

## Type 2 surge protection device - VAL-MS-AR 350 VF/FM - 2801490

Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)



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.

### Product Features

- 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
Weight per Piece (excluding packing)	170.0 GRM
Custom tariff number	85363010
Country of origin	Germany

### Technical data

#### Dimensions

Height	160 mm
Width	17.7 mm
Depth	75 mm

#### 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 %

## Type 2 surge protection device - VAL-MS-AR 350 VF/FM - 2801490

### Technical data

#### Ambient conditions

Permissible humidity (storage/transport)	5 % ... 95 %
Shock (operation)	10g
Vibration (operation)	2g (0 ... 200 Hz)

#### General

Housing material	PA
Inflammability class according to UL 94	V0
Color	black
Total surge current (8/20) $\mu$ s	15 kA
Total surge current (10/350) $\mu$ 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
Nominal voltage $U_N$	230 V AC
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) $\mu$ s	20 kA
Nominal discharge current $I_n$ (8/20) $\mu$ s	10 kA
Impulse discharge current (10/350) $\mu$ s, peak value $I_{imp}$	3 kA
Voltage protection level $U_p$	$\leq 1.2$ kV
Residual voltage	$\leq 1$ kV (at 5 kA)
Max. required backup fuse with branch wiring	125 A (gG)
	125 A (gG)
Short-circuit resistance $I_p$ with max. backup fuse (effective)	25 kA

#### Connection, protective circuit

AWG conductor cross section	15 ... 2 (UL)
	20 ... 6
	12 ... 4

#### Remote indicator contact

Connection name	Remote fault indicator contact
-----------------	--------------------------------

## Type 2 surge protection device - VAL-MS-AR 350 VF/FM - 2801490

### Technical data

#### Remote indicator contact

Switching function	PDT, 1-pos.
Connection method	Screw connection
Screw thread	M2
Tightening torque	0.25 Nm
	2 lb <sub>f</sub> -in. ... 4 lb <sub>f</sub> -in. (UL)
Stripping length	7 mm
Conductor cross section stranded min.	0.14 mm <sup>2</sup>
Conductor cross section stranded max.	1.5 mm <sup>2</sup>
Conductor cross section solid min.	0.14 mm <sup>2</sup>
Conductor cross section solid max.	1.5 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	28
Conductor cross section AWG/kcmil max	16
Maximum operating voltage U <sub>max.</sub> AC	250 V AC
Max. operating current I <sub>max</sub>	1.5 A AC (250 V AC)
	1.5 A DC (30 V DC)

### 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	27130803
eCl@ss 7.0	27130803
eCl@ss 8.0	27130803

#### ETIM

ETIM 4.0	EC000472
ETIM 5.0	EC000472

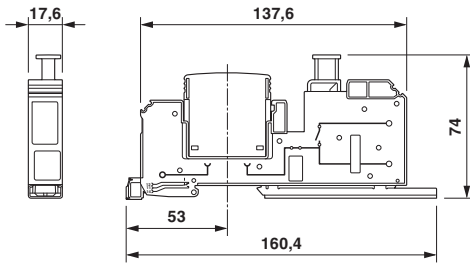
#### UNSPSC

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

# Type 2 surge protection device - VAL-MS-AR 350 VF/FM - 2801490

## Drawings

Dimensioned drawing



Circuit diagram

