

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



2858315

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

## Your advantages

- Quality proven millions of times over in the widest range of applications
- Rapid installation with bridges, thanks to industry-standard overall width of 1 HP
- Easy testing and insulation measurement, thanks to pluggable protection modules
- Wide range of applications due to various nominal voltages
- High degree of modularity provides individual solutions for every application

## Commercial data

|                                      |                    |
|--------------------------------------|--------------------|
| Item number                          | 2858315            |
| Packing unit                         | 10 pc              |
| Minimum order quantity               | 1 pc               |
| Sales key                            | CL18               |
| Product key                          | CL1321             |
| Catalog page                         | Page 69 (C-4-2019) |
| GTIN                                 | 4017918878054      |
| Weight per piece (including packing) | 44.7 g             |
| Weight per piece (excluding packing) | 43.53 g            |
| Customs tariff number                | 85363030           |
| Country of origin                    | DE                 |

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## Technical data

### Product properties

|  |   |
|--|---|
| Product type   | Replacement plug                        |
| Product family   | VALVETRAB MS                            |
| IEC test classification  | II<br>T2                                |
| EN type  | T2                                      |
| IEC power supply system  | TN<br>TT                                |
| Type   | DIN rail module, two-section, divisible |
| Number of positions  | 1                                       |
| Surge protection fault message                                 | optical                                 |
| Arrester can be tested with CHECKMASTER from software version: | From SW rev. 1.10                       |

### Data management status

|                  |    |
|------------------|----|
| Article revision | 10 |
|------------------|----|

### Insulation characteristics

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

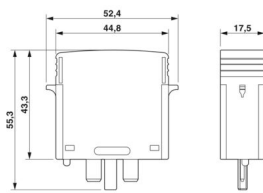
### Electrical properties

|                         |               |
|-------------------------|---------------|
| Nominal frequency $f_N$ | 50 Hz (60 Hz) |
|-------------------------|---------------|

### Connection data

|                   |           |
|-------------------|-----------|
| Connection method | pluggable |
|-------------------|-----------|

### Dimensions

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

### Material specifications

|  |                  |
|--|------------------|
| Color                                  | black (RAL 9005) |
| Flammability rating according to UL 94 | V-0              |
| CTI value of material                  | 600              |

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|                     |        |
|---------------------|--------|
| Insulating material | PA 6.6 |
| Material group      | I      |
| Housing material    | PA 6.6 |

## Protective circuit

|  |  |
|--|--|
| Mode of protection                                 | L-N                                    |
|  | L-PEN                                  |
| Direction of action                                | 1L-N/PE                                |
| Nominal voltage $U_N$                              | 240/415 V AC (TN)                      |
|  | 240/415 V AC (TT)                      |
| Nominal frequency $f_N$                            | 50 Hz (60 Hz)                          |
| Maximum continuous 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. backup fuse with branch wiring                | 125 A (gG)                             |

## 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                                       |
| Altitude                                | $\leq 2000$ m (amsl)                                   |
| Permissible humidity (operation)        | 5 % ... 95 %   |
| Shock (operation)                       | 25g (Half-sine / 11 ms / 3x $\pm$ X, $\pm$ Y, $\pm$ Z) |
| Vibration (operation)                   | 5g (10 ... 500 Hz / 2.5 h / X, Y, Z)                   |

## Approvals

### UL specifications

|   |          |
|---|----------|
| Maximum continuous operating voltage MCOV (L-N) | 320 V AC |
| Nominal discharge current $I_n$ (L-N)           | 20 kA    |
| Mode of protection                              | L-N      |
| Nominal voltage                                 | 320 V AC |

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|                                     |              |
|-------------------------------------|--------------|
| Power distribution system           | Single phase |
| Nominal frequency                   | 50/60 Hz     |
| Measured limiting voltage MLV (L-N) | 2030 V       |
| SPD Type                            | 4CA          |

## Standards and regulations

### Air clearances and creepage distances

|                          |  |
|--------------------------|--|
| Standards/regulations    | DIN VDE 0110-1 / IEC 60664-1 / IEC 61643-1 |
| Standards/specifications | IEC 61643-11                               |
| Note                     | 2011                                       |
| Standards/specifications | EN 61643-11                                |
| Note                     | 2012                                       |

## Mounting

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

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## Drawings

Dimensional drawing



Circuit diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2858315>



**cUL Recognized**

Approval ID: FILE E 330181



**UL Recognized**

Approval ID: FILE E 330181



**IECEE CB Scheme**

Approval ID: AT 2905/M1



**EAC**

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

**CCA**

Approval ID: NTR-AT 1947-A



**KEMA-KEUR**

Approval ID: 71-113273 REV.1



**CSA**

Approval ID: 13631



**ÖVE**

Approval ID: 18583-001-17

**UAE-RoHS**

Approval ID: 22-09-51250

**cULus Recognized**

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-11.0 | 27130890 |
| ECLASS-13.0 | 27171292 |

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC002496 |
|----------|----------|

### UNSPSC

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

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## Environmental product compliance

### EU RoHS

|   |                    |
|---|--------------------|
| Fulfills EU RoHS substance requirements | Yes, No exemptions |
|---|--------------------|

### China RoHS

|  |  |
|--|--|
| Environment friendly use period (EFUP) | EFUP-E                                   |
|  | No hazardous substances above the limits |

### EU REACH SVHC

|                                     |                            |
|-------------------------------------|----------------------------|
| REACH candidate substance (CAS No.) | No substance above 0.1 wt% |
|-------------------------------------|----------------------------|

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