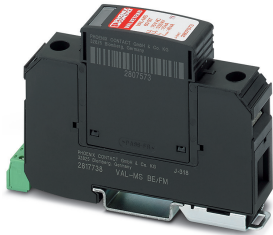


Type 2 surge arrester - VAL-MS 60/FM - 2868033

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Surge arrester consisting of base element with remote indicator contact and protective connector with high-capacity varistor, for mounting on NS 35/7.5, 1-channel

Your advantages

- ✓ Quality proven millions of times over in the widest range of applications
- ✓ Rapid installation with bridges, thanks to industry-standard overall width of 1 HP
- ✓ Easy testing and insulation measurement, thanks to pluggable protection modules
- ✓ Wide range of applications due to various nominal voltages
- ✓ High degree of modularity provides individual solutions for every application



Key Commercial Data

Packing unit	1 pc
GTIN	 4 017918 930059
GTIN	4017918930059
Weight per Piece (excluding packing)	125.330 g
Custom tariff number	85363010
Country of origin	Germany

Technical data

Dimensions

Height	98.8 mm
Width	17.6 mm
Depth	65.7 mm (incl. DIN rail 7.5 mm)
Horizontal pitch	1 Div.

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Technical data

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)	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
IEC power supply system	TN
Mode of protection	L-PEN
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	1
Surge protection fault message	Optical, remote indicator contact

Protective circuit

Nominal voltage U_N	60 V AC (TN)
	60 V DC
	-48 V DC (RRH)
Nominal frequency f_N	50 Hz (60 Hz)
Maximum continuous voltage U_C	75 V AC
	100 V DC
Rated load current I_L	80 A
Residual current I_{PE}	≤ 0.45 mA
Standby power consumption P_C	≤ 35 mVA
Nominal discharge current I_n (8/20) μ s	15 kA
Maximum discharge current I_{max} (8/20) μ s	40 kA
Short-circuit current rating I_{SCCR}	25 kA
Voltage protection level U_p	≤ 0.55 kV

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Technical data

Protective circuit

Residual voltage U_{res}	≤ 0.55 kV (at I_n)
	≤ 0.425 kV (at 10 kA)
	≤ 0.325 kV (at 5 kA)
	≤ 0.275 kV (at 3 kA)
TOV behavior at U_T	100 V AC (5 s / withstand mode)
Response time t_A	≤ 25 ns
Max. backup fuse with V-type through wiring	80 A AC (gG)
Max. backup fuse with branch wiring	125 A AC (gG)
	50 A DC (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 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
Conductor cross section AWG	15 ... 2
Connection method	Fork-type cable lug
Conductor cross section flexible	1.5 mm ² ... 16 mm ²

UL specifications

SPD Type	4CA
Maximum continuous operating voltage MCOV (L-N)	75 V AC

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Technical data

UL specifications

Maximum continuous operating voltage MCOV (L+) - (L-)	100 V DC
Nom. voltage	60 V AC
Nominal voltage	60 V DC
Mode of protection	L-N
	(L+) - (L-)
Power distribution system	Single phase
Nominal frequency	50/60 Hz
Measured limiting voltage MLV (L-N)	630 V
Measured limiting voltage MLV (L+) - (L-)	810 V
Nominal discharge current I_n (L-N)	10 kA
Nominal discharge current I_n (L+) - (L-)	10 kA

UL indicator/remote signaling

Operating voltage	125 V AC
Operating current	1 A AC
Tightening torque	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

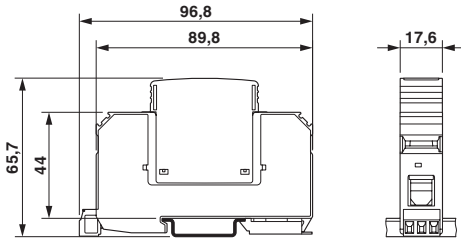
Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

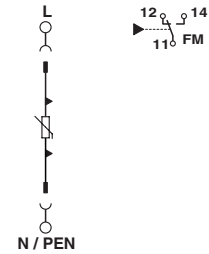
Drawings

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Dimensional drawing



Circuit diagram



Classifications

eCl@ss

eCl@ss 10.0.1	27130805
eCl@ss 11.0	27130805
eCl@ss 4.0	27130800
eCl@ss 4.1	27130800
eCl@ss 5.0	27130800
eCl@ss 5.1	27130800
eCl@ss 6.0	27130800
eCl@ss 7.0	27130805
eCl@ss 9.0	27130805

ETIM

ETIM 2.0	EC000941
ETIM 3.0	EC000941
ETIM 4.0	EC000941
ETIM 6.0	EC000941
ETIM 7.0	EC000941

UNSPSC

UNSPSC 6.01	30212010
UNSPSC 7.0901	39121610
UNSPSC 11	39121610
UNSPSC 12.01	39121610
UNSPSC 13.2	39121620
UNSPSC 18.0	39121620
UNSPSC 19.0	39121620
UNSPSC 20.0	39121620
UNSPSC 21.0	39121620

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Approvals



Approvals

Approvals

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

Ex Approvals

Approval details

CSA		http://www.csagroup.org/services-industries/product-listing/	13631
CCA			NTR-AT 1947-A
UL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 330181
KEMA-KEUR		http://www.dekra-certification.com	71-113273
cUL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 330181
IECEE CB Scheme		http://www.iecee.org/	AT 2905/M1
ÖVE		https://www.ove.at/zertifizierung-pz/zertifizierungsregister/	18583-001-15

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Approvals

EAC		RU C- DE.*09.B.00169
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cULus Recognized		
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Accessories

Accessories

Bridge

Wiring bridge - MPB 18/1- 2 - 2809209



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

Wiring bridge - MPB 18/1- 3 - 2809212



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

Wiring bridge - MPB 18/1- 4 - 2809225



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

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Accessories

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- 7 BU - 2856278



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 7-pos., color: Blue

Wiring bridge - MPB 18/1- 8 BU - 2858470



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

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- 9 - 2748580



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 9-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 18/1-57 - 2809238



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 57-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 18/4- 8 - 2809283



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

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- 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.

Wiring bridge - MPB 18/1- 9 - 2748580



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

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Accessories

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.

Wiring bridge - MPB 18/1- 2 - 2809209



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

Device marking

Type 2 surge arrester - VAL-MS 60/FM - 2868033

Accessories

Zack marker strip - ZBN 18:UNBEDRUCKT - 2809128



Zack marker strip, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snap in, 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

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

Type 2 surge arrester - VAL-MS 60/FM - 2868033

Accessories

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 2 surge protection plug - VAL-MS 60 ST - 2807573



Surge protection plug type 2 with high-capacity varistor for VAL-MS base element, thermal monitoring, visual fault warning. Design: 60 V AC

Type 2 surge protection base element - VAL-MS BE/FM - 2817738



Base element for type 2 arresters of the VALVETRAB MS series of products, with remote indication contact. Design: 1-channel
