

## Surge protection connector - PT 5-HF-5DC-ST - 2838762

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Protective plug PT with HF protective circuit for 4 signal wires. Nominal voltage: 5 V DC

The illustration shows variant PT 5-HF-12 DC-ST

### Why buy this product

- ☒ High transmission speed
- ☒ High discharge capacity
- ☒ Plugs can be checked with CHECKMASTER



### Key commercial data

|                        |                                                                                                         |
|------------------------|---------------------------------------------------------------------------------------------------------|
| Packing unit           | 1                                                                                                       |
| Minimum order quantity | 10                                                                                                      |
| Catalog page           | Page 100 (TT-2011)                                                                                      |
| GTIN                   | <br>4 017918 480653 |
| Custom tariff number   | 85363010                                                                                                |
| Country of origin      | GERMANY                                                                                                 |

### Technical data

#### General

|                                          |                                         |
|------------------------------------------|-----------------------------------------|
| Housing material                         | PA                                      |
| Inflammability class according to UL 94  | V0                                      |
| Color                                    | black                                   |
| Standards for air and creepage distances | DIN EN 61664-1                          |
| Standards for air and creepage distances | IEC 60664-1                             |
| Total surge current (8/20) $\mu$ s       | 20 kA                                   |
| Ambient temperature (operation)          | -40 °C ... 85 °C                        |
| Mounting type                            | On base element                         |
| Design                                   | DIN rail module, two-section, divisible |
| Number of positions                      | 5                                       |

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## Technical data

### General

|                                                                |                                                                                     |
|----------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Degree of protection                                           | IP20                                                                                |
| Direction of action                                            | Line-Line & Line-Signal Ground/Shield & optional Signal Ground/ Shield-Earth Ground |
| Arrester can be tested with CHECKMASTER from software version: | From SW rev. 1.00                                                                   |
| Width                                                          | 17.7 mm                                                                             |
| Height                                                         | 45 mm                                                                               |
| Depth                                                          | 52 mm                                                                               |
| Pitch unit                                                     | 1 Div.                                                                              |

### Protective circuit

|                                                                              |                            |
|------------------------------------------------------------------------------|----------------------------|
| IEC category                                                                 | C1                         |
| IEC category                                                                 | C2                         |
| IEC category                                                                 | C3                         |
| IEC category                                                                 | D1                         |
| VDE requirement class                                                        | C1                         |
| VDE requirement class                                                        | C2                         |
| VDE requirement class                                                        | C3                         |
| VDE requirement class                                                        | D1                         |
| Nominal voltage UN                                                           | 5 V DC                     |
| Maximum continuous operating voltage UC                                      | 5.2 V DC                   |
| Maximum continuous operating voltage UC                                      | 3.6 V AC                   |
| Maximum continuous voltage UC (wire-wire)                                    | 5.2 V DC                   |
| Maximum continuous voltage UC (wire-wire)                                    | 3.6 V AC                   |
| Maximum continuous voltage UC (wire-ground)                                  | 5.2 V DC (with PT 2x2-BE)  |
| Nominal current IN                                                           | 450 mA (45°C)              |
| Operating effective current IC at UC                                         | ≤ 300 µA                   |
| Ground conductor current IPE                                                 | ≤ 300 µA (with PT 2x2-BE)  |
| Ground conductor current IPE                                                 | ≤ 1 µA (with PT 2x2+F-BE)  |
| Nominal discharge surge current In (8/20) µs (Core-Core)                     | 10 kA                      |
| Nominal discharge surge current In (8/20) µs (Core-Earth)                    | 10 kA                      |
| Total surge current (8/20) µs                                                | 20 kA                      |
| Max. discharge surge current I <sub>max</sub> (8/20) µs maximum (Core-Core)  | 10 kA                      |
| Max. discharge surge current I <sub>max</sub> (8/20) µs maximum (Core-Earth) | 10 kA                      |
| Nominal pulse current I <sub>an</sub> (10/1000) µs (Core-Core)               | 90 A                       |
| Lightning test current (10/350) µs, peak value I <sub>imp</sub>              | 2.5 kA                     |
| Output voltage limitation at 1 kV/µs (Core-Core) spike                       | ≤ 55 V                     |
| Output voltage limitation at 1 kV/µs (Core-Earth) spike                      | ≤ 55 V (PT 2x2-BE)         |
| Output voltage limitation at 1 kV/µs (Core-Earth) spike                      | ≤ 700 V (with PT 2x2+F-BE) |
| Output voltage limitation at 1 kV/µs (Core-Core) static                      | ≤ 15 V                     |
| Output voltage limitation at 1 kV/µs (Core-Earth) static                     | ≤ 15 V                     |
| Output voltage limitation at 1 kV/µs (Core-Earth) static                     | ≤ 30 V (PT 2x2+F-BE)       |

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## Technical data

### Protective circuit

|                                                                         |                                            |
|-------------------------------------------------------------------------|--------------------------------------------|
| Residual voltage at In, (conductor-conductor)                           | ≤ 15 V                                     |
| Residual voltage at In, (conductor-ground)                              | ≤ 30 V (with PT 2x2-BE)                    |
| Residual voltage at In, (conductor-GND)                                 | ≤ 15 V (with PT 2x2-BE)                    |
| Residual voltage with I <sub>an</sub> (10/1000)μs (conductor-conductor) | ≤ 15 V                                     |
| Residual voltage with I <sub>an</sub> (10/1000)μs (conductor-GND)       | ≤ 15 V                                     |
| Protection level UP (Core-Core)                                         | ≤ 100 V (C2 (10 kV/5 kA))                  |
| Protection level UP (Core-Core)                                         | ≤ 34 V (C3 - 25 A)                         |
| Protection level UP (Core-Earth)                                        | ≤ 100 V (C2 (10 kV/5 kA) with BE 2839208)  |
| Protection level UP (Core-Earth)                                        | ≤ 600 V (C2 (10 kV/5 kA) with BE 2839224)  |
| Protection level UP (Core-Earth)                                        | ≤ 34 V (C3 - 25 A)                         |
| Protection level UP (Core-GND)                                          | ≤ 38 V (C3 - 25 A)                         |
| Response time t <sub>A</sub> (Core-Core)                                | ≤ 500 ns                                   |
| Response time t <sub>A</sub> (Core-Earth)                               | ≤ 500 ns                                   |
| Input attenuation a <sub>E</sub> , sym.                                 | Typ. 0.2 dB (≤ 5 MHz / 100 Ω)              |
| Cut-off frequency f <sub>g</sub> (3 dB), sym. in 100 Ohm system         | Typ. 70 MHz                                |
| Capacity (Core-Core)                                                    | Typ. 30 pF                                 |
| Resistance in series                                                    | 2.2 Ω ±10 %                                |
| Max. required back-up fuse                                              | 500 mA (e.g. T in acc. with IEC 127-2/III) |
| Surge carrying capacity in acc. with IEC 61643-21 (Core-Core)           | C2 (10 kV/5 kA)                            |
| Surge carrying capacity in acc. with IEC 61643-21 (Core-Core)           | C3 (90 A)                                  |
| Surge carrying capacity in acc. with IEC 61643-21 (Core-Earth)          | C2 (10 kV/5 kA)                            |
| Surge carrying capacity in acc. with IEC 61643-21 (Core-Earth)          | C3 (90 A)                                  |
| Surge carrying capacity in acc. with IEC 61643-21 (Core-Earth)          | D1 (2.5 kA)                                |

### Connection data

|                     |                                                        |
|---------------------|--------------------------------------------------------|
| Connection method   | Screw connection (in connection with the base element) |
| Connection type IN  | PLUGTRAB plug-in system                                |
| Connection type OUT | PLUGTRAB plug-in system                                |

## Classifications

### eclass

|            |          |
|------------|----------|
| eCl@ss 4.0 | 27140201 |
| eCl@ss 4.1 | 27130801 |
| eCl@ss 5.0 | 27130801 |
| eCl@ss 5.1 | 27130801 |
| eCl@ss 6.0 | 27130807 |
| eCl@ss 7.0 | 27130807 |

### etim

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

## Surge protection connector - PT 5-HF-5DC-ST - 2838762

### Classifications

unspsc

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 30212010 |
| UNSPSC 7.0901 | 39121610 |
| UNSPSC 11     | 39121610 |
| UNSPSC 12.01  | 39121610 |
| UNSPSC 13.2   | 39121620 |

### Approvals

#### Approvals

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Approvals

UL Listed / GOST

Ex Approvals

UL Listed / cUL Listed / cULus Recognized

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Approvals submitted

#### Approval details

|                                                                                               |        |
|-----------------------------------------------------------------------------------------------|--------|
| UL Listed  |        |
|                                                                                               |        |
| Nominal current IN                                                                            | 0.45 A |
| Nominal voltage UN                                                                            | 5 V    |

|                                                                                          |  |
|------------------------------------------------------------------------------------------|--|
| GOST  |  |
|------------------------------------------------------------------------------------------|--|

### Accessories

Accessories

Marking

## Surge protection connector - PT 5-HF-5DC-ST - 2838762

### 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

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



Zack Marker strip, flat, Strip, white, Unlabeled, Can be labeled with: Plotter, Mounting type: Snap into flat marker groove, For terminal block width: 5 mm, Lettering field: 5.1 x 5.2 mm

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



Zack Marker strip, flat, Strip, white, Unlabeled, Can be labeled with: Plotter, Mounting type: Snap into flat marker groove, For terminal block width: 5 mm, Lettering field: 5.15 x 5.15 mm

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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: 5.15 x 5.15 mm

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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: 5.15 x 5.15 mm

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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: 5.15 x 5.15 mm

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## Accessories

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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: 5.15 x 5.15 mm

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Zack marker strip - ZBN 18:UNBEDRUCKT - 2809128



Zack marker strip, Strip, white, Unlabeled, Can be labeled with: Plotter, Mounting type: Snap into tall marker groove, For terminal block width: 18 mm, Lettering field: 18 x 5 mm

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## Necessary add-on products

Surge protection base element - PT 2X2-BE - 2839208



Base element for protective plug PT with protective circuit for two 2-wire floating signal circuit, bridge between the connections 3-4 (GND) and 9-10, for mounting on NS 35/7.5 and NS 35/15, housing width: 17.5 mm

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## Additional products

Shield connection - SSA 3-6 - 2839295



shield fast connections for conductor diameter 3 - 6 mm. Potential connection cable: 200 mm, black

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Shield connection - SSA 5-10 - 2839512



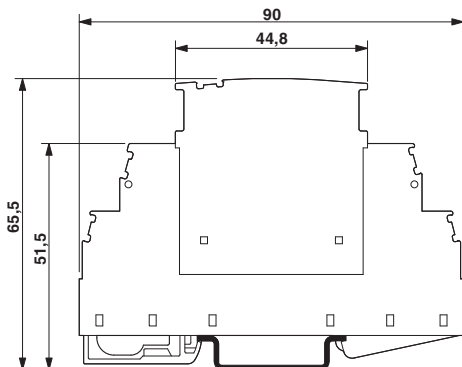
Shield fast connection for conductor diameters 5 - 10 mm. Potential connection cable: 200 mm, black

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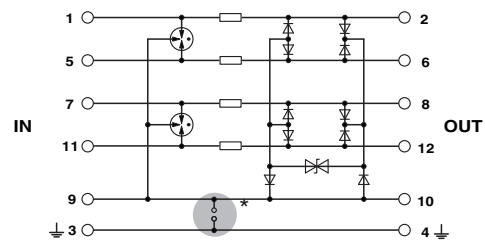
## Drawings

## Surge protection connector - PT 5-HF-5DC-ST - 2838762

Dimensioned drawing



Circuit diagram



The figure shows the complete module consisting of a base element and connector

Diagram



## Данный компонент на территории Российской Федерации

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