

Surge protection device - PT-IQ-2X2+F-12DC-UT - 2800985

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Surge protection, consisting of protective plug and base element, with integrated multi-stage status indicator on the module for two 2-wire floating signal circuits. Indirect grounding via gas-filled surge arrester.



Key Commercial Data

| | |
|--------------|---------------|
| Packing unit | 1 pc |
| GTIN | |
| GTIN | 4046356665735 |

Technical data

Dimensions

| | |
|------------------|---------------------------------|
| Height | 91 mm |
| Width | 17.7 mm |
| Depth | 77.5 mm (incl. DIN rail 7.5 mm) |
| Horizontal pitch | 1 Div. |

Ambient conditions

| | |
|---|--|
| Ambient temperature (operation) | -40 °C ... 70 °C |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |
| Altitude | ≤ 4000 m (amsl (above mean sea level)) |
| Degree of protection | IP20 |

General

| | |
|--|--|
| Housing material | PA 6.6 |
| Flammability rating according to UL 94 | V-0 |
| Color | jet black RAL 9005 |
| Mounting type | DIN rail: 35 mm |
| Type | DIN rail module, two-section, divisible |
| Direction of action | Line-Line & Line-Signal Ground/Shield & optional Signal Ground/Shield-Earth Ground |

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Technical data

Additional descriptions

| | |
|------|---|
| Note | Remote signaling as well as the power supply of the DIN rail connector are established by snapping the module into place on the DIN rail connector. |
|------|---|

Protective circuit

| | |
|--|--|
| IEC test classification | C1 |
| | C2 |
| | C3 |
| | D1 |
| Nominal voltage U_N | 12 V DC |
| Maximum continuous voltage U_C | 15 V DC |
| | 10 V AC |
| Nominal current I_N | 700 mA (50 °C) |
| Rated current | 700 mA (50 °C) |
| Operating effective current I_C at U_C | $\leq 1 \mu\text{A}$ (in the signal circuit) |
| Residual current I_{PE} | $\leq 1 \mu\text{A}$ |
| Nominal discharge current I_n (8/20) μs (line-line) | 10 kA |
| Nominal discharge current I_n (8/20) μs (line-earth) | 10 kA |
| Nominal discharge current I_n (8/20) μs (line-signal ground) | 10 kA |
| Pulse discharge current I_{imp} (10/350) μs (line-earth) | 2.5 kA |
| Pulse discharge current I_{imp} (10/350) μs (line-signalground) | 2.5 kA |
| Total discharge current I_{total} (8/20) μs | 20 kA |
| Voltage protection level U_p (line-line) | $\leq 65 \text{ V}$ (C1 - 1 kV/500 A) |
| | $\leq 95 \text{ V}$ (C2 - 10 kV / 5 kA) |
| | $\leq 110 \text{ V}$ (C2 - 10 kA) |
| | $\leq 35 \text{ V}$ (C3 - 25 A) |
| | $\leq 40 \text{ V}$ (C3 - 50 A) |
| Voltage protection level U_p (line-earth) | $\leq 900 \text{ V}$ (C1 - 1 kV/500 A) |
| | $\leq 1300 \text{ V}$ (C2 - 10 kV / 5 kA) |
| | $\leq 1200 \text{ V}$ (C2 - 10 kA) |
| | $\leq 1000 \text{ V}$ (C3 - 25 A) |
| | $\leq 1300 \text{ V}$ (C3 - 100 A) |
| Voltage protection level U_p (line-signalground) | $\leq 600 \text{ V}$ (C1 - 1 kV/500 A) |
| | $\leq 750 \text{ V}$ (C2 - 10 kV / 5 kA) |
| | $\leq 800 \text{ V}$ (C2 - 10 kA) |
| | $\leq 700 \text{ V}$ (C3 - 25 A) |
| | $\leq 800 \text{ V}$ (C3 - 100 A) |
| Voltage protection level U_p static (line-line) | $\leq 45 \text{ V}$ (C1 - 1 kV/500 A) |
| | $\leq 50 \text{ V}$ (C2 - 10 kA) |
| Response time t_A (line-line) | $\leq 1 \text{ ns}$ |
| Response time t_A (line-signalground) | $\leq 100 \text{ ns}$ |

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Technical data

Protective circuit

| | |
|--|---|
| Response time t_A (line-earth) | ≤ 100 ns |
| Input attenuation aE, sym. | typ. 0.3 dB (≤ 95 kHz/150 Ω) |
| Cut-off frequency f_g (3 dB), sym. in 150 Ohm system | typ. 600 kHz |
| Capacity (line-line) | typ. 4 nF |
| Resistance per path | 1.2 $\Omega \pm 5\%$ |
| Surge protection fault message | Optical, multi-stage |
| Max. required back-up fuse | 800 mA (FF) |
| Impulse durability (line-line) | C1 - 1 kV / 500 A C2 - 10 kV / 5 kA C2 - 10 kA C3 - 50 A |
| Impulse durability (line-earth) | C1 - 1 kV / 500 A C2 - 10 kV / 5 kA C2 - 10 kA C3 - 100 A D1 - 2.5 kA |
| Impulse durability (line-signalground) | C1 - 1 kV / 500 A C2 - 10 kV / 5 kA C2 - 10 kA C3 - 100 A D1 - 2,5 kA |
| Pulse reset time (line-line) | ≤ 25 ms |
| Pulse reset time (line-earth) | ≤ 50 ms |
| Pulse reset time (line-signalground) | ≤ 50 ms |

Connection data

| | |
|----------------------------------|---|
| Connection method | Screw connection |
| Screw thread | M3 |
| Tightening torque | 0.5 Nm |
| Stripping length | 8 mm |
| 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 |

Standards and Regulations

| | |
|--------------------------|---------------------------------------|
| Standards/specifications | IEC 61643-21 2000 + A1:2008, modified |
| | EN 61643-21 2001 + A1:2009 |
| | EN 61000-6-2 2007 + A1:2011 |
| | EN 61000-6-3 2005 |

Environmental Product Compliance

| | |
|------------|----------------|
| REACH SVHC | Lead 7439-92-1 |
|------------|----------------|

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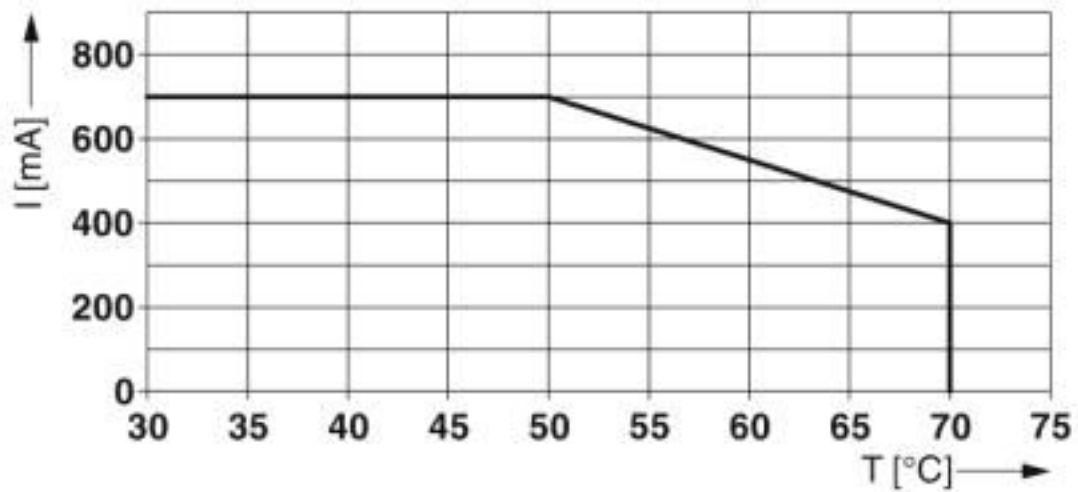
Technical data

Environmental Product Compliance

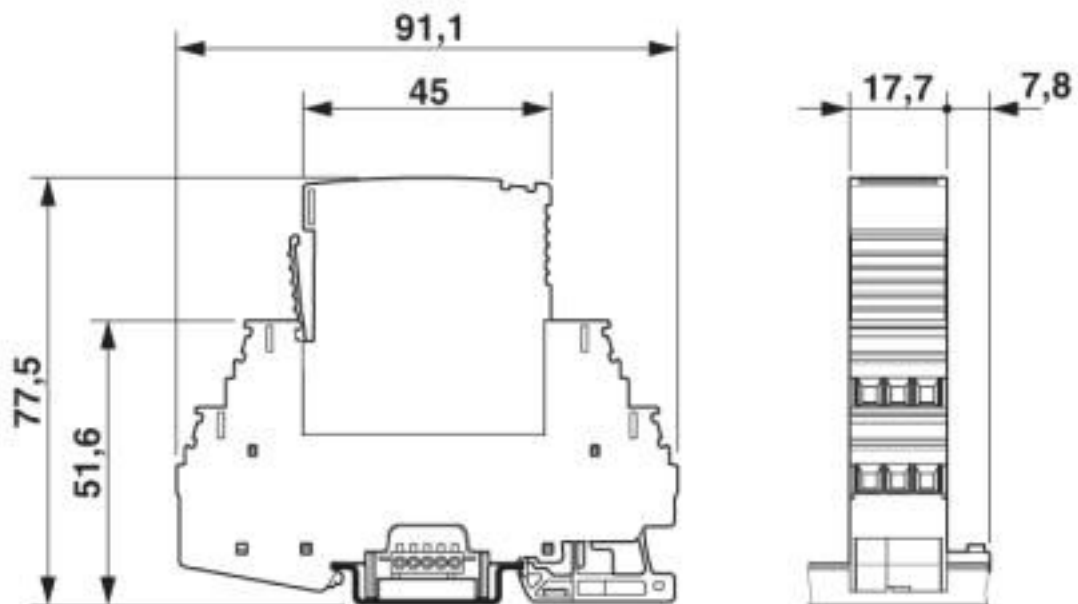
| | |
|------------|---|
| China RoHS | Environmentally Friendly Use Period = 50 years |
| | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

Drawings

Diagram

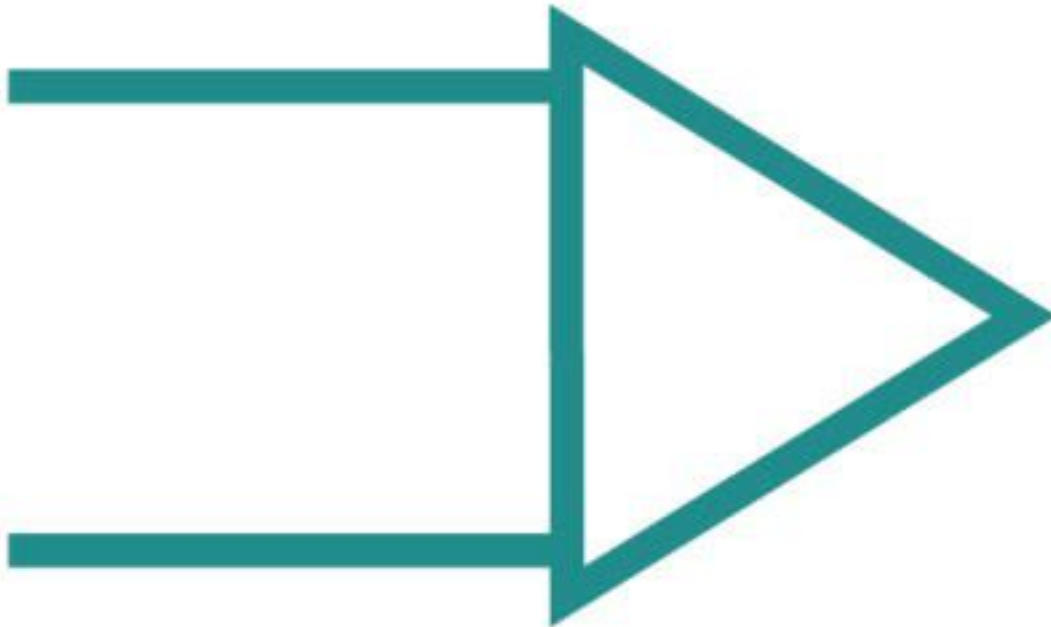


Dimensional drawing

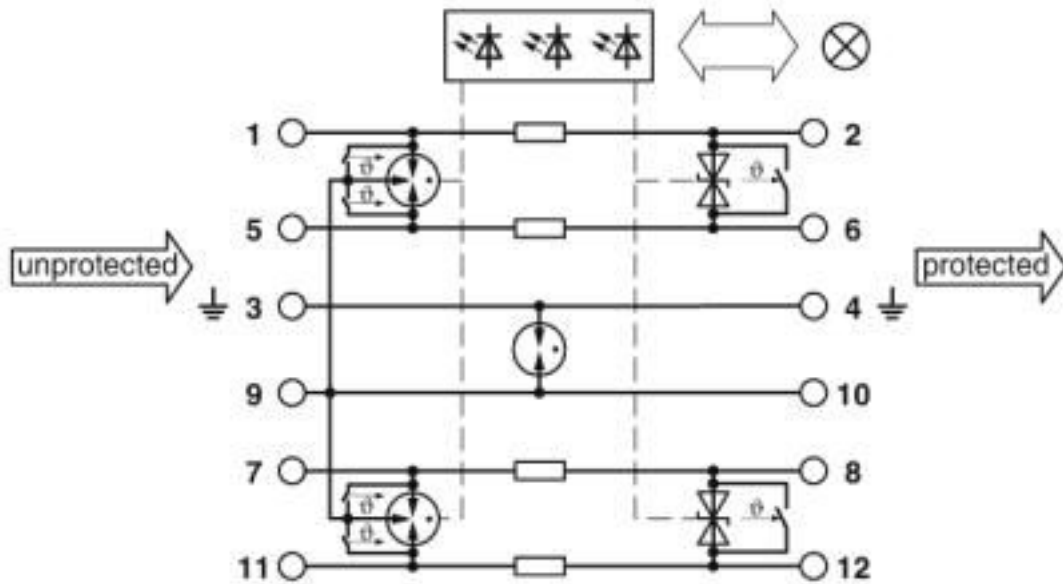


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Pictogram



Circuit diagram



Classifications

eCl@ss

| | |
|---------------|----------|
| eCl@ss 10.0.1 | 27130807 |
| eCl@ss 4.0 | 27130800 |
| eCl@ss 4.1 | 27130800 |
| eCl@ss 5.0 | 27130800 |

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| eCl@ss 5.1 | 27130800 |
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| 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 |

Approvals

Approvals

Approvals

UL Listed

Ex Approvals

Approval details

| | | | |
|-----------|--|---|---------------|
| UL Listed | | http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm | FILE E 138168 |
|-----------|--|---|---------------|

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Accessories

Accessories

Device marking

Zack marker strip - ZBN 18:UNBEDRUCKT - 2809128



Zack marker strip, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snap into tall marker groove, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

Labeled terminal marker

Zack Marker strip, flat - ZBF 5,LGS:FORTL.ZAHLEN - 0808671



Zack Marker strip, flat, Strip, white, labeled, printed horizontally: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 491 ... 500, mounting type: snap into flat marker groove, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm, Number of individual labels: 10

Zack Marker strip, flat - ZBF 5,LGS:GERADE ZAHLEN - 0810821



Zack Marker strip, flat, Strip, white, labeled, printed horizontally: consecutive numbers 2 ... 20, 22 ... 40, etc. up to 82 ... 100, mounting type: snap into flat marker groove, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm, Number of individual labels: 10

Zack Marker strip, flat - ZBF 5,LGS:UNGERADE ZAHLEN - 0810863



Zack Marker strip, flat, Strip, white, labeled, printed horizontally: Odd numbers 1 - 19, 21 - 39, etc. up to 81 - 99, mounting type: snap into flat marker groove, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm, Number of individual labels: 10

Zack Marker strip, flat - ZBF 5,QR:FORTL.ZAHLEN - 0808697



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

Marker pen

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Accessories

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

Mounting material

End clamp - E/ME TBUS NS35 GY - 2713780



End clamp, stable construction for DIN rail bus connector

PCB plug

Printed-circuit board connector - FK-MC 0,5/ 5-ST-2,5 - 1881354



PCB connector, nominal current: 4 A, rated voltage (III/2): 160 V, nominal cross section: 0.5 mm², number of positions: 5, pitch: 2.5 mm, connection method: Push-in spring connection, color: green, contact surface: Tin

Terminal marking

Zack Marker strip, flat - ZBF 5:UNBEDRUCKT - 0808642



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: 5 mm, lettering field size: 5.1 x 5.2 mm, Number of individual labels: 10

Zack Marker strip, flat - ZBF 5/WH-100:UNBEDRUCKT - 0808668



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snap into flat marker groove, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm, Number of individual labels: 10

Necessary add-on products

Surge protection device - PT-IQ-2X2+F-12DC-UT - 2800985

Accessories

Supply and remote module - PT-IQ-PTB-UT - 2800768



Module for power supply and multi-stage, floating remote signaling of connected surge protection modules.

Additional products

Shield connection - SSA 3-6 - 2839295



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

Shield connection - SSA 5-10 - 2839512



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

Spare parts

Surge protection plug - PT-IQ-2X2-12DC-P - 2800803



Surge protection plug with integrated multi-stage status indicator on the module for two 2-wire floating signal circuits.
Nominal voltage: 12 V DC

DIN rail bus connectors - PT-IQ-17,5-TBUS-5-2.0 - 2906878



DIN rail connector for PT-IQ system for establishing remote signaling and the power supply when a surge protection module is snapped on.

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PHOENIX CONTACT GmbH & Co. KG
Flachsmarktstr. 8
32825 Blomberg
Germany
Tel. +49 5235 300
Fax +49 5235 3 41200
<http://www.phoenixcontact.com>

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