

VAL-MS 600DC-PV-ST - Type 2 surge protection plug



2800623

<https://www.phoenixcontact.com/us/products/2800623>

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Replacement plug for PV arrester combinations from the VAL-MS 600DC-PV-... product range



Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 2800623 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | CL01 |
| Product key | CL1324 |
| GTIN | 4046356615105 |
| Weight per piece (including packing) | 65.2 g |
| Weight per piece (excluding packing) | 46.11 g |
| Customs tariff number | 85363010 |
| Country of origin | DE |

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Technical data

Product properties

| | |
|--|----------------------------------|
| Product type | Replacement plug |
| Product family | VALVETRAB MS |
| IEC test classification | PV II PV T2 |
| EN type | T2 |
| IEC power supply system | DC |
| Type | Male |
| Number of positions | 1 |
| Environment | Indoor |
| Installation location of the disconnect device | Internal |
| Accessibility | Accessible |
| Connection configuration | Y configuration |
| End-of-life mode | OCFM (Open-Circuit Failure Mode) |
| Surge protection fault message | optical |

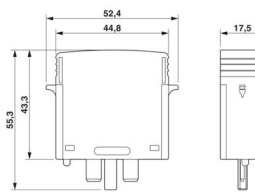
Insulation characteristics

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

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

Protective circuit

| | |
|---|---------------------------|
| Standby power consumption P_C | ≤ 25 mVA |
| Nominal discharge current I_n (8/20) μs | 15 kA |
| Maximum discharge current I_{max} (8/20) μs | 40 kA |
| Voltage protection level U_p | ≤ 1.4 kV |
| Residual voltage U_{res} | ≤ 1.4 kV (at I_n) |
| | ≤ 1.1 kV (at 5 kA) |
| | ≤ 1.3 kV (at 10 kA) |
| | ≤ 1.5 kV (at 20 kA) |
| | ≤ 1.8 kV (at 30 kA) |
| | ≤ 2 kV (at 40 kA) |
| Response time t_A | ≤ 25 ns |

PV protective circuit

| | |
|--------------------------|----------------------------------|
| Connection configuration | Y configuration |
| End-of-life mode | OCFM (Open-Circuit Failure Mode) |

Protective circuit DC voltage side (DC)

| | |
|---|--------------------------------|
| Maximum continuous operating voltage U_{CPV} | 400 V DC |
| Short-circuit current rating I_{SCPV} | 2000 A |
| Open-circuit voltage U_{OCSTC} | ≤ 330 V DC |
| Maximum discharge current I_{max} (8/20) μs | 40 kA |
| Response time t_A | ≤ 25 ns |
| Insulation resistance R_{iso} | > 5 G Ω (at 500 V DC) |
| Nominal discharge current I_n (8/20) μs | 15 kA |
| Continuous operating current I_{CPV} | 20 μA |
| Maximum continuous operating voltage U_{CPV} | 400 V DC |
| Short-circuit current rating I_{SCPV} | 2000 A |
| Residual voltage U_{res} | ≤ 1.4 kV (at I_n) |
| | ≤ 1.1 kV (at 5 kA) |
| | ≤ 1.3 kV (at 10 kA) |
| | ≤ 1.5 kV (at 20 kA) |
| | ≤ 1.8 kV (at 30 kA) |
| | ≤ 2 kV (at 40 kA) |
| Voltage protection level U_p | ≤ 1.4 kV |
| Standby power consumption P_C | ≤ 25 mVA |

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 % |

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| | |
|-----------------------|---|
| Shock (operation) | 60g (Half-sine / 11 ms / 3x ±X, ±Y, ±Z) |
| Vibration (operation) | 7.5g (5-500 Hz/2.5 h/XYZ) |

Approvals

UL specifications

| | |
|---|-------------------------------------|
| Maximum continuous operating voltage MCOV | 800 V DC |
| Short-circuit current rating (SCCR) | 50 kA |
| Voltage protection rating VPR | 2 kV |
| Nominal discharge current I_n | 20 kA |
| Mode of protection | (L+) - (L-) (L+) - G (L-) - G |
| Nominal voltage | 800 V DC |
| Power distribution system | DC PV |
| SPD Type | 1CA |

Standards and regulations

| | |
|--------------------------|--------------|
| Standards/specifications | EN 61643-31 |
| Note | 2019 |
| Standards/specifications | IEC 61643-31 |
| Note | 2018 |

Mounting

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

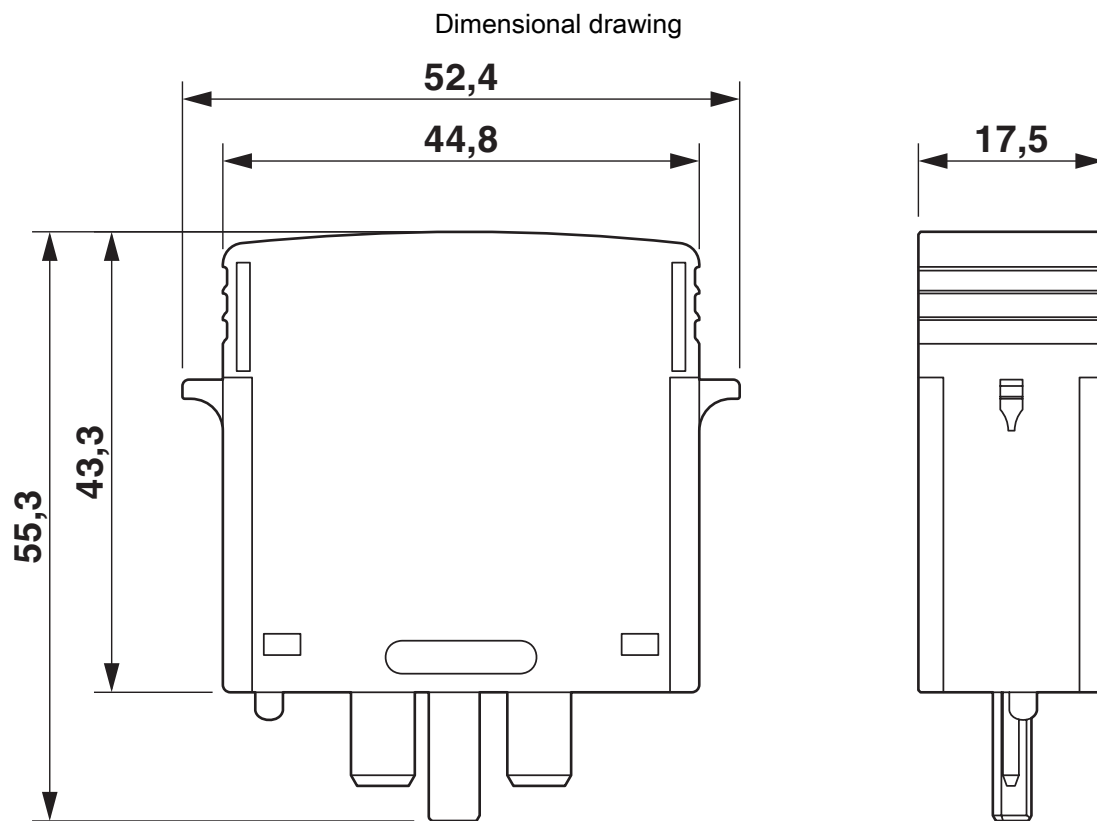
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Drawings



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



KEMA-KEUR

Approval ID: 71-123544 REV.3



IECEE CB Scheme

Approval ID: NL-81006/A1

CCA

Approval ID: NTR-NL 7937

UAE-RoHS

Approval ID: 22-09-51251

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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-13.0 | 27171492 |
| ECLASS-15.0 | 27171492 |

ETIM

| | |
|-----------|----------|
| ETIM 10.0 | EC002496 |
|-----------|----------|

UNSPSC

| | |
|-------------|----------|
| UNSPSC 21.0 | 39121620 |
|-------------|----------|

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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% |
|-------------------------------------|----------------------------|

EF3.1 Climate Change

| | |
|---------|---------------|
| CO2e kg | 2.247 kg CO2e |
|---------|---------------|

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