

2859327

<https://www.phoenixcontact.com/us/products/2859327>

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Rail-mountable surge arrester for higher signal voltages. Protective circuit free of leakage current for two floating signals.  
Nominal voltage: 120 V AC

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

Commercial data

|                                      |                     |
|--------------------------------------|---------------------|
| Item number                          | 2859327             |
| Packing unit                         | 10 pc               |
| Minimum order quantity               | 10 pc               |
| Sales key                            | CL21                |
| Product key                          | CL2111              |
| Catalog page                         | Page 138 (C-4-2019) |
| GTIN                                 | 4017918974565       |
| Weight per piece (including packing) | 69.91 g             |
| Weight per piece (excluding packing) | 62.14 g             |
| Customs tariff number                | 85363010            |
| Country of origin                    | DE                  |

# PT 2X1-VF-120AC - Surge protection device



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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                                      |
| Type                                                           | DIN rail module, two-section, divisible |
| Number of positions                                            | 2                                       |
| Arrester can be tested with CHECKMASTER from software version: | SW Version 2.13 or later                |

### Insulation characteristics

|                      |     |
|----------------------|-----|
| Overvoltage category | III |
| Pollution degree     | 2   |

### Electrical properties

|                       |          |
|-----------------------|----------|
| Nominal voltage $U_N$ | 120 V AC |
|-----------------------|----------|

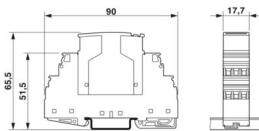
### Indicator/remote signaling

|                    |             |
|--------------------|-------------|
| Switching function | N/C contact |
|--------------------|-------------|

### 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 <sup>2</sup> ... 2.5 mm <sup>2</sup>            |
| Conductor cross section rigid    | 0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup>              |
| Conductor cross section AWG      | 24 ... 12                                              |

### Dimensions

|                        |                                                                                      |
|------------------------|--------------------------------------------------------------------------------------|
| Dimensional drawing    |  |
| Width                  | 17.7 mm                                                                              |
| Height                 | 90 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                                                                              |

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## Material specifications

|                                        |                  |
|----------------------------------------|------------------|
| Color                                  | black (RAL 9005) |
| 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-Earth Ground     |
| Maximum continuous voltage $U_C$                               | 175 V AC                          |
| Rated current                                                  | 6 A                               |
| Operating effective current $I_C$ at $U_C$                     | $\leq 2 \mu A$                    |
| Residual current $I_{PE}$                                      | $\leq 4 \mu A$                    |
| Nominal discharge current $I_n$ (8/20) $\mu s$                 | 3 kA                              |
| Pulse discharge current $I_{imp}$ (10/350) $\mu s$             | 300 A                             |
| Total discharge current $I_{total}$ (8/20) $\mu s$             | 8 kA                              |
| Max. discharge current $I_{max}$ (8/20) $\mu s$                | 8 kA                              |
| Nominal pulse current $I_{an}$ (10/1000) $\mu s$ (line-earth)  | 40 A                              |
| Output voltage limitation at 1 kV/ $\mu s$ (line-earth) spike  | $\leq 800 V$                      |
| Output voltage limitation at 1 kV/ $\mu s$ (line-earth) static | $\leq 800 V$                      |
| Residual voltage at $I_n$ (conductor-ground)                   | $\leq 600 V$                      |
| Voltage protection level $U_p$                                 | $\leq 1 kV$ (C2 - 2 kA)           |
| Voltage protection level $U_p$ (line-earth)                    | $\leq 900 V$ (C1 - 500 A)         |
|                                                                | $\leq 950 V$ (C2 - 1 kA)          |
|                                                                | $\leq 1 kV$ (C3 - 25 A)           |
|                                                                | $\leq 1.1 kV$ ( $I_{imp}$ -300 A) |
| Response time $t_A$                                            | $\leq 100 ns$                     |
| Capacity (Core-Earth)                                          | typ. 3 pF                         |
| Resistance per path                                            | 0 $\Omega$                        |
| Surge protection fault message                                 | none                              |
| Max. required back-up fuse                                     | 6 A (gL/gG)                       |
| Impulse durability (line-earth)                                | C1 - 1 kV / 500 A                 |
|                                                                | C2 - 4 kV / 2 kA                  |
|                                                                | C3 - 25 A                         |

## Environmental and real-life conditions

### Ambient conditions

|                                         |                  |
|-----------------------------------------|------------------|
| Degree of protection                    | IP20             |
| Ambient temperature (operation)         | -40 °C ... 80 °C |
| Ambient temperature (storage/transport) | -40 °C ... 80 °C |

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|          |                 |
|----------|-----------------|
| Altitude | ≤ 2000 m (amsl) |
|----------|-----------------|

## Standards and regulations

### Air clearances and creepage distances

|                          |                              |
|--------------------------|------------------------------|
| Standards/regulations    | IEC 60664-1 / DIN VDE 0110-1 |
| Standards/specifications | EN 61643-21                  |
| Note                     | 2002                         |
| Standards/specifications | IEC 61643-21                 |
| Note                     | 2002                         |

## Mounting

|               |                 |
|---------------|-----------------|
| Mounting type | DIN rail: 35 mm |
|---------------|-----------------|

# PT 2X1-VF-120AC - Surge protection device

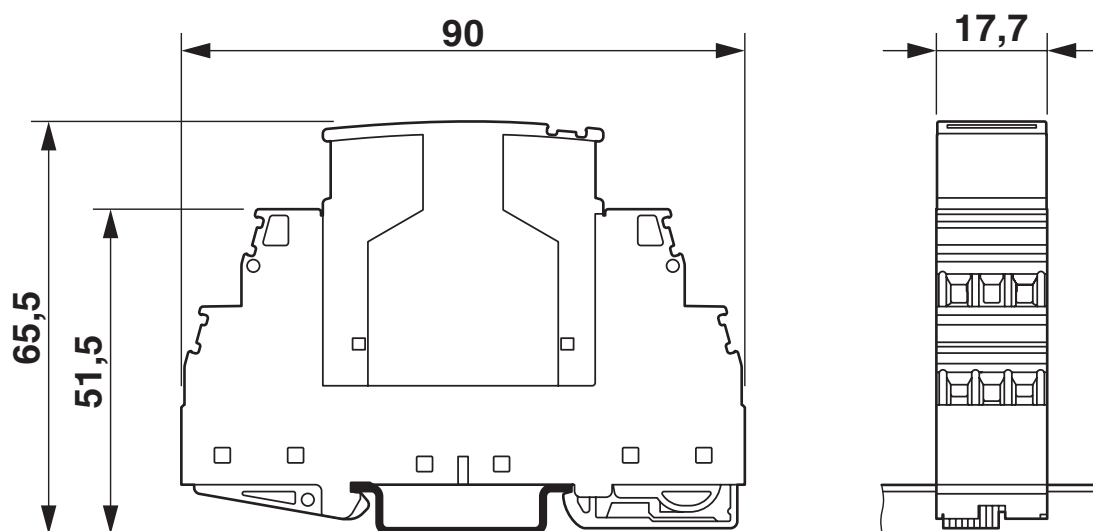
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<https://www.phoenixcontact.com/us/products/2859327>

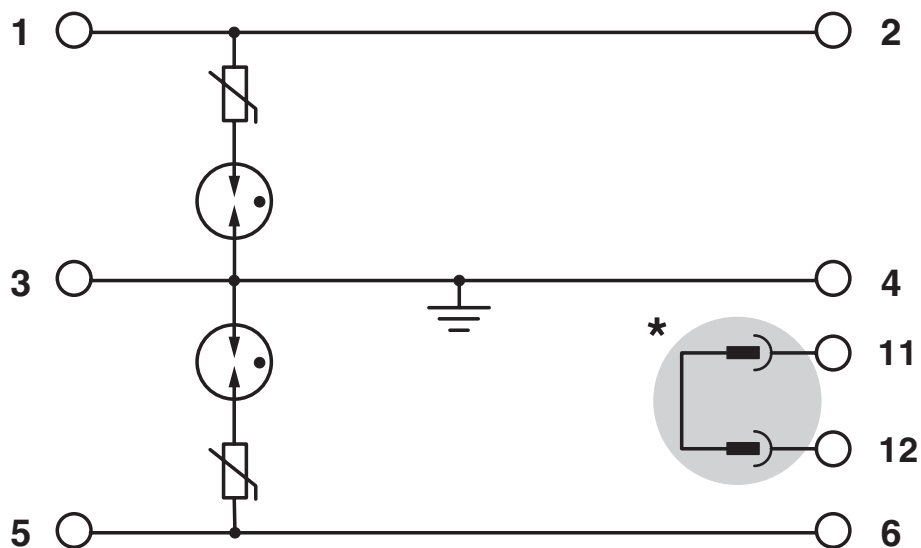


## Drawings

Dimensional drawing



Circuit diagram



# PT 2X1-VF-120AC - Surge protection device



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## Approvals

📄 To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2859327>



**EAC**

Approval ID: RU C-DE.\*09.B.00169

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-11.0 | 27130807 |
| ECLASS-13.0 | 27171501 |

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC001625 |
|----------|----------|

### UNSPSC

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

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## Environmental product compliance

|            |                                                         |
|------------|---------------------------------------------------------|
| China RoHS | Environmentally friendly use period: unlimited = EFUP-e |
|            | No hazardous substances above threshold values          |

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## Accessories

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

0808642

<https://www.phoenixcontact.com/us/products/0808642>



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snapped, for terminal block width: 5 mm, lettering field size: 5.1 x 5.2 mm, Number of individual labels: 10

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

0808668

<https://www.phoenixcontact.com/us/products/0808668>



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snapped, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm, Number of individual labels: 1000

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

0808671

<https://www.phoenixcontact.com/us/products/0808671>



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

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

0810821

<https://www.phoenixcontact.com/us/products/0810821>



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

# PT 2X1-VF-120AC - Surge protection device



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

0810863

<https://www.phoenixcontact.com/us/products/0810863>



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

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

0808697

<https://www.phoenixcontact.com/us/products/0808697>



Zack Marker strip, flat, Strip, white, labeled, Printed vertically: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 100, mounting type: snapped, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm, Number of individual labels: 10

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## ZBN 18:UNBEDRUCKT - Zack marker strip

2809128

<https://www.phoenixcontact.com/us/products/2809128>



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

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## ZBN 18 CUS - Zack marker strip

0825059

<https://www.phoenixcontact.com/us/products/0825059>



Zack marker strip, can be ordered: Strip, white, labeled according to customer specifications, 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

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## SSA 3-6 - Shield connection

2839295

<https://www.phoenixcontact.com/us/products/2839295>

Shield fast connection for 3 ... 6 mm cable diameter. Potential connecting cable:  
200 mm, 1 mm<sup>2</sup>, color: black



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## SSA 5-10 - Shield connection

2839512

<https://www.phoenixcontact.com/us/products/2839512>

Shield fast connection for 5 ... 10 mm cable diameter. Potential connecting cable:  
200 mm, 1 mm<sup>2</sup>, color: black



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## X-PEN 0,35 - Marker pen

0811228

<https://www.phoenixcontact.com/us/products/0811228>



Marker pen without ink cartridge, for manual labeling of markers, labeling extremely wipe-proof, line thickness 0.35 mm

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## SZS 0,6X3,5 VDE - Screwdriver

1212602

<https://www.phoenixcontact.com/us/products/1212602>



Screwdriver, slot-headed, VDE insulated, size: 0.6 x 3.5 x 100 mm, 2-component grip, with non-slip grip

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