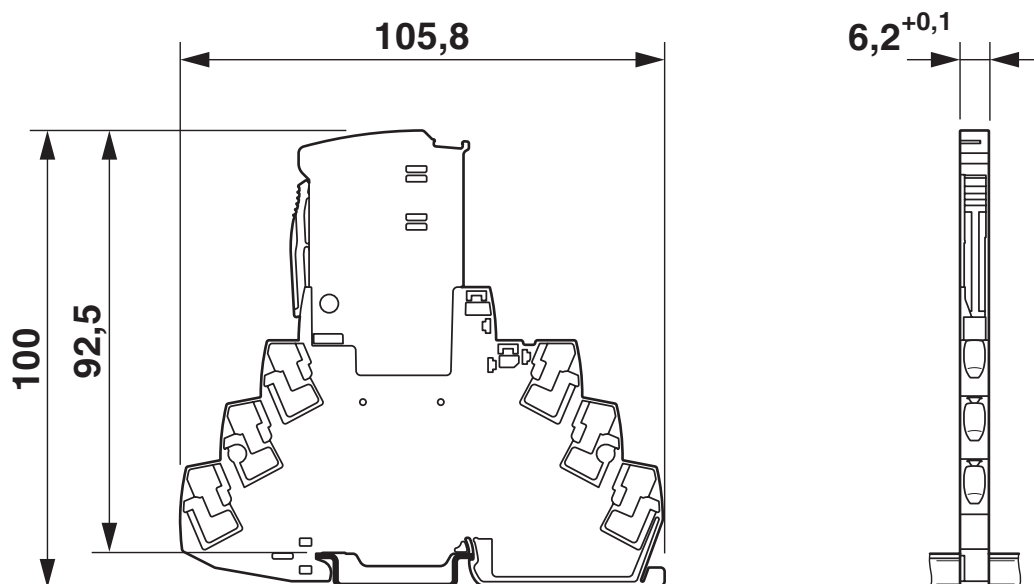
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Application drawing



Dimensional drawing



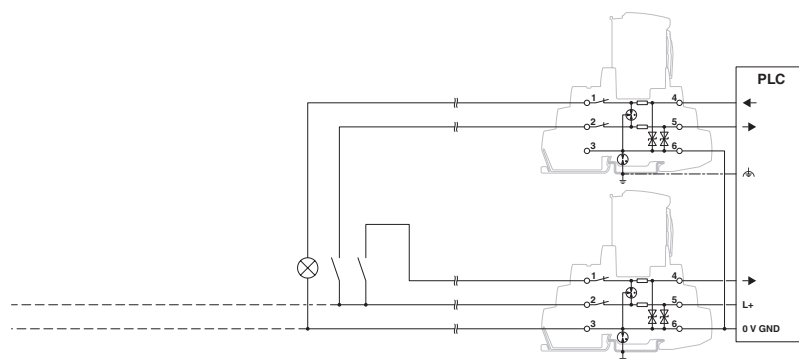
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Application drawing



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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 |
|----------|----------|

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/gb/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/gb/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/gb/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/gb/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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End clamp

End clamp - CLIPFIX 35-5 - 3022276

<https://www.phoenixcontact.com/gb/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

Remote signaling set

Remote signaling set - TTC-6-FMRS-PT - 2907811

<https://www.phoenixcontact.com/gb/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.

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Shield connection

Shield connection - SSA 3-6 - 2839295

<https://www.phoenixcontact.com/gb/products/2839295>

Shield fast connection for 3 ... 6 mm cable diameter. Potential connecting cable:
200 mm, 1 mm², color: black



Shield connection

Shield connection - SSA 5-10 - 2839512

<https://www.phoenixcontact.com/gb/products/2839512>

Shield fast connection for 5 ... 10 mm cable diameter. Potential connecting cable:
200 mm, 1 mm², color: black



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Surge protection plug

Surge protection plug - TTC-6P-2X1-24DC-I-P - 2907843

<https://www.phoenixcontact.com/gb/products/2907843>



Surge protection plug with integrated status indicator on the module for two signal wires with a common reference potential. Nominal voltage: 24 V DC

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