

TTC-6P-2X1-M-EX-24DC-UT-I - Surge protection device



2906825

<https://www.phoenixcontact.com/us/products/2906825>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



Surge protection, consisting of protective plug and base element, with integrated status indicator and disconnect knife for a 2-wire Ex i signal circuit with common reference potential, 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
- 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 | 2906825 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | CL23 |
| Product key | CL2163 |
| Catalog page | Page 157 (C-4-2019) |
| GTIN | 4055626135878 |
| Weight per piece (including packing) | 67.4 g |
| Weight per piece (excluding packing) | 62.6 g |
| Customs tariff number | 85363010 |
| Country of origin | DE |

TTC-6P-2X1-M-EX-24DC-UT-I - Surge protection device



2906825

<https://www.phoenixcontact.com/us/products/2906825>

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 |
| Product family | TERMITRAB complete |

Insulation characteristics

| | |
|----------------------|-----|
| Overvoltage category | III |
| Pollution degree | 2 |

Electrical properties

| | |
|-----------------------|---------|
| Nominal voltage U_N | 24 V DC |
|-----------------------|---------|

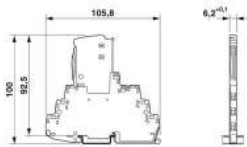
Connection data

| | |
|----------------------------------|---|
| Connection method | Screw connection |
| Screw thread | M3 |
| Tightening torque | 0.5 Nm ... 0.6 Nm |
| Conductor cross section flexible | 0.2 mm ² ... 2.5 mm ² |
| Conductor cross section rigid | 0.2 mm ² ... 4 mm ² |
| Conductor cross section AWG | 24 ... 12 |

Ex data

| | |
|---------------------------------|--|
| Maximum inner capacitance C_i | negligible |
| Max. internal inductance L_i | negligible |
| Max. input current I_i | 400 mA (T4 / -40 °C ... +50 °C) |
| | 250 mA (T4 / -40 °C ... +70 °C) |
| | 350 mA (T6 / -40 °C ... +35 °C) |
| | 100 mA (T6 / -40 °C ... +70 °C) |
| Max. input voltage U_i | 30 V DC |
| Ambient temperature (operation) | -40 °C ... 70 °C (with current derating) |

Dimensions

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

TTC-6P-2X1-M-EX-24DC-UT-I - Surge protection device



2906825

<https://www.phoenixcontact.com/us/products/2906825>

| | |
|-------|--------------------------------|
| Depth | 100 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

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

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 |
| Rated current | 600 mA (40 °C) |
| Operating effective current I_C at U_C | $\leq 5 \mu\text{A}$ |
| Residual current I_{PE} | $\leq 10 \mu\text{A}$ |
| Nominal discharge current I_n (8/20) μs (line-ground) | 5 kA |
| Pulse discharge current I_{imp} (10/350) μs (line-earth) | 0.5 kA |
| Total discharge current I_{total} (8/20) μs | 10 kA |
| Voltage protection level U_p (line-earth) | $\leq 140 \text{ V}$ (C1 - 1 kV / 500 A) |
| | $\leq 190 \text{ V}$ (C2 - 10 kV / 5 kA) |
| | $\leq 50 \text{ V}$ (C3 - 100 A) |
| Voltage protection level U_p static (line-earth) | $\leq 55 \text{ V}$ (C1 - 1 kV / 500 A) |
| | $\leq 120 \text{ V}$ (C2 - 10 kV / 5 kA) |
| Response time t_A (line-earth) | $\leq 1 \text{ ns}$ |
| Input attenuation aE, asym. | typ. 0.3 dB ($\leq 270 \text{ kHz}/150 \Omega$) |
| Cut-off frequency f_g (3 dB), asym. (PE) in 150 Ω system | typ. 960 kHz |
| Capacity (Core-Earth) | 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 |
| Pulse reset time (line-earth) | $\leq 300 \text{ ms}$ |

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 |

TTC-6P-2X1-M-EX-24DC-UT-I - Surge protection device



2906825

<https://www.phoenixcontact.com/us/products/2906825>

| | |
|----------------------------------|-----------------|
| Altitude | ≤ 2000 m (amsl) |
| Permissible humidity (operation) | 5 % ... 95 % |

Approvals

Conformity/Approvals

| | |
|------------------|--|
| UL, USA / Canada | Class I, Div. 2, Groups A, B, C, D T4A |
|------------------|--|

Standards and regulations

| | |
|--------------------------|-------------|
| Standards/specifications | EN 60079-0 |
| Note | 2018 |
| Standards/specifications | EN 60079-11 |
| Note | 2012 |

EN 61643-21

| | |
|--------------------------|---|
| Standards/specifications | EN 61643-21 |
| Note | 2001 + A1:2009 + A2:2013 |
| Standards/specifications | IEC 60079-0 |
| Note | 2017 |
| Standards/specifications | IEC 60079-11 |
| Note | 2008 |
| Standards/specifications | IEC 61643-21 |
| Note | 2000 + corrigendum 2001 + A1:2008, modified + A2:2012 |

Mounting

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

TTC-6P-2X1-M-EX-24DC-UT-I - Surge protection device

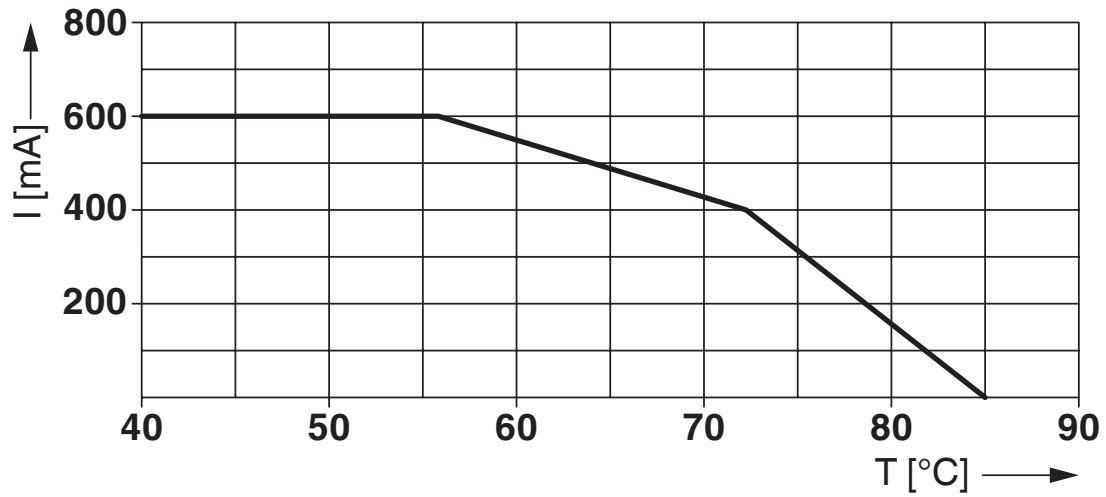


2906825

<https://www.phoenixcontact.com/us/products/2906825>

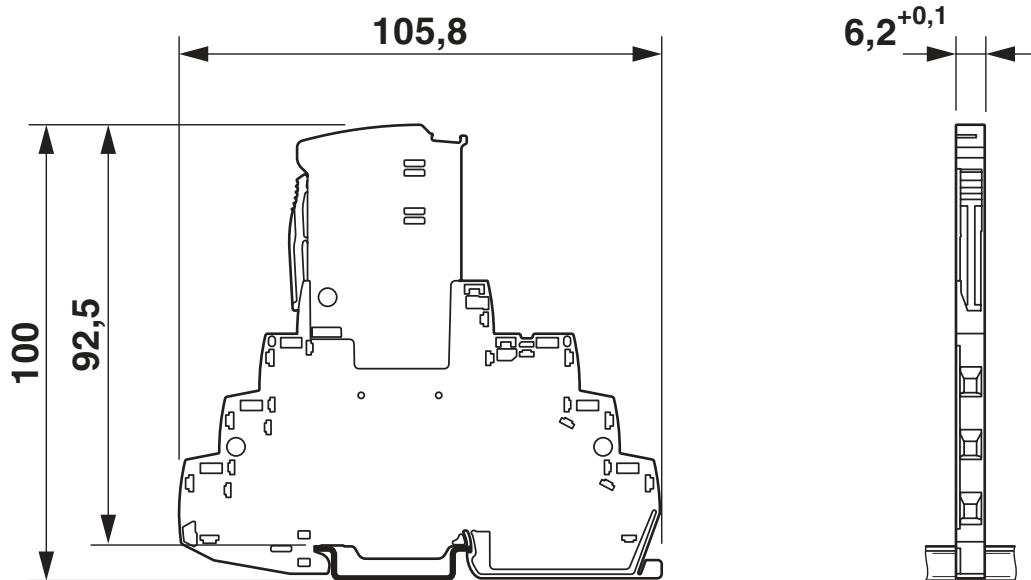
Drawings

Diagram



Derating for non-Ex applications

Dimensional drawing



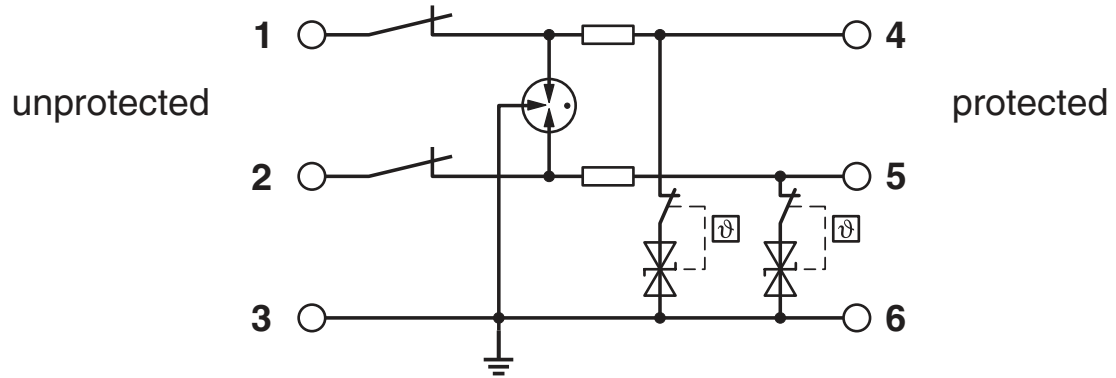
TTC-6P-2X1-M-EX-24DC-UT-I - Surge protection device



2906825

<https://www.phoenixcontact.com/us/products/2906825>

Circuit diagram



TTC-6P-2X1-M-EX-24DC-UT-I - Surge protection device



2906825


<https://www.phoenixcontact.com/us/products/2906825>

Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2906825>


 **CSA**
Approval ID: 70136717


 **DNV GL**
Approval ID: TAE000027G


 **UL Listed**
Approval ID: FILE E 138168


 **CSAus**
Approval ID: 70136717


UAE-RoHS
Approval ID: 22-06-16781

 **IECEX**
Approval ID: IECEX BVS 16.0090X

 **CCC**
Approval ID: 2020322316000780

 **cUL Listed**
Approval ID: FILE E 333250

 **UL Listed**
Approval ID: FILE E 333250

 **ATEX**
Approval ID: BVS 16 ATEX E 125 X

INMETRO
Approval ID: DNV 19.0077 X

TTC-6P-2X1-M-EX-24DC-UT-I - Surge protection device



2906825

<https://www.phoenixcontact.com/us/products/2906825>



NEPSI-EX

Approval ID: GYJ20.1114X

cCSAus

cULus Listed

TTC-6P-2X1-M-EX-24DC-UT-I - Surge protection device



2906825

<https://www.phoenixcontact.com/us/products/2906825>

Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-11.0 | 27130807 |
| ECLASS-13.0 | 27171502 |

ETIM

| | |
|----------|----------|
| ETIM 8.0 | EC000943 |
|----------|----------|

UNSPSC

| | |
|-------------|----------|
| UNSPSC 21.0 | 39121600 |
|-------------|----------|

TTC-6P-2X1-M-EX-24DC-UT-I - Surge protection device



2906825

<https://www.phoenixcontact.com/us/products/2906825>

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" |

TTC-6P-2X1-M-EX-24DC-UT-I - Surge protection device



2906825

<https://www.phoenixcontact.com/us/products/2906825>

Accessories

ZBF 6 CUS - Zack Marker strip, flat

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

ZBF 6:UNBEDRUCKT - Zack Marker strip, flat

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

TTC-6P-2X1-M-EX-24DC-UT-I - Surge protection device



2906825

<https://www.phoenixcontact.com/us/products/2906825>

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

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

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

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

TTC-6P-2X1-M-EX-24DC-UT-I - Surge protection device



2906825

<https://www.phoenixcontact.com/us/products/2906825>

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

TTC-6-FMRS-UT - Remote signaling set

2907810

<https://www.phoenixcontact.com/us/products/2907810>



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.

TTC-6P-2X1-M-EX-24DC-UT-I - Surge protection device



2906825

<https://www.phoenixcontact.com/us/products/2906825>

TTC-EX-PP - Separating plate

1011977

<https://www.phoenixcontact.com/us/products/1011977>

Partition plate for NS-35/7,5 DIN rails to ensure a clearance of 50 mm between the remote signaling module and surge protection in TTC-EX systems.



SSA 3-6 - Shield connection

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



TTC-6P-2X1-M-EX-24DC-UT-I - Surge protection device



2906825

<https://www.phoenixcontact.com/us/products/2906825>

SSA 5-10 - Shield connection

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

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

TTC-6P-2X1-M-EX-24DC-UT-I - Surge protection device



2906825

<https://www.phoenixcontact.com/us/products/2906825>

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

2907832

<https://www.phoenixcontact.com/us/products/2907832>



Surge protection plug with integrated status indicator for one 2-wire Ex i signal circuit with common reference potential. Nominal voltage: 24 V DC

Phoenix Contact 2023 © - all rights reserved

<https://www.phoenixcontact.com>

Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com