

## Type 1 surge protection plug - VAL-US-277/80-P - 2910331

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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
- Secure hold of plugs in the event of high lightning current loads and strong vibrations thanks to new latching
- Thermal disconnect device for each individual plug
- Pluggable
- Mechanical coding of all slots
- Optical, mechanical status indication for the individual arresters
- Pluggable



### Key Commercial Data

|              |                                                                                                         |
|--------------|---------------------------------------------------------------------------------------------------------|
| Packing unit | 1 pc                                                                                                    |
| GTIN         | <br>4 055626 445311 |
| GTIN         | 4055626445311                                                                                           |

### Technical data

#### Dimensions

|                  |         |
|------------------|---------|
| Height           | 47 mm   |
| Width            | 17.5 mm |
| Depth            | 67.3 mm |
| Horizontal pitch | 1 Div.  |

#### Ambient conditions

|                      |      |
|----------------------|------|
| Degree of protection | IP20 |
|----------------------|------|

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## Technical data

### Ambient conditions

|                                         |                                         |
|-----------------------------------------|-----------------------------------------|
| 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)                       | 30g (Half-sine / 11 ms / 3x ±X, ±Y, ±Z) |
| Vibration (operation)                   | 7.5g (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            |

### Protective circuit

|                                               |                                     |
|-----------------------------------------------|-------------------------------------|
| Nominal voltage $U_N$                         | 240/415 V AC                        |
| Nominal frequency $f_N$                       | 50 Hz (60 Hz)                       |
| Maximum continuous voltage $U_C$              | 385 V AC                            |
| Residual current $I_{PE}$                     | ≤ 600 µA                            |
| Standby power consumption $P_C$               | ≤ 230 mVA                           |
| Nominal discharge current $I_n$ (8/20) µs     | 40 kA                               |
| Maximum discharge current $I_{max}$ (8/20) µs | 80 kA                               |
| Short-circuit current rating $I_{SCCR}$       | 25 kA                               |
| Voltage protection level $U_p$                | ≤ 2 kV                              |
| Residual voltage $U_{res}$                    | ≤ 2 kV (at $I_n$ )                  |
|                                               | ≤ 1.3 kV (at 10 kA)                 |
|                                               | ≤ 1.2 kV (at 5 kA)                  |
|                                               | ≤ 1.15 kV (at 3 kA)                 |
| TOV behavior at $U_T$                         | 480 V AC (5 s / withstand mode)     |
|                                               | 457 V AC (120 min / withstand mode) |
| Max. backup fuse with branch wiring           | 125 A (gG)                          |

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### Technical data

#### Connection data

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

#### UL specifications

|                                           |              |
|-------------------------------------------|--------------|
| SPD Type                                  | 1CA          |
| Maximum continuous operating voltage MCOV | 385 V AC     |
| Nom. voltage                              | 277/480 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             | 1500 V       |
| Nominal discharge current $I_n$           | 20 kA        |
| Maximum Surge Current per Phase           | 80 kA        |
| Short-circuit current rating (SCCR)       | 200 kA       |

#### Standards and Regulations

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

### Drawings

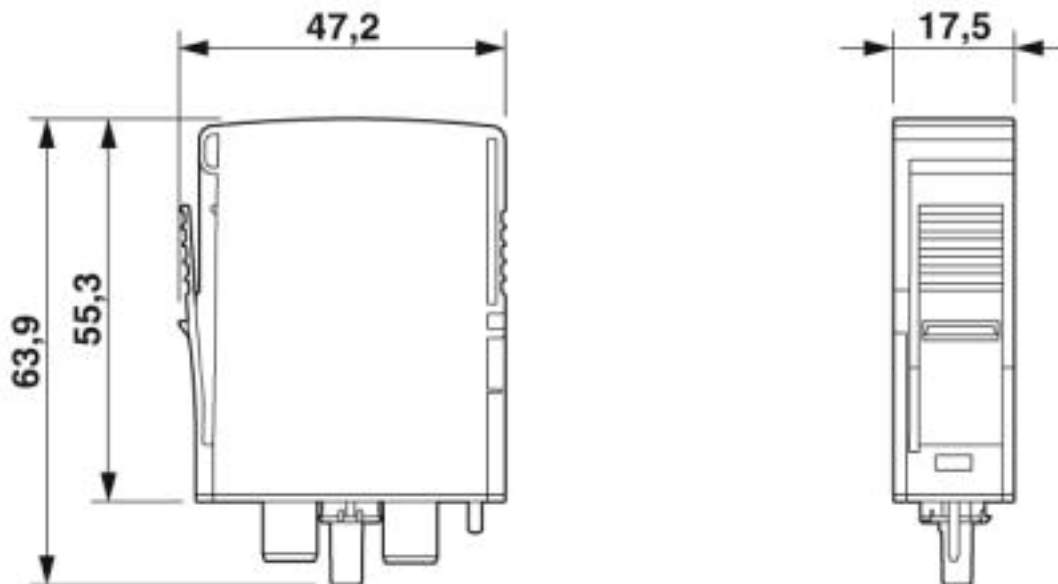
# Type 1 surge protection plug - VAL-US-277/80-P - 2910331

Circuit diagram



# Type 1 surge protection plug - VAL-US-277/80-P - 2910331

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

Approval details

# Type 1 surge protection plug - VAL-US-277/80-P - 2910331

## Approvals

|               |  |                                                                                                                                                       |               |
|---------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| UL Recognized |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | FILE E 330181 |
|---------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|

|                |  |                                                                                                                                                       |               |
|----------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| cUL Recognized |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | FILE E 330181 |
|----------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|

|                  |  |  |  |
|------------------|--|--|--|
| cULus Recognized |  |  |  |
|------------------|--|--|--|

## Accessories

### Accessories

#### Surge arrester

Type 1 surge protection device - VAL-US-277/80/3+0-FM - 1075896



Surge protective device, three channel with remote indicator contact for 277/480 V AC, 4-wire.

Type 1 surge protection device - VAL-US-277/80/1+0-FM - 2910377



Surge protective device, single channel with remote indicator contact for 277 V AC.

Type 1 surge protection device - VAL-US-277/80/1+1V-FM - 2910378



Surge protective device, two channel with remote indicator contact for 277 V AC, 2-wire plus ground.

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### Accessories

Type 1 surge protection device - VAL-US-277/80/3+1V-FM - 2910379



Surge protective device, four channel with remote indicator contact for 277/480 V AC, 4-wire plus ground.

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Type 1 surge protection device - VAL-US-277/80/4+0-FM - 2910380



Surge protective device, four channel with remote indicator contact for 277/480 V AC, 4-wire plus ground.

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