

## Type 2 surge protection plug - VAL-US 120 ST - 2800739

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Surge protection plug type 2 with high-capacity varistor for VAL-MS base element, thermal monitoring, visual fault warning. Design: 120 V AC.

RoHS

### Key Commercial Data

|              |                                                                                                         |
|--------------|---------------------------------------------------------------------------------------------------------|
| Packing unit | 10 pc                                                                                                   |
| GTIN         | <br>4 046356 644396 |
| GTIN         | 4046356644396                                                                                           |

### Technical data

#### Dimensions

|                  |         |
|------------------|---------|
| Height           | 52.4 mm |
| Width            | 17.5 mm |
| Depth            | 55.3 mm |
| Horizontal pitch | 1 Div.  |

#### Ambient conditions

|                                         |                                         |
|-----------------------------------------|-----------------------------------------|
| Degree of protection                    | IP20                                    |
| Ambient temperature (operation)         | -40 °C ... 80 °C                        |
| Ambient temperature (storage/transport) | -40 °C ... 80 °C                        |
| Altitude                                | ≤ 2000 m (amsl (above mean sea level))  |
| Permissible humidity (operation)        | 5 % ... 95 %                            |
| Shock (operation)                       | 25g (Half-sine / 11 ms / 3x ±X, ±Y, ±Z) |
| Vibration (operation)                   | 5g (10 ... 500 Hz / 2.5 h / X, Y, Z)    |

#### General

|                         |     |
|-------------------------|-----|
| IEC test classification | II  |
|                         | T2  |
| EN type                 | T2  |
| Mode of protection      | L-N |

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## Technical data

### General

|                                                                |                    |
|----------------------------------------------------------------|--------------------|
|                                                                | L-PEN              |
| Mounting type                                                  | on base element    |
| Color                                                          | jet black RAL 9005 |
| Housing material                                               | PA 6.6             |
| Degree of pollution                                            | 2                  |
| Flammability rating according to UL 94                         | V-0                |
| Type                                                           | Male               |
| Number of positions                                            | 1                  |
| Arrester can be tested with CHECKMASTER from software version: | From SW rev. 1.10  |
| Surge protection fault message                                 | optical            |

### Protective circuit

|                                                    |                                        |
|----------------------------------------------------|----------------------------------------|
| Nominal voltage $U_N$                              | 120/208 V AC (TN)                      |
| Nominal frequency $f_N$                            | 60 Hz (50 Hz)                          |
| Maximum continuous voltage $U_C$                   | 175 V AC                               |
| Residual current $I_{PE}$                          | $\leq 0.45$ mA                         |
| Standby power consumption $P_C$                    | $\leq 80$ mVA                          |
| Nominal discharge current $I_n$ (8/20) $\mu$ s     | 20 kA                                  |
| Maximum discharge current $I_{max}$ (8/20) $\mu$ s | 40 kA                                  |
| Short-circuit current rating $I_{SCCR}$            | 25 kA                                  |
| Voltage protection level $U_p$                     | $\leq 0.9$ kV                          |
| Residual voltage $U_{res}$                         | $\leq 0.9$ kV (at $I_n$ )              |
|                                                    | $\leq 0.75$ kV (at 10 kA)              |
|                                                    | $\leq 0.6$ kV (at 5 kA)                |
|                                                    | $\leq 0.55$ kV (at 3 kA)               |
| TOV behavior at $U_T$                              | 208 V AC (5 s / withstand mode)        |
|                                                    | 240 V AC (120 min / safe failure mode) |
| Response time $t_A$                                | $\leq 25$ ns                           |
| Max. backup fuse with branch wiring                | 125 A (gG)                             |

### Connection data

|                   |                          |
|-------------------|--------------------------|
| Connection method | VALVETRAB plug-in system |
|-------------------|--------------------------|

### UL specifications

|                                                 |              |
|-------------------------------------------------|--------------|
| SPD Type                                        | 4CA          |
| Maximum continuous operating voltage MCOV (L-N) | 175 V AC     |
| Nom. voltage                                    | 120 V AC     |
| Mode of protection                              | L-N          |
| Power distribution system                       | Single phase |
| Nominal frequency                               | 50/60 Hz     |
| Measured limiting voltage MLV (L-N)             | 1600 V       |
| Nominal discharge current $I_n$ (L-N)           | 10 kA        |

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### Technical data

#### Standards and Regulations

|                       |                   |
|-----------------------|-------------------|
| Standards/regulations | IEC 61643-11 2011 |
|                       | EN 61643-11 2012  |

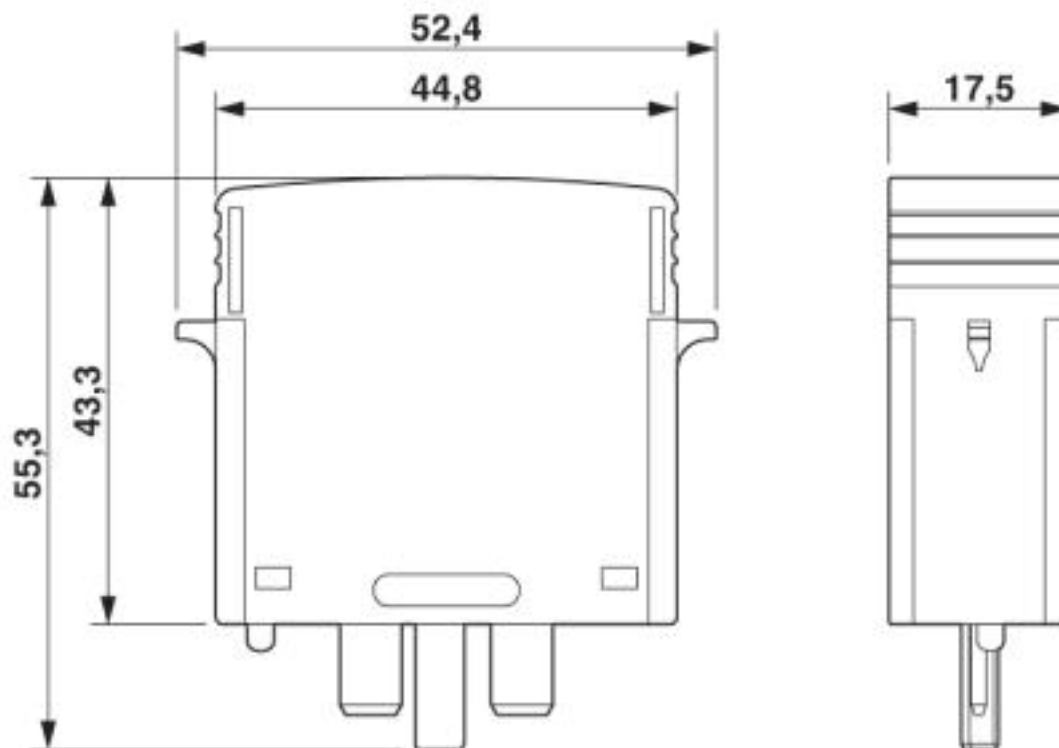
### Drawings

Circuit diagram



## Type 2 surge protection plug - VAL-US 120 ST - 2800739

Dimensional drawing



### Classifications

#### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 4.0 | 27130800 |
| eCl@ss 4.1 | 27130800 |
| eCl@ss 5.0 | 27130800 |
| eCl@ss 5.1 | 27130800 |
| eCl@ss 6.0 | 27130800 |
| eCl@ss 7.0 | 27130805 |
| eCl@ss 8.0 | 27130890 |
| eCl@ss 9.0 | 27130890 |

#### ETIM

|          |          |
|----------|----------|
| ETIM 3.0 | EC000472 |
| ETIM 4.0 | EC000472 |
| ETIM 5.0 | EC002496 |
| ETIM 6.0 | EC000941 |
| ETIM 7.0 | EC000941 |

#### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 30212010 |
| UNSPSC 7.0901 | 39121610 |

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### Classifications

#### UNSPSC

|              |          |
|--------------|----------|
| UNSPSC 11    | 39121610 |
| UNSPSC 12.01 | 39121610 |
| UNSPSC 13.2  | 39121620 |
| UNSPSC 18.0  | 39121620 |
| UNSPSC 19.0  | 39121620 |
| UNSPSC 20.0  | 39121620 |
| UNSPSC 21.0  | 39121620 |

### Accessories

#### Accessories

#### Device marking

Zack marker strip - ZBN 18:UNBEDRUCKT - 2809128



Zack marker strip, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, 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

#### Labeled device marker

Marker for terminal blocks - ZBN 18,LGS:ERDE - 2749589



Marker for terminal blocks, Strip, white, labeled, Horizontal: Grounding symbol, 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

Marker for terminal blocks - ZBN 18,LGS:L1-N,ERDE - 2749576



Marker for terminal blocks, Strip, white, labeled, Horizontal: L1, L2, L3, N, GND, 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

#### Marker pen

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### Accessories

Marker pen - B-STIFT - 1051993



Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm

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### Additional products

Type 2 surge protection base element - VAL-MS BE - 2817741



Base element for type 2 arresters of the VALVETRAB MS series of products. Design: 1-channel

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Type 2 surge protection base element - VAL-MS BE/FM - 2817738



Base element for type 2 arresters of the VALVETRAB MS series of products, with remote indication contact. Design: 1-channel

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PHOENIX CONTACT GmbH & Co. KG  
Flachsmarktstr. 8  
32825 Blomberg  
Germany  
Tel. +49 5235 300  
Fax +49 5235 3 41200  
<http://www.phoenixcontact.com>