

Type 2 surge arrester - VAL-MS-AR 350 VF/FM - 2801490

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The VAL-MS-AR 350 VF/FM is a hybrid SPD with a gas discharge tube in series with a metal oxide varistor and thermal monitor, ideal for applications where no leakage current can be tolerated. The VAL-MS BE-AR/FM base provides a disconnect that separates the field wire from the protected mode for field diagnosis and dry contacts for remote function monitoring. Independent input and output terminals are on the same side with ground terminals on the opposite end. All terminals are high-current screw clamping for stripped or ferruled, solid or stranded wires.

Your advantages

- ✓ Versions with and without floating remote indication contact
- ✓ Separate field and house wire termination.
- ✓ Tool-free field wire disconnect and test point.
- ✓ IP20 touch safe when connected.
- ✓ VF plug has zero leakage current.

Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 879538
GTIN	4046356879538
Weight per Piece (excluding packing)	170.000 g
Custom tariff number	85363010
Country of origin	Germany

Technical data

Dimensions

Height	160 mm
Width	17.7 mm
Depth	75 mm

Ambient conditions

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Technical data

Ambient conditions

Degree of protection	IP20
	IP20 (when disconnect closed)
Ambient temperature (operation)	-40 °C ... 80 °C
Altitude	max. 3000 m
Permissible humidity (operation)	5 % ... 95 %
Permissible humidity (storage/transport)	5 % ... 95 %
Shock (operation)	10g
Vibration (operation)	2g (0 ... 200 Hz)

General

Housing material	PA
Flammability rating according to UL 94	V0
Color	black
Total surge current (8/20) μ s	15 kA
Total surge current (10/350) μ s	3 kA
Mounting type	DIN rail mounting with additional retaining screw
Type	DIN rail module, two-section, divisible
Surge protection fault message	Optical, remote indicator contact
Direction of action	1L-N/PE

Protective circuit

IEC test classification	II
	T2
EN type	T2
Maximum continuous operating voltage U_c	350 V AC
Nominal frequency f_N	50 Hz (60 Hz)
Rated load current I_L	55 A (with 6 AWG)
Max. discharge current I_{max} (8/20) μ s	20 kA
Nominal discharge current I_n (8/20) μ s	10 kA
Voltage protection level U_p	≤ 1.2 kV
Residual voltage	≤ 1 kV (at 5 kA)
Max. backup fuse with branch wiring	125 A (gG)
	125 A (gG)
Short-circuit withstand capability I_p with max. backup fuse (r.m.s.)	25 kA

Connection, protective circuit

Connection method	Screw terminal block
Connection method IN	Screw terminal blocks
Connection method OUT	Screw terminal blocks

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Technical data

Connection, protective circuit

Tightening torque	3 Nm ... 4.5 Nm (Ground)
	1.5 Nm ... 1.8 Nm (House)
	2.5 Nm ... 3 Nm (Field)
Conductor cross section AWG	15 ... 2 (16 mm strip length)
	20 ... 6 (10 mm strip length)
	12 ... 4 (14 mm strip length)

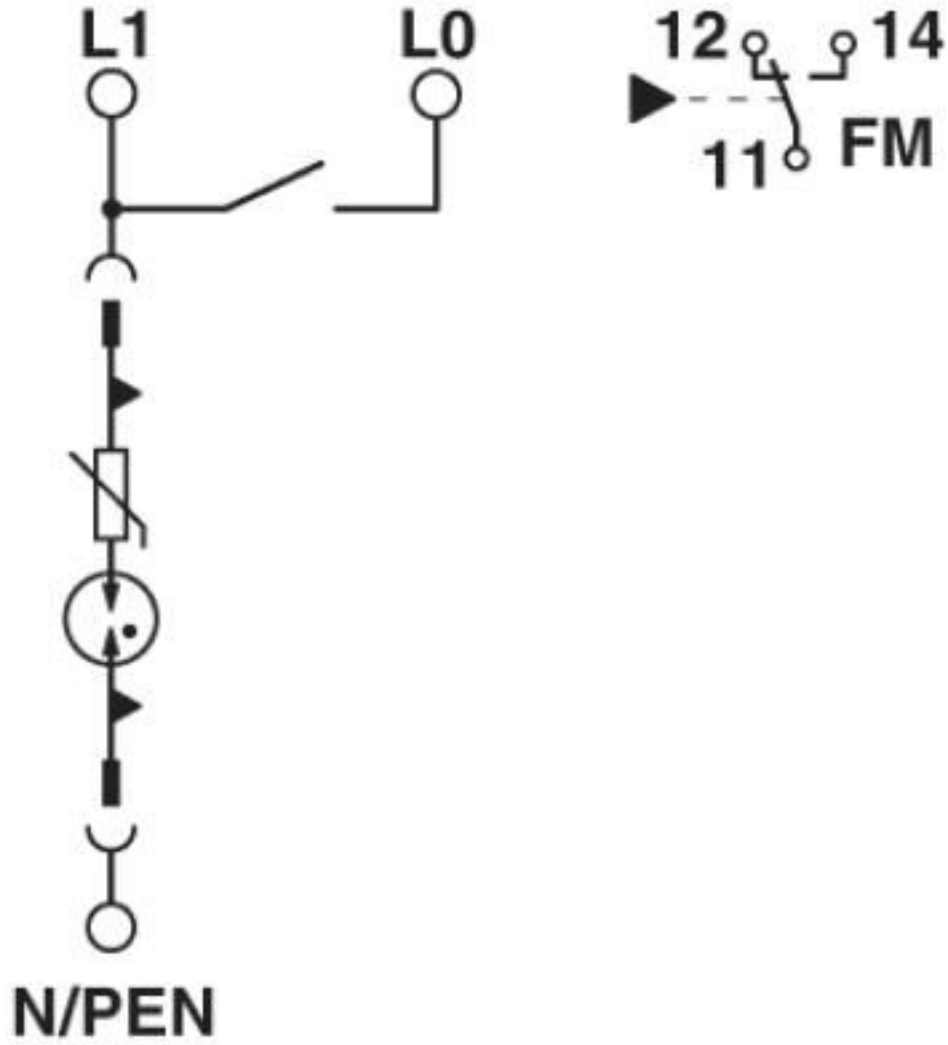
Remote indication contact

Connection name	Remote fault indicator contact
Switching function	PDT, 1-pos.
Connection method	Screw connection
Screw thread	M2
Tightening torque	0.25 Nm
	2 lb _f -in. ... 4 lb _f -in. (UL)
Stripping length	7 mm
Conductor cross section flexible min.	0.14 mm ²
Conductor cross section flexible max.	1.5 mm ²
Conductor cross section solid min.	0.14 mm ²
Conductor cross section solid max.	1.5 mm ²
Conductor cross section AWG min.	28
Conductor cross section AWG max.	16
Maximum operating voltage U _{max.} AC	250 V AC
Max. operating current I _{max}	1.5 A AC (250 V AC)
	1.5 A DC (30 V DC)

Drawings

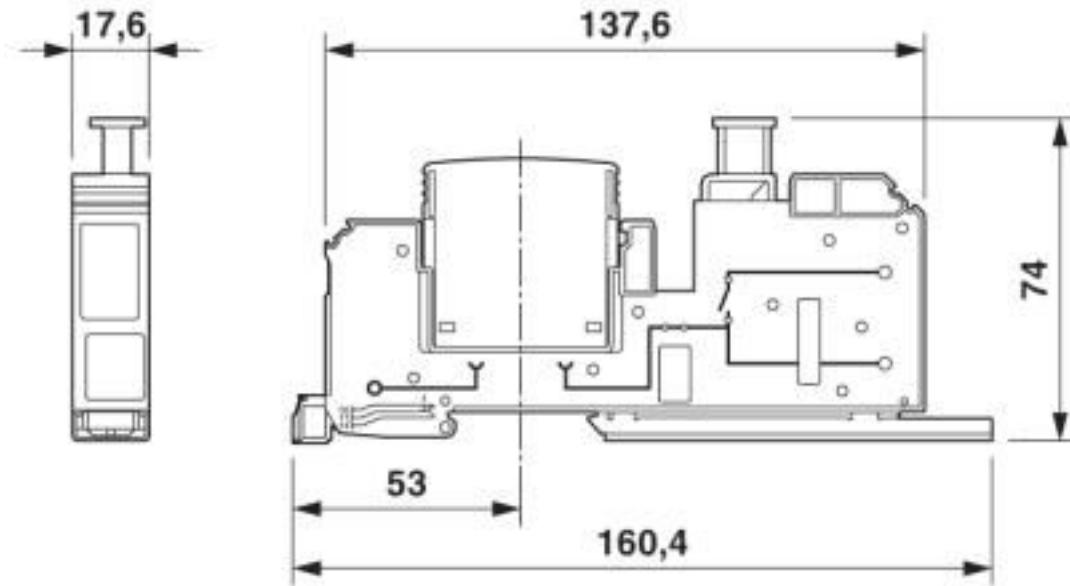
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Circuit diagram



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Dimensional drawing



Classifications

eCl@ss

eCl@ss 10.0.1	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 8.0	27130805
eCl@ss 9.0	27130805

ETIM

ETIM 4.0	EC000472
ETIM 5.0	EC000941
ETIM 6.0	EC000941
ETIM 7.0	EC000941

UNSPSC

UNSPSC 6.01	30212010
UNSPSC 7.0901	39121610
UNSPSC 11	39121610

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Classifications

UNSPSC

UNSPSC 12.01	39121610
UNSPSC 13.2	39121620
UNSPSC 18.0	39121620
UNSPSC 19.0	39121620
UNSPSC 20.0	39121620
UNSPSC 21.0	39121620

Accessories

Accessories

Bridge

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- 2 - 2809209



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

Plug-in bridge - FBS 2-18 - 2801068



Plug-in bridge for cross-connections in the VAL-MS BE-AR terminal center, 2-pos., color: Red

Insertion bridge

Insertion bridge - EB 56-18 - 3009299



Insertion bridge, pitch: 18 mm, number of positions: 56, color: gray

Screwdriver tools

Screwdriver - SZS 0,8X4,0 VDE - 1212508



Screwdriver, slot-headed, VDE insulated, size: 0.8 x 4.0 x 100 mm, 2-component grip, with non-slip grip

Screwdriver - SZS 1,0X6,5 VDE - 1205079



Screwdriver, slot-headed, VDE insulated, size: 1.0 x 6.5 x 150 mm, 2-component grip, with non-slip grip

Screwdriver - SZS 0,4X2,5 VDE - 1205037



Screwdriver, slot-headed, VDE insulated, size: 0.4 x 2.5 x 80 mm, 2-component grip, with non-slip grip

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Accessories

Screw insert - SF-BIT-SL 1,2X6,5-70 - 1212577



Screw bit, bladed, E6.3-1/4" drive, size: 1.2 x 6.5 x 70 mm, hardened, suitable for holder according to DIN 3126-F6.3/ISO 1173

Screw insert - SF-BIT-SL 1,0X4,0-70 - 1212754



Screw bit, slotted, E6.3-1/4" drive, size: 1 mm x 4 mm x 70 mm, hardened, suitable for holder according to DIN 3126-F6.3/ISO 1173

Torque tool

Torque screwdriver - TSD-M 6NM - 1212226



Torque screw driver, accuracy as per EN ISO 6789 standard, adjustable from 3 - 6 Nm

Torque screwdriver - TSD-M 3NM - 1212225



Torque screw driver, accuracy as per EN ISO 6789 standard, adjustable from 1.2 - 3 Nm

Spare parts

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Accessories

Type 2 surge protection plug - VAL-MS 350 VF ST - 2856595



Surge protection connector type 2 with series connection consisting of varistor and gas-filled spark gap for VAL-MS base element, thermal monitoring, visual fault warning. Design: 350 V AC

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