

2807609

<https://www.phoenixcontact.com/us/products/2807609>

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Surge protection connector type 2 with high-capacity varistor for VAL-MS base element, thermal monitoring, visual fault warning. Design: 500 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 | 2807609 |
| Packing unit | 10 pc |
| Minimum order quantity | 1 pc |
| Sales key | CL18 |
| Product key | CL1321 |
| GTIN | 4017918075293 |
| Weight per piece (including packing) | 61.63 g |
| Weight per piece (excluding packing) | 60.34 g |
| Customs tariff number | 85363010 |
| Country of origin | DE |

VAL-MS 500 ST - Type 2 surge protection plug



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Technical data

Notes

| | |
|--------------------|-----------------------------------|
| Order information: | Use in DC applications on request |
|--------------------|-----------------------------------|

General

| | |
|------|--|
| Note | Usable in all low-voltage systems between L-N or L-PEN. Only usable in IT Systems between L-PE, if the exposed-conductive-parts (bodies) of the equipment of the low-voltage installation is connected to the earthing arrangement of the transformer substation. (interconnected earthing arrangement of the HV-transformer substation with the bodies of the LV-installation. $R_E = R_A$ accordance to IEC 60364-4-442 / VDE 0100-442 Fig. 44D / Example a) |
|------|--|

Product properties

| | |
|--|---|
| Product type | Replacement plug |
| Product family | VALVETRAB MS |
| IEC test classification | II |
| | T2 |
| EN type | T2 |
| IEC power supply system | TN |
| | IT |
| Type | DIN rail module, two-section, divisible |
| Distance between live and grounded parts | 5 mm |
| Number of positions | 1 |
| Surge protection fault message | optical |
| Arrester can be tested with CHECKMASTER from software version: | From SW rev. 1.10 |

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 | |
|---------------------|--|

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

Protective circuit

| | |
|--|-------------------------------------|
| Mode of protection | L-PE |
| | L-PEN |
| Direction of action | 1L-N/PE |
| Nominal voltage U_N | 400/690 V AC (TN) |
| | 500 V AC (IT) |
| Nominal frequency f_N | 50 Hz (60 Hz) |
| Maximum continuous operating voltage U_C | 600 V AC |
| Protective conductor current I_{PE} | ≤ 0.45 mA |
| Standby power consumption P_C | ≤ 250 mVA |
| Nominal discharge current I_n (8/20) μ s | 15 kA |
| Maximum discharge current I_{max} (8/20) μ s | 30 kA |
| Short-circuit current rating I_{SCCR} | 25 kA |
| Voltage protection level U_p | ≤ 2.7 kV |
| Residual voltage U_{res} | ≤ 2.7 kV (at I_n) |
| | ≤ 2.5 kV (at 10 kA) |
| | ≤ 2.3 kV (at 5 kA) |
| | ≤ 2.2 kV (at 3 kA) |
| TOV behavior at U_T | 690 V AC (5 s / withstand mode) |
| | 762 V AC (120 min / withstand mode) |
| Response time t_A | ≤ 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 | ≤ 2000 m (amsl) |
| Permissible humidity (operation) | 5 % ... 95 % |
| Shock (operation) | 25g (Half-sine / 11 ms / 3x \pm X, \pm Y, \pm Z) |

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| | |
|-----------------------|--------------------------------------|
| Vibration (operation) | 5g (10 ... 500 Hz / 2.5 h / X, Y, Z) |
|-----------------------|--------------------------------------|

Approvals

UL specifications

| | |
|---|--------------|
| Maximum continuous operating voltage MCOV (L-N) | 600 V AC |
| Nominal discharge current I_n (L-N) | 10 kA |
| Mode of protection | L-N |
| Nominal voltage | 500 V AC |
| Power distribution system | Single phase |
| Nominal frequency | 50/60 Hz |
| Measured limiting voltage MLV (L-N) | 2370 V |
| SPD Type | 4CA |

Standards and regulations

| | |
|--------------------------|--------------|
| Standards/specifications | IEC 61643-11 |
| Note | 2011 |
| Standards/specifications | EN 61643-11 |
| Note | 2012 |

Mounting

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

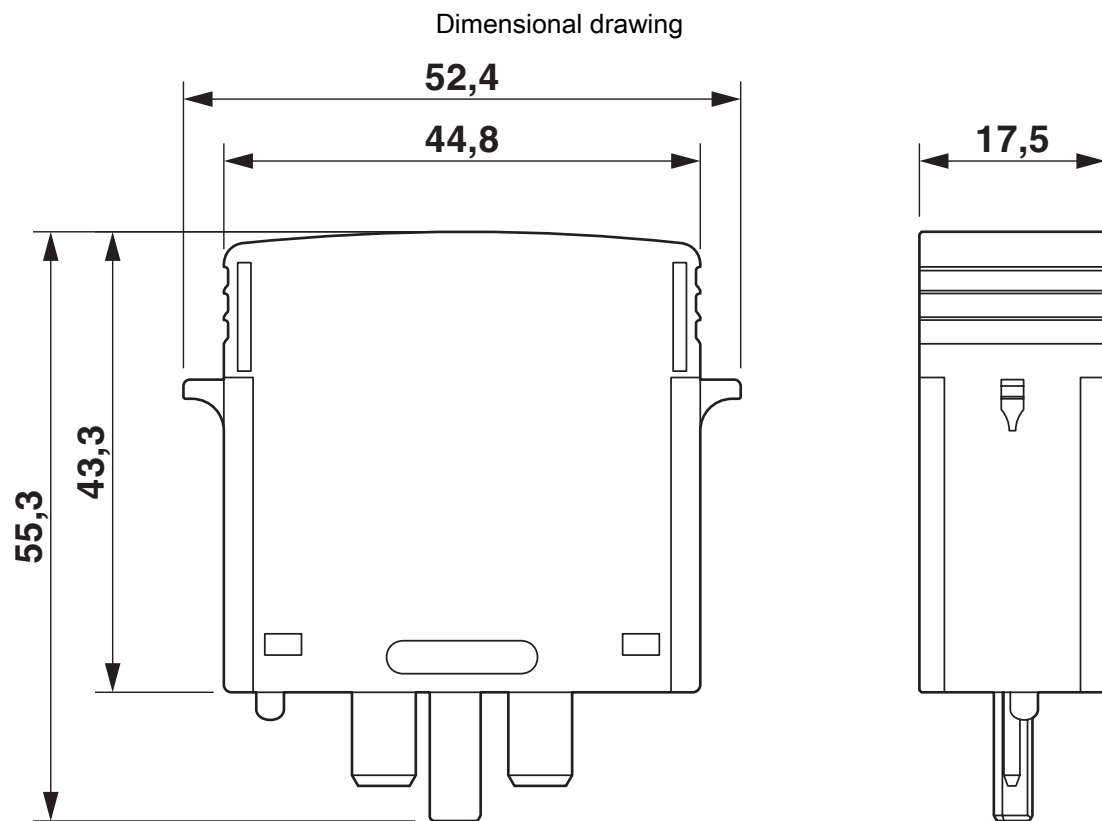
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Drawings



Circuit diagram



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Approvals

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cUL Recognized
Approval ID: FILE E 330181



UL Recognized
Approval ID: FILE E 330181



IECEE CB Scheme
Approval ID: AT 2905/M1

CCA

Approval ID: NTR-AT 1947-A



KEMA-KEUR
Approval ID: 71-148002



DNV GL
Approval ID: TAE000041M



CSA
Approval ID: 13631



ÖVE
Approval ID: 18583-001-17

UAE-RoHS

Approval ID: 22-09-51251

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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-13.0 | 27171292 |
| ECLASS-15.0 | 27171292 |

ETIM

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|----------|----------|
| 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% |
| EF3.0 Climate Change | |
| CO2e kg | 0.714 kg CO2e |

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Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com