

## Type 3 surge protection device - PT 2+1-S-48DC/FM - 2817958

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's documentation. Our General Terms of Use for Downloads are valid (<http://download.phoenixcontact.com>)



Rail-mountable surge arrester as device protection for terminal equipment, fault signal in the plug and signaling contact in the base element, 2-section, pluggable. Design: 48 V DC

The illustration shows the version  
PT 2-PE/S-230 AC

### Product Features

- ✓ Plugs can be checked with CHECKMASTER
- ✓ Tool-free plug replacement
- ✓ With floating remote indication contact
- ✓ DIN rail module
- ✓ Consists of base element and plug
- ✓ Optical signaling of disconnection via LED
- ✓ For single and multi-phase power supply units



### Key commercial data

|                  |               |
|------------------|---------------|
| package_quantity | 10            |
| GTIN             | 4017918574987 |

### Technical data

#### Dimensions

|            |         |
|------------|---------|
| Height     | 90 mm   |
| Width      | 17.7 mm |
| Depth      | 65.5 mm |
| Pitch unit | 1 Div.  |

#### Ambient conditions

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

#### General

|                                          |                |
|------------------------------------------|----------------|
| Housing material                         | PA             |
| Inflammability class according to UL 94  | V0             |
| Color                                    | black          |
| Standards for air and creepage distances | DIN VDE 0110-1 |

# Type 3 surge protection device - PT 2+1-S-48DC/FM - 2817958

## Technical data

### General

|                                                                |                                         |
|----------------------------------------------------------------|-----------------------------------------|
| Standards for air and creepage distances                       | IEC 60664-1                             |
| Standards for air and creepage distances                       | DIN VDE 0675-6                          |
| Standards for air and creepage distances                       | IEC 61643-1                             |
| Design                                                         | DIN rail module, two-section, divisible |
| Mounting type                                                  | DIN rail: 35 mm                         |
| Arrester can be tested with CHECKMASTER from software version: | From SW rev. 1.00                       |
| Direction of action                                            | 1L-N & N-PE                             |

### Protective circuit

|                                                                |                                   |
|----------------------------------------------------------------|-----------------------------------|
| IEC test classification                                        | III                               |
| IEC test classification                                        | T3                                |
| EN type                                                        | T3                                |
| Nominal voltage $U_N$                                          | 48 V DC                           |
| Arrester rated voltage $U_C$                                   | 60 V DC                           |
| Arrester rated voltage $U_C$ (L-PE)                            | 60 V DC                           |
| Nominal current $I_N$                                          | 26 A (30 °C)                      |
| Operating effective current $I_C$ at $U_C$                     | $\leq 10 \mu A$                   |
| Residual current $I_{PE}$                                      | $\leq 10 mA$                      |
| Nominal discharge current $I_n$ (8/20) $\mu s$                 | 500 A                             |
| Nominal discharge current $I_n$ (8/20) $\mu s$ (L-N)           | 500 A                             |
| Nominal discharge current $I_n$ (8/20) $\mu s$ (L-PE)          | 500 A                             |
| Max. discharge current $I_{max}$ (8/20) $\mu s$                | 500 A                             |
| Max. discharge current $I_{max}$ (8/20) $\mu s$ maximum (L-N)  | 500 A                             |
| Max. discharge current $I_{max}$ (8/20) $\mu s$ maximum (L-PE) | 500 A                             |
| Combined surge $U_{OC}$                                        | 6 kV (for 12 $\Omega$ )           |
| Voltage protection level $U_P$ (L-N)                           | $\leq 120 V$                      |
| Voltage protection level $U_P$ (L-PE)                          | $\leq 120 V$                      |
| Voltage protection level $U_P$ (N-PE)                          | $\leq 120 V$                      |
| Response time $t_A$ (L-N)                                      | $\leq 1 ns$                       |
| Response time $t_A$ (L-PE)                                     | $\leq 1 ns$                       |
| Max. required back-up fuse                                     | 25 A (gL)                         |
| Message: Surge protection fault                                | Optical, remote indicator contact |

### Non-heating apparatus connection, power supply

|                                       |                       |
|---------------------------------------|-----------------------|
| Connection method                     | Screw connection      |
| Connection type IN                    | Screw terminal blocks |
| Connection type OUT                   | Screw terminal blocks |
| Screw thread                          | M3                    |
| Tightening torque                     | 0.8 Nm                |
| Stripping length                      | 8 mm                  |
| Conductor cross section stranded min. | 0.2 mm <sup>2</sup>   |

# Type 3 surge protection device - PT 2+1-S-48DC/FM - 2817958

## Technical data

Non-heating apparatus connection, power supply

|                                        |                     |
|----------------------------------------|---------------------|
| Conductor cross section stranded max.  | 2.5 mm <sup>2</sup> |
| Conductor cross section solid min.     | 0.2 mm <sup>2</sup> |
| Conductor cross section solid max.     | 4 mm <sup>2</sup>   |
| Conductor cross section AWG/kcmil min. | 24                  |
| Conductor cross section AWG/kcmil max  | 12                  |

Remote indicator contact

|                                                |                                |
|------------------------------------------------|--------------------------------|
| Connection name                                | Remote fault indicator contact |
| Switching function                             | N/C contact                    |
| Connection method                              | Screw connection               |
| Screw thread                                   | M3                             |
| Stripping length                               | 8 mm                           |
| Conductor cross section stranded min.          | 0.2 mm <sup>2</sup>            |
| Conductor cross section stranded max.          | 2.5 mm <sup>2</sup>            |
| Conductor cross section solid min.             | 0.2 mm <sup>2</sup>            |
| Conductor cross section solid max.             | 4 mm <sup>2</sup>              |
| Conductor cross section AWG/kcmil min.         | 24                             |
| Conductor cross section AWG/kcmil max          | 12                             |
| Maximum operating voltage U <sub>max.</sub> AC | 250 V                          |
| Max. operating current I <sub>max</sub>        | 3 A AC                         |

Standards and Regulations

|                          |                      |
|--------------------------|----------------------|
| Standards/specifications | IEC 61643-1 2005     |
| Standards/specifications | EN 61643-11/A11 2007 |
| Standards/specifications | BS 6651              |
| Standards/specifications | ANSI/IEEE C62.41     |
| Standards/specifications | EN 50082-2           |

## classifications

eCl@ss

|            |          |
|------------|----------|
| 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 |
| eCl@ss 8.0 | 27130807 |

ETIM

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

# Type 3 surge protection device - PT 2+1-S-48DC/FM - 2817958

## classifications

### ETIM

|          |          |
|----------|----------|
| ETIM 5.0 | EC001473 |
|----------|----------|

### UNSPSC

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

## approvals

UL Recognized / cUL Recognized / GOST / cULus Recognized /

### Approval details

UL Recognized 

cUL Recognized 

GOST 

cULus Recognized 

## accessories

### Labeled terminal marker

ZB 5,LGS:FORTL.ZAHLEN - 1050017



## Type 3 surge protection device - PT 2+1-S-48DC/FM - 2817958

### accessories

ZB 5,LGS:L1-N,PE - 1050415



---

### Terminal marking

ZB 5 :UNBEDRUCKT - 1050004



ZB 5,8:UNBEDRUCKT - 2715209



ZBF 5:UNBEDRUCKT - 0808642



---

### Marker pen

X-PEN 0,35 - 0811228



## Type 3 surge protection device - PT 2+1-S-48DC/FM - 2817958

### accessories

B-STIFT - 1051993



---

### accessories

ZB 5:SO/CMS - 1050295



---

ZB 5,8,LGS:FORTL.ZAHLEN - 2715212



---

ZB 5,8:SO/CMS - 1050305

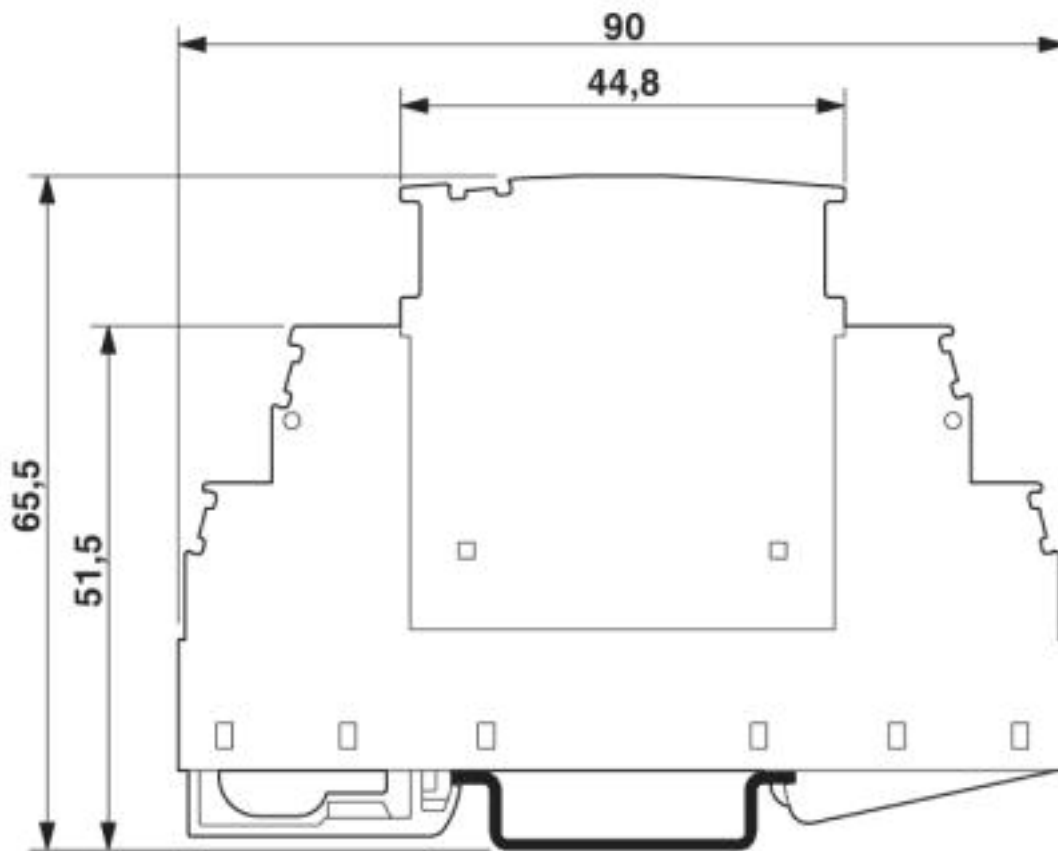


---

### Drawings

## Type 3 surge protection device - PT 2+1-S-48DC/FM - 2817958

Dimensioned drawing



Circuit diagram

