

VAL-US-48/40-P - Type 2 surge protection plug



2910333

<https://www.phoenixcontact.com/us/products/2910333>

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UL Recognized type 2 SPD and IEC type 2 surge protection plug with a varistor and thermal disconnect for use with VAL-US base elements, mechanical and visual fault warning

Product description

Surge protective device replacement plug

Commercial data

| | |
|--------------------------------------|--------------------|
| Item number | 2910333 |
| Packing unit | 1 pc |
| Sales key | CL18 |
| Product key | CL1321 |
| Catalog page | Page 90 (C-4-2019) |
| GTIN | 4055626444468 |
| Weight per piece (including packing) | 35.1 g |
| Weight per piece (excluding packing) | 29 g |
| Customs tariff number | 85363030 |
| Country of origin | DE |

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Technical data

Notes

| | |
|---------|----------|
| General | Used in: |
|---------|----------|

Product properties

| | |
|--------------------------------|------------------|
| IEC test classification | II |
| | T2 |
| EN type | T2 |
| IEC power supply system | DC |
| Type | Male |
| Product type | Replacement plug |
| Product family | VALVETRAB MS |
| Number of positions | 1 |
| Surge protection fault message | optical |

Insulation characteristics

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

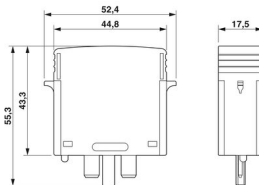
Electrical properties

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

Connection data

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

Dimensions

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

Material specifications

| | |
|--|------------|
| Flammability rating according to UL 94 | V-0 |
| CTI value of material | 600 |
| Insulating material | PA 6.6/PBT |
| Material group | I |
| Housing material | PA 6.6 |

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PBT

Protective circuit

| | |
|---|------------------------------------|
| Mode of protection | L-N |
| | L-PEN |
| | N-PE |
| Direction of action | 1L-N/PE |
| Nominal voltage U_N | 60 V DC $\pm 10\%$ |
| | -48 V DC $\pm 10\%$ (RRH) |
| Nominal frequency f_N | 50 Hz (60 Hz) |
| Maximum continuous voltage U_C | 100 V DC |
| Residual current I_{PE} | $\leq 450\ \mu\text{A}$ |
| Standby power consumption P_C | $\leq 35\ \text{mVA}$ |
| Nominal discharge current I_n (8/20) μs | 15 kA |
| Maximum discharge current I_{max} (8/20) μs | 40 kA |
| Short-circuit current rating I_{SCCR} | 25 kA |
| Voltage protection level U_p | $\leq 0.55\ \text{kV}$ |
| Residual voltage U_{res} | $\leq 0.55\ \text{kV}$ (at I_n) |
| | $\leq 0.425\ \text{kV}$ (at 10 kA) |
| | $\leq 0.325\ \text{kV}$ (at 5 kA) |
| | $\leq 0.275\ \text{kV}$ (at 3 kA) |
| TOV behavior at U_T | 100 V AC (5 s / withstand mode) |
| Max. backup fuse with branch wiring | 100 A (gG) |

Additional technical data

| | |
|---|-------|
| Maximum discharge current I_{max} (8/20) μs | 40 kA |
|---|-------|

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 | $\leq 2000\ \text{m}$ (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 | 100 V DC |
| UL type | type 4 |
| Nominal discharge current I_n | 20 kA |
| Maximum Surge Current per Phase | 40 kA |
| | L-N |

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| | |
|-------------------------------|--------------|
| Mode of protection | L-G |
| | N-G |
| Nominal voltage | 60 V DC |
| Power distribution system | Single phase |
| Measured limiting voltage MLV | 720 V |
| SPD Type | 4CA |

Standards and regulations

Air clearances and creepage distances

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

Mounting

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

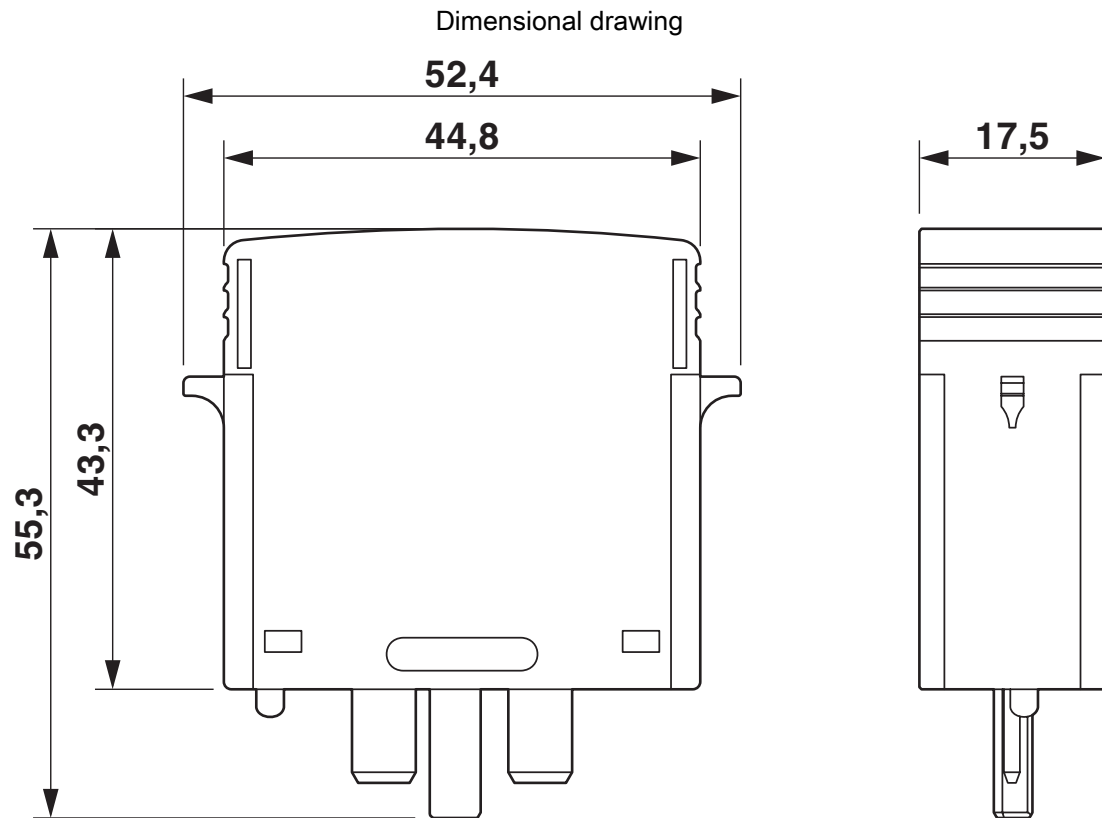
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Drawings



Circuit diagram



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Approvals

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Classifications

ECLASS

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

ETIM

| | |
|----------|----------|
| ETIM 8.0 | EC002496 |
|----------|----------|

UNSPSC

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

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Environmental product compliance

| | |
|------------|---|
| China RoHS | Environmentally friendly use period: unlimited = EFUP-e |
| | No hazardous substances above threshold values |

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Accessories

VAL-US-48/40/1+0-FM - Type 2 surge protection device

2910343

<https://www.phoenixcontact.com/us/products/2910343>



Surge protective device, single channel with remote indicator contact for 48 V DC.

VAL-US-48/40/1+1V-FM - Type 2 surge protection device

2910344

<https://www.phoenixcontact.com/us/products/2910344>



Surge protective device, two channels with remote indicator contact for 48 V DC, 2-wire plus ground

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