

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

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

Your advantages

- ✓ With floating remote indication contact
- ✓ 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
- ✓ Optical, mechanical status indication for the individual arresters
- ✓ Disconnect device on each individual plug
- ✓ Type 2 consistent plug-in surge arresters
- ✓ Multi-channel type 2 arresters
- ✓ Mechanical coding of all slots



Key Commercial Data

| | |
|--------------------------------------|---|
| Packing unit | 1 pc |
| GTIN |  4 055626 445168 |
| GTIN | 4055626445168 |
| Weight per Piece (excluding packing) | 380.000 g |
| Custom tariff number | 85363030 |
| Country of origin | Germany |

Technical data

Dimensions

| | |
|--------|---------|
| Height | 96.8 mm |
| Width | 35.6 mm |

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Dimensions

| | |
|------------------|---------|
| Depth | 65.5 mm |
| Horizontal pitch | 2 Div. |

Ambient conditions

| | |
|---|---|
| Degree of protection | IP20 (only when all terminal points are used) |
| 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 |
| IEC power supply system | TN-S |
| Mode of protection | L-N |
| | L-PE |
| | N-PE |
| Mounting type | DIN rail: 35 mm |
| Color | jet black RAL 9005 |
| Housing material | PA 6.6 |
| | PBT |
| Degree of pollution | 2 |
| Flammability rating according to UL 94 | V-0 |
| Type | DIN rail module, two-section, divisible |
| Number of positions | 2 |
| Surge protection fault message | Optical, remote indicator contact |

Protective circuit

| | |
|--|---------------------|
| Nominal voltage U_N | 240/415 V AC (TN-S) |
| Nominal frequency f_N | 50 Hz (60 Hz) |
| Maximum continuous operating voltage U_C (L-N) | 385 V AC |
| Maximum continuous voltage U_C (N-PE) | 358 V AC |
| Residual current I_{PE} | ≤ 600 μA |
| Nominal discharge current I_n (8/20) μs | 40 kA |
| Maximum discharge current I_{max} (8/20) μs | 80 kA |

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Protective circuit

| | |
|---|--|
| Short-circuit current rating I_{SCCR} | 25 kA |
| Voltage protection level U_p (L-N) | ≤ 2 kV |
| Voltage protection level U_p (L-PE) | ≤ 4 kV |
| Voltage protection level U_p (N-PE) | ≤ 2 kV |
| Residual voltage U_{res} (L-N) | ≤ 2 kV (at I_n) |
| | ≤ 1.4 kV (at 10 kA) |
| | ≤ 1.25 kV (at 5 kA) |
| | ≤ 1.2 kV (at 3 kA) |
| Residual voltage U_{res} (N-PE) | ≤ 2 kV (at I_n) |
| | ≤ 1.5 kV (at 10 kA) |
| | ≤ 1.4 kV (at 5 kA) |
| | ≤ 1.3 kV (at 3 kA) |
| TOV behavior at U_T (L-N) | 480 V AC (5 s / withstand mode) |
| | 530 V AC (120 min / safe failure mode) |
| Max. backup fuse with branch wiring | 125 A (gG) |

Indicator/remote signaling

| | |
|----------------------------------|--|
| Switching function | Changeover contact |
| Operating voltage | 5 V AC ... 250 V AC |
| | 30 V DC |
| Operating current | 5 mA AC ... 1.5 A AC |
| | 1 A DC |
| Connection method | Plug-in/screw connection via COMBICON |
| Screw thread | M2 |
| Tightening torque | 0.25 Nm |
| Stripping length | 7 mm |
| Conductor cross section flexible | 0.14 mm ² ... 1.5 mm ² |
| Conductor cross section solid | 0.14 mm ² ... 1.5 mm ² |
| Conductor cross section AWG | 28 ... 16 |

Connection data

| | |
|----------------------------------|---|
| Connection method | Screw connection |
| Screw thread | M5 |
| Tightening torque | 3 Nm (1.5 mm ² ... 16 mm ²) |
| | 4.5 Nm (25 mm ² ... 35 mm ²) |
| Stripping length | 16 mm |
| Conductor cross section flexible | 1.5 mm ² ... 25 mm ² |
| Conductor cross section solid | 1.5 mm ² ... 35 mm ² |

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Connection data

| | |
|----------------------------------|---------------------|
| Conductor cross section AWG | 15 ... 2 |
| Connection method | Fork-type cable lug |
| Conductor cross section flexible | 1.5 mm² ... 16 mm² |

UL specifications

| | |
|---|--------------|
| SPD Type | 1 |
| Maximum continuous operating voltage MCOV (L-N) | 385 V AC |
| Maximum continuous operating voltage MCOV (L-G) | 750 V AC |
| Maximum continuous operating voltage MCOV (N-G) | 385 V AC |
| Nom. voltage | 277 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 (L-N) | 1500 V |
| Voltage protection rating VPR (L-G) | 2500 V |
| Voltage protection rating VPR (N-G) | 1200 V |
| Nominal discharge current I _n | 20 kA |
| Maximum Surge Current per Phase | 80 kA |
| Short-circuit current rating (SCCR) | 200 kA |

UL indicator/remote signaling

| | |
|-----------------------------|---|
| Operating voltage | 125 V AC |
| Operating current | 1 A AC |
| Tightening torque | 2 lb _f -in. ... 4 lb _f -in. |
| Conductor cross section AWG | 30 ... 14 |

UL connection data

| | |
|-----------------------------|-------------------------|
| Conductor cross section AWG | 10 ... 2 |
| Tightening torque | 30 lb _f -in. |

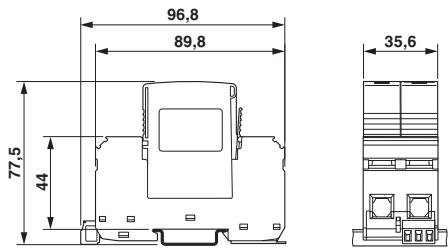
Standards and Regulations

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

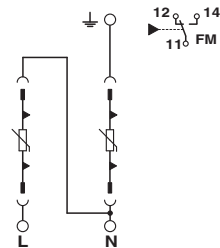
Drawings

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Dimensional drawing



Circuit diagram



Classifications

eCl@ss

| | |
|---------------|----------|
| eCl@ss 10.0.1 | 27130805 |
| eCl@ss 11.0 | 27130805 |
| eCl@ss 6.0 | 27130800 |
| eCl@ss 7.0 | 27130805 |
| eCl@ss 9.0 | 27130805 |

ETIM

| | |
|----------|----------|
| ETIM 6.0 | EC000941 |
| ETIM 7.0 | EC000941 |

Approvals

Approvals


Approvals

UL Listed / cUL Listed / cULus Listed

Ex Approvals

Approval details

| | | | |
|-----------|---|---|---------------|
| UL Listed |  | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 330181 |
|-----------|---|---|---------------|

| | | | |
|------------|---|---|---------------|
| cUL Listed |  | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 330181 |
|------------|---|---|---------------|

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Approvals

cULus Listed



Accessories

Accessories

Bridge

Wiring bridge - MPB F600X16/ 1GS - 2818355



Wiring bridge flexible, diameter: 16 mm², with a fork-type cable lug on one side, length: 600 mm

Wiring bridge - MPB F600X16/ 1GS - 2818355



Wiring bridge flexible, diameter: 16 mm², with a fork-type cable lug on one side, length: 600 mm

Wiring bridge - MPB F200X16/ 1GS - 2818339



Wiring bridge flexible, diameter 16 mm², with a fork-type cable lug on one side, length: 200 mm

Wiring bridge - MPB 18/1-10/1.0.0 - 2830443



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 10 pitches with contact sequence 1-0-0

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Accessories

Wiring bridge - MPB 18/4-12 - 2809296



Wiring bridge for modules with connecting pitch 17.5 mm, 4-phase, 12-pos.

Wiring bridge - MPB 18/4- 8 - 2809283



Wiring bridge for modules with connecting pitch 17.5 mm, 4-phase, 8-pos.

Wiring bridge - MPB 18/3- 6 - 2809241



Wiring bridge for modules with connecting pitch 17.5 mm, 3-phase, 6-pos.

Wiring bridge - MPB 18/1-57 - 2809238



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 57-pos.

Wiring bridge - MPB 18/1-12 - 2748593



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 12-pos.

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Wiring bridge - MPB 18/1- 9 - 2748580



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 9-pos.

Wiring bridge - MPB 18/1- 8 - 2748577



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 8-pos.

Wiring bridge - MPB 18/1- 6 - 2748564



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 6-pos.

Wiring bridge - MPB 18/1- 4 - 2809225



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 4-pos.

Wiring bridge - MPB 18/1- 3 - 2809212



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 3-pos.

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Accessories

Wiring bridge - MPB 18/1- 2 - 2809209



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 2-pos.

Device marking

Zack marker strip - ZBN 18:UNBEDRUCKT - 2809128



Zack marker strip, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snap into tall marker groove, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

Feed-through terminal block

Feed-through terminal block - DK-BIC-35 - 2749880



Feed-through terminal block for VAL and FLT applications

Labeled device marker

Marker for terminal blocks - ZBN 18,LGS:ERDE - 2749589



Marker for terminal blocks, Strip, white, labeled, horizontal: Grounding symbol, mounting type: snap into tall marker groove, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

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Accessories

Marker for terminal blocks - ZBN 18,LGS:L1-N,ERDE - 2749576



Marker for terminal blocks, Strip, white, labeled, horizontal: L1, L2, L3, N, GND, mounting type: snap into tall marker groove, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

Marker pen

Marker pen - B-STIFT - 1051993



Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm

Spare parts

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



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