

## Type 2 surge protection plug - VAL-MS 320-UD ST - 2858315

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Surge protection connector type 2 with high-capacity varistor for VAL-MS base element, thermal monitoring, visual fault warning. Design: 320 V AC

The figure shows the VAL-MS 1000 PV-UD ST version



### Key commercial data

|                                      |   |
|--------------------------------------|---|
| Packing unit                         | 10 pc   |
| GTIN                                 | <br>4 017918 878054 |
| Weight per Piece (excluding packing) | 43.53 g   |
| Custom tariff number                 | 85363030  |
| Country of origin                    | Germany   |

### 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)                       | 25 g                                   |
| Vibration (operation)                   | 5 g                                    |

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## Technical data

### General

|  |   |
|--|---|
| Standards/specifications                                       | IEC 61643-11 2011                       |
|  | EN 61643-11 2012                        |
| IEC test classification  | II                                      |
|  | T2                                      |
| EN type  | T2                                      |
| SPD design   | Voltage-limiting type                   |
| Mode of protection   | L-PEN                                   |
|  | L-N                                     |
| Mounting type  | On base element                         |
| Color  | black                                   |
| Housing material   | PA 6.6                                  |
| Pollution degree   | 2                                       |
| Inflammability class according to UL 94                        | V-0                                     |
| Type   | DIN rail module, two-section, divisible |
| 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 $U_N$                              | 240/415 V AC (TN)                      |
|  | 240/415 V AC (TT)                      |
| Nominal frequency $f_N$                            | 50 Hz (60 Hz)                          |
| Maximum continuous operating voltage $U_C$         | 335 V AC                               |
| Residual current $I_{PE}$                          | $\leq 0.45$ mA                         |
| Standby power consumption $P_C$                    | $\leq 150$ 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 $U_p$                     | $\leq 1.5$ kV                          |
| Residual voltage $U_{res}$                         | $\leq 1.5$ kV (at $I_n$ )              |
|  | $\leq 1.3$ kV (at 10 kA)               |
|  | $\leq 1.2$ kV (at 5 kA)                |
|  | $\leq 1.1$ kV (at 3 kA)                |
| TOV behavior at $U_T$                              | 415 V AC (5 s / withstand mode)        |
|  | 440 V AC (120 min / safe failure mode) |
| Response time $t_A$                                | $\leq 25$ ns                           |
| Max. required backup fuse with branch wiring       | 125 A AC (gG)                          |

### Connection data

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

### NEMA/UL protective circuit

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## Technical data

### NEMA/UL protective circuit

|   |                                    |
|---|------------------------------------|
| UL class  | Type 4 SPD for Type 2 applications |
| Maximum continuous operating voltage MCOV (L-N) | 320 V AC                           |
| Nominal voltage $U_N$                           | 320 V AC                           |
| Mode of protection                              | L-N                                |
| Power distribution system                       | 1                                  |
| Nominal frequency                               | 50/60 Hz                           |
| Voltage protection rating VPR (L-N)             | 1.2 kV                             |
| Nominal discharge current $I_n$ (L-N)           | 20 kA                              |

## 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 | 27130805 |
| eCl@ss 7.0 | 27130805 |

### ETIM

|          |          |
|----------|----------|
| ETIM 2.0 | EC000941 |
| ETIM 3.0 | EC000941 |
| ETIM 4.0 | EC000941 |
| ETIM 5.0 | EC000941 |

### UNSPSC

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

## Approvals

### Approvals

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#### Approvals

UL Recognized / KEMA-KEUR / cUL Recognized / GOST / KEMA-KEUR / CSA / cULus Recognized

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#### Ex Approvals

# Type 2 surge protection plug - VAL-MS 320-UD ST - 2858315

## Approvals

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Approvals submitted

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### Approval details

UL Recognized

KEMA-KEUR

cUL Recognized

GOST

KEMA-KEUR

CSA

cULus Recognized

## Accessories

### Accessories

#### Bridge

Wiring bridge - MPB 18/1- 2 - 2809209



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 2-pos.

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### Accessories

Wiring bridge - MPB 18/1- 3 - 2809212



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 3-pos.

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Wiring bridge - MPB 18/1- 4 - 2809225



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 4-pos.

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Wiring bridge - MPB 18/1- 6 - 2748564



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 6-pos.

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Wiring bridge - MPB 18/1- 7 BU - 2856278



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 7-pos., color: Blue

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Wiring bridge - MPB 18/1- 8 BU - 2858470



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 8-pos., color: Blue

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## Type 2 surge protection plug - VAL-MS 320-UD ST - 2858315

### Accessories

Wiring bridge - MPB 18/1- 8 - 2748577



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 8-pos.

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Wiring bridge - MPB 18/1- 9 - 2748580



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 9-pos.

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Wiring bridge - MPB 18/1-12 - 2748593



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 12-pos.

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Wiring bridge - MPB 18/1-57 - 2809238



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 57-pos.

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Wiring bridge - MPB 18/3- 6 - 2809241



Wiring bridge for modules with connecting pitch 17.5 mm, 3-phase, 6-pos.

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## Type 2 surge protection plug - VAL-MS 320-UD ST - 2858315

### Accessories

Wiring bridge - MPB 18/3- 9 - 2809254



Wiring bridge for modules with connecting pitch 17.5 mm, 3-phase, 9-pos.

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Wiring bridge - MPB 18/4- 8 - 2809283



Wiring bridge for modules with connecting pitch 17.5 mm, 4-phase, 8-pos.

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Wiring bridge - MPB 18/4-12 - 2809296



Wiring bridge for modules with connecting pitch 17.5 mm, 4-phase, 12-pos.

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Wiring bridge - MPB F200X16/ 1GS - 2818339



Wiring bridge flexible, diameter 16 mm<sup>2</sup>, with a fork-type cable lug on one side, length: 200 mm

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Wiring bridge - MPB F400X16/ 1GS - 2818342



Wiring bridge flexible, diameter 16 mm<sup>2</sup>, with a fork-type cable lug on one side, length: 400 mm

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## Type 2 surge protection plug - VAL-MS 320-UD ST - 2858315

### Accessories

Wiring bridge - MPB F600X16/ 1GS - 2818355



Wiring bridge flexible, diameter: 16 mm<sup>2</sup>, with a fork-type cable lug on one side, length: 600 mm

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### Device marking

Zack marker strip - ZBN 18:UNBEDRUCKT - 2809128



Zack marker strip, Strip, white, Unlabeled, Can be labeled with: Plotter, Mounting type: Snap into tall marker groove, For terminal block width: 18 mm, Lettering field: 18 x 5 mm

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Zack marker strip - ZBN 18:UNBEDRUCKT - 2809128



Zack marker strip, Strip, white, Unlabeled, Can be labeled with: Plotter, Mounting type: Snap into tall marker groove, For terminal block width: 18 mm, Lettering field: 18 x 5 mm

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### 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: 18 x 5 mm

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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: 18 x 5 mm

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## Accessories

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: 18 x 5 mm

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: 18 x 5 mm

Marker pen

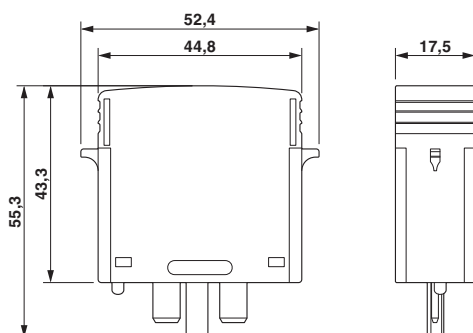
Marker pen - B-STIFT - 1051993



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

## Drawings

Dimensioned drawing



Circuit diagram

