

## Type 2 surge protection device - VAL-MS 60 - 2868020

Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)



Surge arresters consisting of base element and protective connector with high-capacity varistor, for mounting on NS 35/7.5, 1-channel

The figure shows the VAL-MS 230 version

### Product Features

- Single-channel, DIN-rail mountable protective devices
- Base element with/without floating remote indication contact
- Disconnect device on each individual plug
- Consists of base element and plug
- Mechanical coding of all slots
- Optical, mechanical status indication for the individual arresters



### Key commercial data

|                                      |           |
|--------------------------------------|-----------|
| Packing unit                         | 1 pc      |
| Weight per Piece (excluding packing) | 120.0 GRM |
| Custom tariff number                 | 85363010  |
| Country of origin                    | Germany   |

### Technical data

#### Dimensions

|                  |         |
|------------------|---------|
| Height           | 90 mm   |
| Width            | 17.6 mm |
| Depth            | 58 mm   |
| Horizontal pitch | 1 Div.  |

#### Ambient conditions

# Type 2 surge protection device - VAL-MS 60 - 2868020

## Technical data

### Ambient conditions

|   |   |
|---|---|
| Degree of protection                    | IP20 (only when all terminal points are used) |
| 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                       |
|   | EN 61643-11 2012                        |
| IEC test classification                 | II                                      |
|   | T2                                      |
| EN type                                 | T2                                      |
| Number of ports                         | One                                     |
| SPD design                              | Voltage-limiting type                   |
| Mode of protection                      | L-PEN                                   |
| Mounting type                           | DIN rail: 35 mm                         |
| Color                                   | black                                   |
| Housing material                        | PA 6.6                                  |
|   | PBT / PA                                |
| Pollution degree                        | 2                                       |
| Inflammability class according to UL 94 | V-0                                     |
| Type                                    | DIN rail module, two-section, divisible |
| Number of positions                     | 1                                       |
| Surge protection fault message          | Optical                                 |

### Protective circuit

|  |                |
|--|----------------|
| Nominal voltage $U_N$                          | 60 V AC (TN)   |
|  | 60 V DC        |
|  | -48 V DC (RRH) |
| Nominal frequency $f_N$                        | 50 Hz (60 Hz)  |
| Maximum continuous operating voltage $U_C$     | 75 V AC        |
|  | 100 V DC       |
| Rated load current $I_L$                       | 80 A           |
| Residual current $I_{PE}$                      | ≤ 0.45 mA      |
| Standby power consumption $P_C$                | ≤ 35 mVA       |
| Nominal discharge current $I_n$ (8/20) $\mu$ s | 15 kA          |

## Type 2 surge protection device - VAL-MS 60 - 2868020

### Technical data

#### Protective circuit

|  |                                 |
|--|---------------------------------|
| Maximum discharge current $I_{max}$ (8/20) $\mu$ s   | 40 kA                           |
| Short-circuit current rating $I_{SCCR}$              | 25 kA                           |
| Voltage protection level $U_p$                       | $\leq 0.55$ kV                  |
| Residual voltage $U_{res}$                           | $\leq 0.55$ kV (at $I_n$ )      |
|  | $\leq 0.425$ kV (at 10 kA)      |
|  | $\leq 0.325$ kV (at 5 kA)       |
|  | $\leq 0.275$ kV (at 3 kA)       |
| TOV behavior at $U_T$                                | 100 V AC (5 s / withstand mode) |
| Response time $t_A$                                  | $\leq 25$ ns                    |
| Max. required backup fuse with branch wiring         | 125 A AC (gG)                   |
|  | 50 A DC (gG)                    |
| Max. required backup fuse with V-type through wiring | 80 A AC (gG)                    |

#### Connection data

|                                       |                              |
|---------------------------------------|------------------------------|
| Connection method                     | Screw connection             |
| Conductor cross section stranded min. | 1.5 mm <sup>2</sup>          |
| Conductor cross section stranded max. | 25 mm <sup>2</sup>           |
| Conductor cross section solid min.    | 1.5 mm <sup>2</sup>          |
| Conductor cross section solid max.    | 35 mm <sup>2</sup>           |
| AWG conductor cross section           | 15 ... 2                     |
|                                       | 10 ... 2 (UL)                |
| Screw thread                          | M5                           |
| Tightening torque                     | 4.5 Nm                       |
|                                       | 30 lb <sub>F</sub> -in. (UL) |
| Stripping length                      | 16 mm                        |

#### NEMA/UL protective circuit

|   |                                    |
|---|------------------------------------|
| UL class  | Type 4 SPD for Type 2 applications |
| Maximum continuous operating voltage MCOV (L-N)       | 75 V AC                            |
| Maximum continuous operating voltage MCOV (L+) - (L-) | 100 V DC                           |
| Maximum continuous operating voltage MCOV (L+/L-) - G | 100 V DC                           |
| Nominal voltage $U_N$                                 | 60 V AC                            |
| Nominal voltage                                       | 60 V DC                            |
| Mode of protection                                    | L-N                                |
|   | (L+) - (L-)                        |
|   | (L+/L-) - G                        |
| Power distribution system                             | 1                                  |
| Nominal frequency                                     | 50/60 Hz                           |

## Type 2 surge protection device - VAL-MS 60 - 2868020

### Technical data

#### NEMA/UL protective circuit

|   |         |
|---|---------|
| Voltage protection rating VPR (L-N)         | 0.5 kV  |
| Voltage protection rating VPR (L+) - (L-)   | 0.33 kV |
| Voltage protection rating VPR (L+/L-) -G    | 0.33 kV |
| Nominal discharge current $I_n$ (L-N)       | 10 kA   |
| Nominal discharge current $I_n$ (L+) - (L-) | 10 kA   |
| Nominal discharge current $I_n$ (L+/L-) - G | 10 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

---

#### Approvals

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

---

# Type 2 surge protection device - VAL-MS 60 - 2868020

## Approvals

Ex Approvals

---

Approvals submitted


---


### Approval details

UL Recognized 


KEMA-KEUR 

cUL Recognized 


GOST 

KEMA-KEUR 

CSA

ÖVE 

CCA

IECEE CB Scheme 

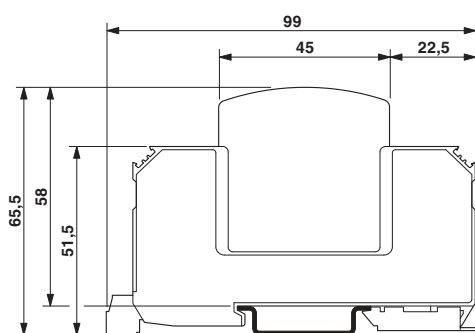
# Type 2 surge protection device - VAL-MS 60 - 2868020

## Approvals

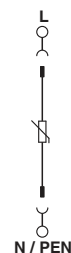


## Drawings

Dimensioned drawing



Circuit diagram



The illustration shows the dimensional drawing for a version with remote indicator contact