

PT 2X2-12DC-ST - Surge protection plug

2838254

<https://www.phoenixcontact.com/us/products/2838254>



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PT protective connector with protective circuit for two 2-wire floating signal circuits. 12 V DC nominal voltage. HART-compatible.

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 | 2838254 |
| Packing unit | 10 pc |
| Minimum order quantity | 1 pc |
| Sales key | CL21 |
| Product key | CL2111 |
| GTIN | 4017918182663 |
| Weight per piece (including packing) | 25.79 g |
| Weight per piece (excluding packing) | 25.79 g |
| Customs tariff number | 85363010 |
| Country of origin | DE |

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Technical data

Product properties

| | |
|--|-------------------------------------|
| Product type | Surge protection for MCR technology |
| Product family | PLUGTRAB PT |
| IEC test classification | C1 C2 C3 D1 |
| Type | Male |
| 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 |

Electrical properties

| | |
|-----------------------|---------|
| Nominal voltage U_N | 12 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 | 17.5 mm |
| Height | 44.8 mm |
| Depth | 51.7 mm |
| Horizontal pitch | 1 Div. |
| Complete module width | 17.7 mm |
| Complete module height | 90 mm |
| Complete module depth | 65.5 mm |

Material specifications

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| | |
|--|------------------|
| Color | black (RAL 9005) |
| | copper color |
| Flammability rating according to UL 94 | V-0 |
| Housing material | PA 6.6 |

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 | 13 V DC |
| | 9 V AC |
| Rated current | 450 mA (45 °C) |
| Operating effective current I_C at U_C | ≤ 5 μA |
| Protective conductor current I_{PE} | ≤ 1 μA (with PT 2X2+F-BE) ≤ 4 μA |
| 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 (per path) |
| 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 |
| Output voltage limitation at 1 kV/μs (line-line) spike | ≤ 20 V |
| Output voltage limitation at 1 kV/μs (line-earth) spike | ≤ 450 V |
| Output voltage limitation at 1 kV/μs (line-line) static | ≤ 18 V |
| Output voltage limitation (10/700) μs (line-earth) | ≤ 450 V |
| Output voltage limitation (10/700) μs (line-signal ground) | ≤ 18 V |
| Residual voltage at I_n (conductor-conductor) | ≤ 18 V |
| Residual voltage at I_n (line-signal ground) | ≤ 450 V |
| Residual voltage with I_{an} (10/1000) μs (line-line) | ≤ 23 V |
| Response time t_A (line-line) | ≤ 1 ns |
| Response time t_A (line-earth) | ≤ 100 ns |
| Input attenuation aE , sym. | 0.5 dB (≤ 600 kHz) |
| Cut-off frequency fg (3 dB), sym. in 50 Ω system | typ. 3 MHz |
| Capacity (Core-Core) | 3 nF |
| Resistance per path | 2.2 Ω |
| Surge protection fault message | none |
| Impulse durability (line-line) | C2 - 10 kV / 5 kA |
| Impulse durability (line-earth) | C2 - 10 kV / 5 kA |
| | D1 - 2.5 kA |

Environmental and real-life conditions

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Ambient conditions

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

Standards and regulations

| | |
|---------------------------------------|--------------------------|
| Air clearances and creepage distances | |
| Standards/regulations | VDE 0110-1 / IEC 60664-1 |

Standards Information technology specification

| | |
|-----------------------|-----------------|
| Standards/regulations | IEC 61643-21 |
| | DIN EN 61643-21 |
| | UL 497B |
| | IEC 61643-21 |
| | DIN EN 61643-21 |
| | UL 497B |

Mounting

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

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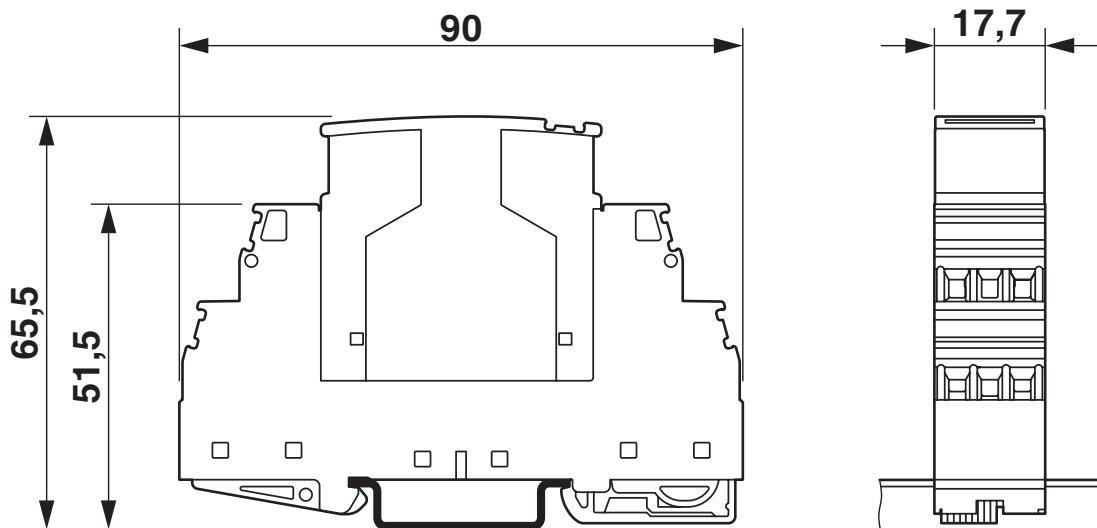
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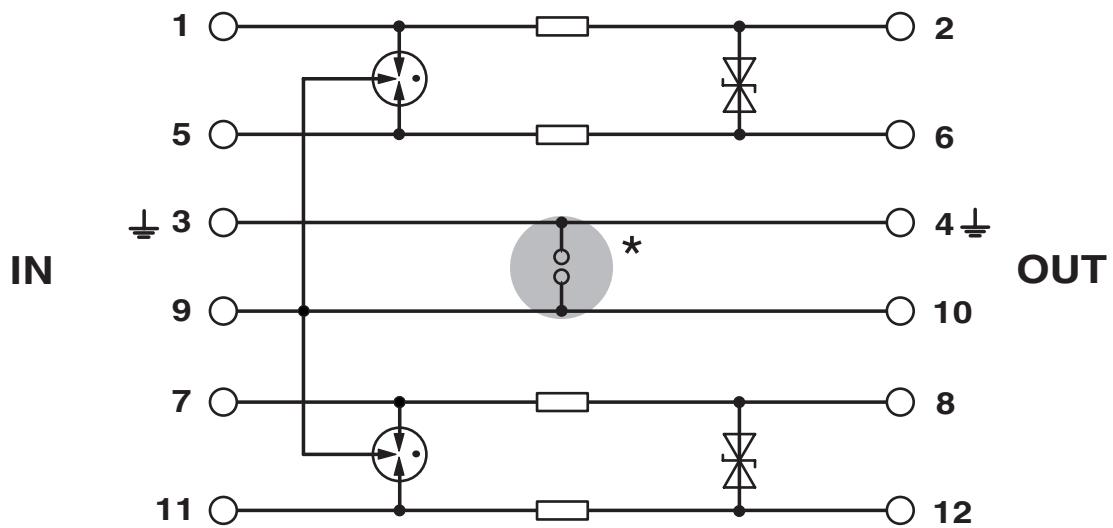
Drawings

Dimensional drawing



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

Circuit diagram



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Approvals

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| UL Listed | | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
|-----------|--|-----------------------|-----------------------|-------------------|----------------------|
| keine | | 12 V | 0.45 A | - | - |

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

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

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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-13.0 | 27171501 |
| ECLASS-15.0 | 27171501 |

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: n/a) |
| SCIP | 2f0bfa03-fbaf-4a35-a433-ec0cd7d1317d |

EF3.0 Climate Change

| | |
|---------|---------------|
| CO2e kg | 1.107 kg CO2e |
|---------|---------------|

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