Lightning/surge arrester type 1/2 - VAL-MS-T1/T2 335/12.5/4+0 - 2800645

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Universal varistor-based plug-in lightning/surge arrester for 3-phase power supply networks with separate N and PE (5-conductor system: L1, L2, L3, N, PE).

Why buy this product

- With or without 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
- Thermal disconnect device for each individual plug
- Optical, mechanical status indication for the individual arresters
- Mechanical coding of all slots

Key commercial data

Packing unit	1 pc
GTIN	4 046356 624770
Weight per Piece (excluding packing)	712.22 g
Custom tariff number	85363030
Country of origin	Germany

Technical data

Dimensions

Height	90 mm
Width	71.2 mm
Depth	77.5 mm
Horizontal pitch	4 Div.

Ambient conditions

Degree of protection	IP20 (only when all terminal points are used)

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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
Vibration (operation)	7.5g

General

Standards/specifications	IEC 61643-11 2011
	EN 61643-11 2012
IEC test classification	I / II
	T1 / T2
EN type	T1 / T2
IEC power supply system	TN-C
	TN-S
Lightning protection class	III / IV
Number of ports	One
SPD design	Voltage-limiting type
Mode of protection	L-PEN
Mounting type	DIN rail: 35 mm
Color	black
Housing material	PA 6.6
	PBT
Pollution degree	2
Inflammability class according to UL 94	V-0
Type	DIN rail module, two-section, divisible
Surge protection fault message	Optical

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-PE)	335 V AC
Maximum continuous voltage U_C (N-PE)	335 V AC
Rated load current I_L	80 A
Residual current I_{PE}	≤ 3.2 mA
Standby power consumption P_C	≤ 1080 mVA
Nominal discharge current I_n (8/20) µs (L-PE)	12.5 kA
Nominal discharge current I_n (8/20) µs (N-PE)	12.5 kA
Maximum discharge current I_{max} (8/20) µs (L-PE)	50 kA
Maximum discharge current I_{max} (8/20) µs (N-PE)	50 kA

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Protective circuit

Impulse discharge current (10/350) µs (N-PE), charge	6.25 As
Impulse discharge current (10/350) µs (N-PE), specific energy	39 kJ/Ω
Impulse discharge current (10/350) µs (N-PE), peak current value I_{imp}	12.5 kA
Impulse discharge current (10/350) µs (L-PE), charge	6.5 As
Impulse discharge current (10/350) µs (L-PE), specific energy	39 kJ/Ω
Impulse discharge current (10/350) µs (L-PE), peak current value I_{imp}	12.5 kA
Total discharge current I_{Total} (8/20) µs	200 kA
Total discharge current I_{Total} (10/350) µs	50 kA
Short-circuit current rating I_{SCCR}	25 kA
Voltage protection level U_p (L-N)	≤ 1.6 kV (30 kA - 8/20µs)
Voltage protection level U_p (L-PE)	≤ 1.2 kV
Voltage protection level U_p (N-PE)	≤ 1.2 kV
Residual voltage U_{res} (L-PE)	≤ 1.2 kV (at I_n)
	≤ 1.1 kV (at 10 kA)
	≤ 1 kV (at 5 kA)
	≤ 0.9 kV (at 3 kA)
Residual voltage U_{res} (N-PE)	≤ 1.2 kV (at I_n)
	≤ 1.1 kV (at 10 kA)
	≤ 1 kV (at 5 kA)
	≤ 0.9 kV (at 3 kA)
TOV behavior at U_T (L-PE)	415 V AC (5 s / withstand mode)
TOV behavior at U_T (N-PE)	415 V AC (5 s / withstand mode)
Response time t_A (L-PE)	≤ 25 ns
Response time t_A (N-PE)	≤ 25 ns
Max. backup fuse with branch wiring	160 A AC (gG)
Max. backup fuse with V-type through wiring	80 A AC (gG - 16 mm²)

Connection data

Connection method	Screw connection
Conductor cross section stranded min.	1.5 mm²
Conductor cross section stranded max.	25 mm²
Conductor cross section solid min.	1.5 mm²
Conductor cross section solid max.	35 mm²
AWG conductor cross section	15 ... 2
	10 ... 2 (UL)
Screw thread	M5
Tightening torque	4.5 Nm
	30 lb_f-in. (UL)
Stripping length	16 mm

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UL specifications

UL class	SPD type 4CA
Maximum continuous operating voltage MCOV (L-L)	670 V AC
Maximum continuous operating voltage MCOV (L-N)	670 V AC
Maximum continuous operating voltage MCOV (L-G)	335 V AC
Maximum continuous operating voltage MCOV (N-G)	335 V AC
Nom. voltage	415/240 V AC
Mode of protection	L-L
	L-N
	L-G
	N-G
Power distribution system	3Y
Nominal frequency	50/60 Hz
Measured limiting voltage MLV (L-L)	3650 V
Measured limiting voltage MLV (L-N)	3650 V
Measured limiting voltage MLV (L-G)	2630 V
Measured limiting voltage MLV (N-G)	2630 V
Nominal discharge current I_n (L-L)	20 kA
Nominal discharge current I_n (L-N)	20 kA
Nominal discharge current I_n (L-G)	20 kA
Nominal discharge current I_n (N-G)	20 kA

Classifications

eCl@ss

eCl@ss 4.0	27140201
eCl@ss 4.1	27130801
eCl@ss 5.0	27130801
eCl@ss 5.1	27130801
eCl@ss 6.0	27130802
eCl@ss 7.0	27130802
eCl@ss 8.0	27130802

ETIM

ETIM 2.0	EC000941
ETIM 3.0	EC000941
ETIM 4.0	EC000381
ETIM 5.0	EC000381

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Classifications

UNSPSC

UNSPSC 6.01	30212010
UNSPSC 7.0901	39121610
UNSPSC 11	39121610
UNSPSC 12.01	39121610
UNSPSC 13.2	39121620

Approvals

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KEMA-KEUR / ÖVE / GL / IECEE CB Scheme / UL Recognized / cUL Recognized / EAC / CCA / cULus Recognized

Ex Approvals

Approvals submitted

Approval details

KEMA-KEUR

ÖVE

GL

IECEE CB Scheme

UL Recognized

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Approvals

cUL Recognized

EAC

CCA

cULus Recognized

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

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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

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.

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Accessories

Wiring bridge - MPB 18/1-12 - 2748593

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

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.

- MPB 18/1- 3 - 2809212

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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: Plotter, Mounting type: Snap into tall marker groove, for terminal block width: 18 mm, Lettering field: 18 x 5 mm

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: 18 x 5 mm

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: 18 x 5 mm

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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

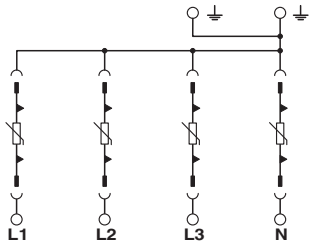
Spare parts

Type 1/2 surge protection plug - VAL-MS-T1/T2 335/12.5 ST - 2800190

L-N replacement plug for VAL-MS-T1/T2 335/12.5 plug-in lighting/surge arrester.

Drawings

Circuit diagram



Dimensioned drawing