

## Type 1 surge protection plug - VAL-US-120/40-P - 2910335

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UL Recognized type 1 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

### Your advantages

- ✓ Plugs can be checked with CHECKMASTER
- ✓ Thermal disconnect device for each individual plug
- ✓ Pluggable
- ✓ Mechanical coding of all slots
- ✓ Consists of base element and plug
- ✓ Optical, mechanical status indication for the individual arresters



### Key Commercial Data

|              |                                                                                      |
|--------------|--------------------------------------------------------------------------------------|
| Packing unit | 1 pc                                                                                 |
| GTIN         |  |
| GTIN         | 4055626444475                                                                        |

### 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 |

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## Technical data

### Ambient conditions

|                                         |                                         |
|-----------------------------------------|-----------------------------------------|
| Ambient temperature (storage/transport) | -40 °C ... 80 °C                        |
| Altitude                                | ≤ 2000 m (amsl (above mean sea level))  |
| Permissible humidity (operation)        | 5 % ... 95 %                            |
| Shock (operation)                       | 25g (Half-sine / 11 ms / 3x ±X, ±Y, ±Z) |
| Vibration (operation)                   | 5g (10 ... 500 Hz / 2.5 h / X, Y, Z)    |

### General

|                                        |                    |
|----------------------------------------|--------------------|
| IEC test classification                | II                 |
|                                        | T2                 |
| EN type                                | T2                 |
| Mode of protection                     | L-N                |
|                                        | L-PEN              |
|                                        | N-PE               |
| Mounting type                          | on base element    |
| Color                                  | jet black RAL 9005 |
| Housing material                       | PA 6.6             |
|                                        | PBT                |
| Degree of pollution                    | 2                  |
| Flammability rating according to UL 94 | V-0                |
| Type                                   | Male               |
| Number of positions                    | 1                  |
| Surge protection fault message         | optical            |

### Additional descriptions

### Protective circuit

|                                               |                                     |
|-----------------------------------------------|-------------------------------------|
| Nominal voltage $U_N$                         | 120/208 V AC (TN)                   |
|                                               | 120/240 V AC (TN)                   |
| Nominal frequency $f_N$                       | 50 Hz (60 Hz)                       |
| Maximum continuous voltage $U_C$              | 175 V AC                            |
| Residual current $I_{PE}$                     | ≤ 450 µA                            |
| Standby power consumption $P_C$               | ≤ 400 mVA                           |
| Nominal discharge current $I_n$ (8/20) µs     | 20 kA                               |
| Maximum discharge current $I_{max}$ (8/20) µs | 40 kA                               |
| Short-circuit current rating $I_{SCCR}$       | 25 kA                               |
| Voltage protection level $U_p$                | ≤ 0.9 kV                            |
| Residual voltage $U_{res}$                    | ≤ 0.8 kV (at $I_n$ )                |
|                                               | ≤ 0.7 kV (at 10 kA)                 |
|                                               | ≤ 0.6 kV (at 5 kA)                  |
|                                               | ≤ 0.5 kV (at 3 kA)                  |
| TOV behavior at $U_T$                         | 208 V AC (5 s / withstand mode)     |
|                                               | 229 V AC (120 min / withstand mode) |

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### Technical data

#### Protective circuit

|                                     |            |
|-------------------------------------|------------|
| Max. backup fuse with branch wiring | 100 A (gG) |
|-------------------------------------|------------|

#### Connection data

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

#### UL specifications

|                                           |              |
|-------------------------------------------|--------------|
| SPD Type                                  | 1CA          |
| Maximum continuous operating voltage MCOV | 175 V AC     |
| Nom. voltage                              | 120/240 V AC |
| Mode of protection                        | L-N          |
|                                           | L-G          |
|                                           | N-G          |
| Power distribution system                 | Single phase |
| Nominal frequency                         | 50/60 Hz     |
| Voltage protection rating VPR             | 700 V        |
| Nominal discharge current $I_n$           | 20 kA        |
| Maximum Surge Current per Phase           | 40 kA        |
| Short-circuit current rating (SCCR)       | 200 kA       |

#### Standards and Regulations

|                       |                   |
|-----------------------|-------------------|
| Standards/regulations | IEC 61643-11 2011 |
|                       | EN 61643-11 2012  |

### Drawings

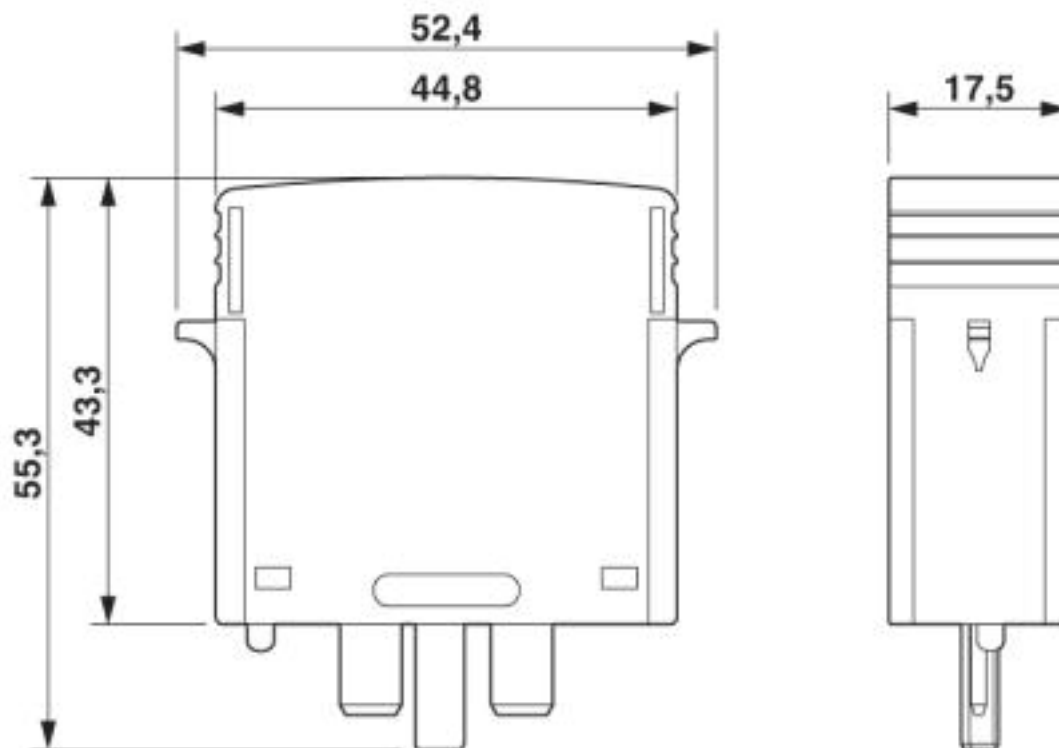
## Type 1 surge protection plug - VAL-US-120/40-P - 2910335

Circuit diagram



## Type 1 surge protection plug - VAL-US-120/40-P - 2910335

Dimensional drawing



### Classifications

#### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 6.0 | 27130800 |
| eCl@ss 7.0 | 27130890 |
| eCl@ss 8.0 | 27130890 |
| eCl@ss 9.0 | 27130890 |

#### ETIM

|          |          |
|----------|----------|
| ETIM 5.0 | EC002496 |
| ETIM 6.0 | EC002497 |
| ETIM 7.0 | EC002497 |

### Approvals

#### Approvals

#### Approvals

UL Recognized / cUL Recognized / cULus Recognized

#### Ex Approvals

## Type 1 surge protection plug - VAL-US-120/40-P - 2910335

### Approvals

#### Approval details

UL Recognized



<http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm>

FILE E 330181

cUL Recognized



<http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm>

FILE E 330181

cULus Recognized



### Accessories

#### Accessories

##### Surge arrester

#### Type 1 surge protection device - VAL-US-120/40/1+0-FM - 2910348



Surge protective device, single channel with remote indicator contact for 120 V AC

#### Type 1 surge protection device - VAL-US-120/40/1+1-FM - 2910349



Surge protective device, two channel with remote indicator contact for 120 V AC, 2-wire plus ground.

#### Type 1 surge protection device - VAL-US-120/40/2+0-FM - 2910351



Surge protective device, two channel with remote indicator contact for 120/240 V split phase AC, 3-wire.

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### Accessories

Type 1 surge protection device - VAL-US-120/40/2+1-FM - 2910352



Surge protective device, three channel with remote indicator contact for 120/240 V split phase AC, 3-wire plus ground.

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Type 1 surge protection device - VAL-US-120/40/3+0-FM - 2910353



Surge protective device, three-channel with remote indicator contact for 120/240 V split-phase or 120/208 V Wye three-phase AC, 4-wire.

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Type 1 surge protection device - VAL-US-120/40/3+1-FM - 2910354



Surge protective device, four channel with remote indicator contact for 120/208 V Wye three phase AC, 4-wire plus ground.

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Type 1 surge protection device - VAL-US-240HLD/40/3+1-FM - 2910371



Surge protective device, four channel with remote indicator contact for 240 V AC high-leg DELTA.

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