

## Type 2 surge protection plug - VAL-MS 230-UD-ST - 2858962

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Surge protection connector type 2 with high-capacity varistor for VAL-MS base element, thermal monitoring, visual fault warning. Design: 230 V AC

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



### Key commercial data

|                                      |          |
|--------------------------------------|----------|
| Packing unit                         | 1 pc     |
| Weight per Piece (excluding packing) | 60.0 GRM |
| 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)                       | 25g                                    |
| Vibration (operation)                   | 5g                                     |

#### General

|                          |                   |
|--------------------------|-------------------|
| Standards/specifications | IEC 61643-11 2011 |
|--------------------------|-------------------|

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#### General

|  |   |
|--|---|
|  | 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 $U_C$         | 275 V AC                               |
| Residual current $I_{PE}$                          | $\leq 0.45$ mA                         |
| Standby power consumption $P_C$                    | $\leq 120$ 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 $U_p$                     | $\leq 1.35$ kV                         |
| Residual voltage $U_{res}$                         | $\leq 1.35$ kV (at $I_n$ )             |
|  | $\leq 1.1$ kV (at 10 kA)               |
|  | $\leq 1$ kV (at 5 kA)                  |
|  | $\leq 0.9$ kV (at 3 kA)                |
| TOV behavior at $U_T$                              | 335 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 AC (gG)                          |

#### Connection data

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#### Connection data

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

#### UL specifications

|   |                                    |
|---|------------------------------------|
| UL class  | Type 4 SPD for Type 2 applications |
| Maximum continuous operating voltage MCOV (L-N) | 275 V AC                           |
| Nom. voltage                                    | 230 V AC                           |
| Mode of protection                              | L-N                                |
| Power distribution system                       | 1                                  |
| Nominal frequency                               | 50/60 Hz                           |
| Voltage protection rating VPR (L-N)             | 1 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 |
| eCl@ss 8.0 | 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

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### Approvals

UL Recognized / KEMA-KEUR / cUL Recognized / GOST / KEMA-KEUR / CSA / ÖVE / CCA / IECCEB Scheme / cULus Recognized

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### Ex Approvals

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### Approvals submitted

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## Approval details

UL Recognized 

KEMA-KEUR 

cUL Recognized 

GOST 

KEMA-KEUR 

CSA

ÖVE 

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## Approvals

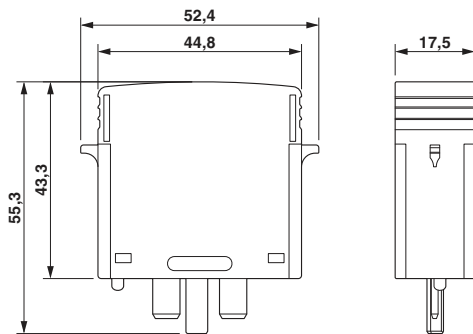
CCA

IECEE CB Scheme

cULus Recognized

## Drawings

Dimensioned drawing



Circuit diagram

