

PT 5-HF- 5 DC-ST - Surge protection plug



2838762

<https://www.phoenixcontact.com/us/products/2838762>

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



Your advantages

- Easy testing and documentation with CHECKMASTER 2 with pluggable protective modules
- Maximum ease of maintenance, thanks to the 2-piece design
- Easy selection for all possible demands in MCR applications with a complete product portfolio
- The signal is not influenced during maintenance work, thanks to the impedance-neutral insertion and removal of protective plugs

Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 2838762 |
| Packing unit | 10 pc |
| Minimum order quantity | 1 pc |
| Sales key | CL03 |
| Product key | CL3121 |
| GTIN | 4017918480653 |
| Weight per piece (including packing) | 26.605 g |
| Weight per piece (excluding packing) | 25.26 g |
| Customs tariff number | 85363010 |
| Country of origin | DE |

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Technical data

Product properties

| | |
|--|---|
| Product type | Surge protection for information technology |
| Product family | PLUGTRAB PT |
| IEC test classification | C1 C2 C3 D1 |
| VDE requirement class | C1 C2 C3 D1 |
| Type | Male |
| Number of positions | 5 |
| Surge protection fault message | none |
| Arrester can be tested with CHECKMASTER from software version: | From SW rev. 1.00 |
| Wire pairs per module | 2 |
| Insulation characteristics | |
| Overvoltage category | III |
| Pollution degree | 2 |

Electrical properties

| | |
|-----------------------|--------|
| Nominal voltage U_N | 5 V DC |
|-----------------------|--------|

Connection data

| | |
|----------------------------------|--|
| Connection method | Screw connection (in connection with the base element) |
| Screw thread | M3 |
| Tightening torque | 0.8 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 |

Dimensions

| | |
|---------------------|---------|
| Dimensional drawing | |
| Width | 17.7 mm |
| Height | 45 mm |
| Depth | 52 mm |

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| | |
|------------------------|---------|
| Horizontal pitch | 1 Div. |
| Complete module width | 17.7 mm |
| Complete module height | 90 mm |
| Complete module depth | 65.5 mm |

Material specifications

| | |
|--|----------------------------------|
| Color | black (RAL 9005) copper color |
| Flammability rating according to UL 94 | V-0 |
| Housing material | PA |

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 operating voltage U_C | 5.2 V DC 3.6 V AC |
| Rated current | 450 mA (45 °C) |
| Operating effective current I_C at U_C | ≤ 300 µA |
| Protective conductor current I_{PE} | ≤ 300 µA (with PT 2X2-BE) ≤ 1 µA (with PT 2X2+F-BE) |
| Nominal discharge current I_n (8/20) µs (line-line) | 10 kA |
| Nominal discharge current I_n (8/20) µs (line-ground) | 10 kA |
| Pulse discharge current I_{imp} (10/350) µs | 2.5 kA |
| Total discharge current I_{Total} (8/20) µs | 20 kA |
| Max. discharge current I_{max} (8/20) µs maximum (line-line) | 10 kA |
| Max. discharge current I_{max} (8/20) µs maximum (line-earth) | 10 kA |
| Nominal pulse current I_{an} (10/1000) µs (line-line) | 90 A |
| Output voltage limitation at 1 kV/µs (line-line) spike | ≤ 55 V |
| Output voltage limitation at 1 kV/µs (line-earth) spike | ≤ 55 V (with PT 2X2-BE) ≤ 700 V (with PT 2X2+F-BE) |
| Output voltage limitation at 1 kV/µs (line-line) static | ≤ 15 V |
| Output voltage limitation at 1 kV/µs (line-earth) static | ≤ 15 V ≤ 30 V (with PT 2X2+F-BE) |
| Residual voltage at I_n (conductor-conductor) | ≤ 15 V |
| Residual voltage at I_n (conductor-ground) | ≤ 30 V (with PT 2X2-BE) |
| Residual voltage at I_n (line-signal ground) | ≤ 15 V (with PT 2X2-BE) |
| Residual voltage with I_{an} (10/1000) µs (line-line) | ≤ 15 V |
| Residual voltage with I_{an} (10/1000) µs (line-signal ground) | ≤ 15 V |
| Voltage protection level U_p (line-line) | ≤ 70 V (C1 - 1 kV / 500 A) ≤ 45 V (C3 - 25 A) |

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| | |
|---|---|
| Voltage protection level U_p (line-earth) | ≤ 100 V (C2 - 10 kV / 5 kA) ≤ 70 V (6 kV / 3 kA) ≤ 80 V (C1 - 1 kV / 500 A) ≤ 110 V (C2 - 10 kV / 5 kA) ≤ 100 V (6 kV / 3 kA) ≤ 45 V (C3 - 25 A) |
| Voltage protection level U_p (line-signal ground) | ≤ 45 V (C3 - 25 A) |
| Response time t_A (line-line) | ≤ 500 ns |
| Response time t_A (line-earth) | ≤ 500 ns |
| Response time t_A (line-signal ground) | ≤ 500 ns |
| Input attenuation a_E , sym. | typ. 0.3 dB (≤ 5 MHz / 100 Ω) |
| Cut-off frequency f_g (3 dB), sym. in 100 Ω system | typ. 60 MHz |
| Capacity (Core-Core) | typ. 30 pF |
| Resistance per path | $2.2 \Omega \pm 10\%$ (1-2/5-6/7-8/11-12) |
| Surge protection fault message | none |
| Max. required back-up fuse | 500 mA (T) |
| Impulse durability (line-line) | C2 - 10 kV / 5 kA C3 - 90 A |
| Impulse durability (line-earth) | C2 - 10 kV / 5 kA C3 - 90 A D1 - 2.5 kA |

Environmental and real-life conditions

Ambient conditions

| | |
|---------------------------------|------------------|
| Degree of protection | IP20 |
| Ambient temperature (operation) | -40 °C ... 85 °C |
| Altitude | max. 2000 m |

Standards and regulations

| | |
|-----------------------|----------------------|
| VDE requirement class | C1 C2 C3 D1 |
|-----------------------|----------------------|

Air clearances and creepage distances

| | |
|--------------------------|------------------------------|
| Standards/regulations | DIN EN 61664-1 / IEC 60664-1 |
| Standards/specifications | EN 61643-21/A1 |
| Note | 2009 |
| Standards/specifications | IEC 61643-21/A1 |
| Note | 2008 |

Mounting

| | |
|---------------|-----------------|
| Mounting type | on base element |
|---------------|-----------------|

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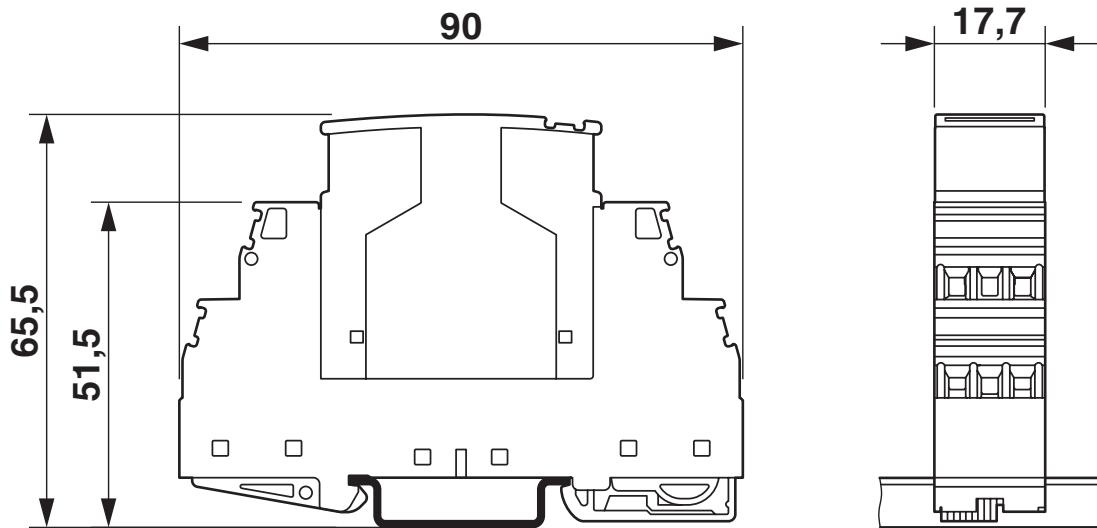
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Drawings

Dimensional drawing



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

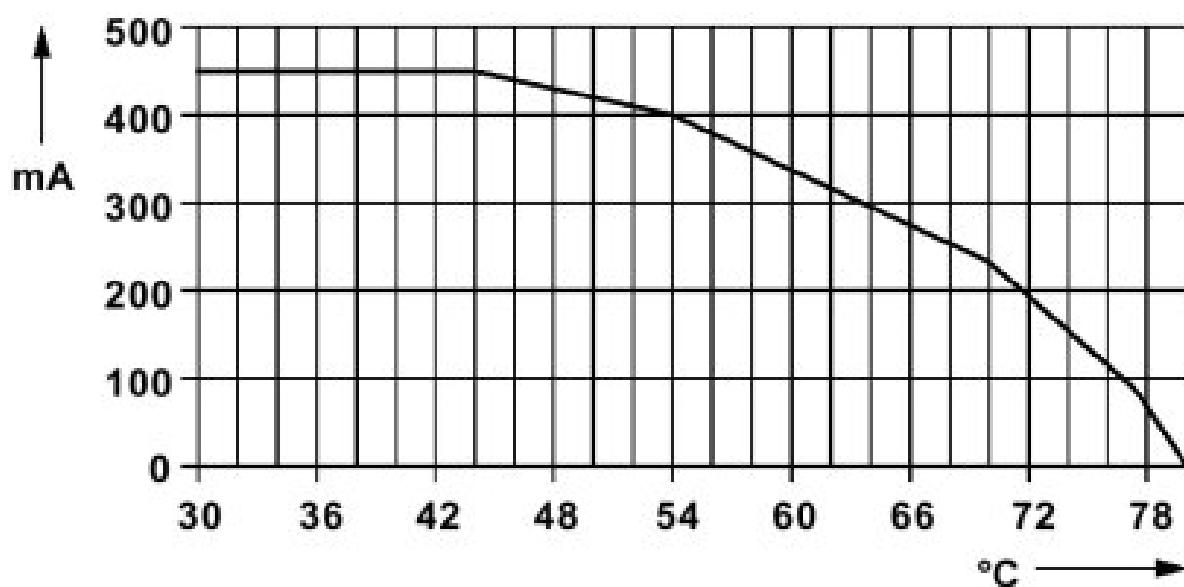
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Diagram



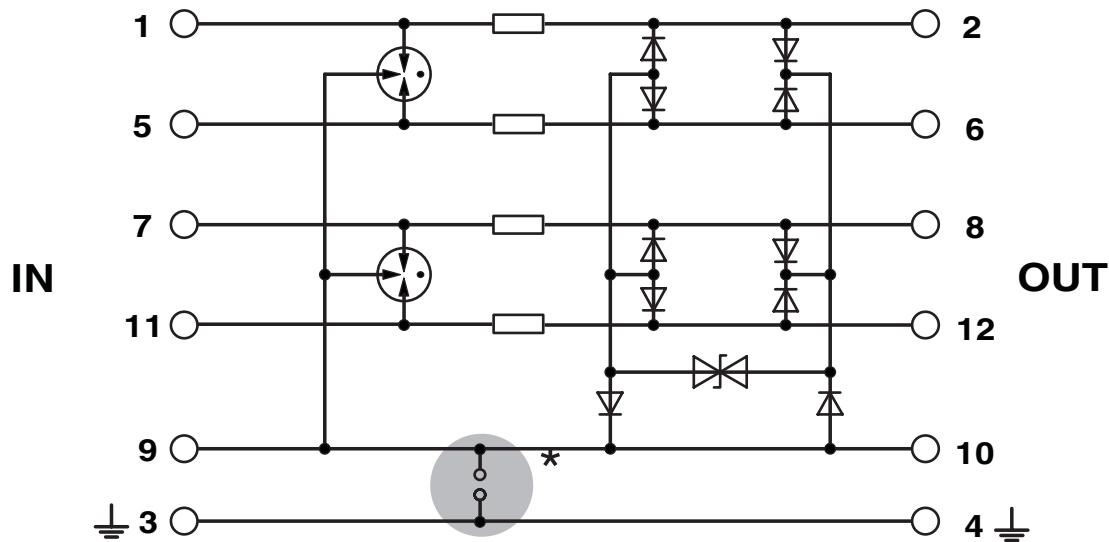
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Circuit diagram



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Approvals

ⓘ To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2838762>

| UL Listed | | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
|-----------|--|-----------------------|-----------------------|-------------------|----------------------|
| keine | | | | | |
| | | 5 V | 0.45 A | - | - |

| | |
|--|----------------------------|
| | cUL Listed |
| | Approval ID: FILE E 333250 |

| | |
|--|----------------------------|
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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-13.0 | 27171503 |
| ECLASS-15.0 | 27171503 |

ETIM

| | |
|----------|----------|
| ETIM 9.0 | EC000943 |
|----------|----------|

UNSPSC

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

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Environmental product compliance

EU RoHS

| | |
|---|--------------|
| Fulfills EU RoHS substance requirements | Yes |
| Exemption | 7(a), 7(c)-I |

China RoHS

| | |
|---|---------|
| Environment friendly use period (EFUP) | EFUP-50 |
| An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required. | |

EU REACH SVHC

| | |
|-------------------------------------|--------------------------------------|
| REACH candidate substance (CAS No.) | Lead(CAS: 7439-92-1) |
| SCIP | b12a237d-b0ec-436d-af0b-9600d9272cbb |

EF3.0 Climate Change

| | |
|---------|---------------|
| CO2e kg | 0.669 kg CO2e |
|---------|---------------|

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