

VAL-MS 350VF - Type 2 surge arrester



2856582

<https://www.phoenixcontact.com/us/products/2856582>

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Surge voltage arrester consisting of base element with protective plug with a connection in series with a varistor and a gas-filled spark gap, for mounting on NS 35/7.5, nominal voltage: 230 V AC, 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
- Suitable for use in insulation-monitored systems due to combination of varistor and gas discharge tube free of leakage current
- Can be used in applications with increased insulation strength, e.g., railway technology

Commercial data

Item number	2856582
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL18
Product key	CL1321
Catalog page	Page 62 (C-4-2019)
GTIN	4017918876845
Weight per piece (including packing)	130.5 g
Weight per piece (excluding packing)	110.03 g
Customs tariff number	85363030
Country of origin	DE

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Technical data

Notes

General

Note	Usable in all low-voltage systems between L-N or L-PEN. Only usable in IT Systems between L-PE, if the exposed-conductive-parts (bodies) of the equipment of the low-voltage installation is connected to the earthing arrangement of the transformer substation. (interconnected earthing arrangement of the HV-transformer substation with the bodies of the LV-installation. $R_E = R_A$ accordance to IEC 60364-4-442 / VDE 0100-442 Fig. 44D / Example a)
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Product properties

Product type	Surge arrester
Product family	VALVETRAB MS
IEC test classification	II
	T2
EN type	T2
IEC power supply system	TN
	TT
	IT
Type	DIN rail module, two-section, divisible
Number of positions	1
Surge protection fault message	optical

Data management status

Article revision	21
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Insulation characteristics

Overvoltage category	III
Pollution degree	2

Electrical properties

Nominal frequency f_N	50 Hz (60 Hz)
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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 rigid	1.5 mm ² ... 35 mm ²
Conductor cross section AWG	15 ... 2
Connection method	Fork-type cable lug

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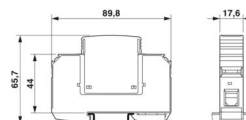
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Conductor cross section flexible

1.5 mm² ... 16 mm²

Dimensions

Dimensional drawing



Width

17.6 mm

Height

89.8 mm

Depth

65.7 mm (incl. DIN rail 7.5 mm)

Horizontal pitch

1 Div.

Material specifications

Color

black (RAL 9005)

Flammability rating according to UL 94

V-0

CTI value of material

600

Insulating material

PA 6.6/PBT

Material group

I

Housing material

PA 6.6

PBT

Protective circuit

Mode of protection

L-N

L-PE

L-PEN

Direction of action

1L-N/PE

Nominal voltage U_N

240/415 V AC (TN)

240/415 V AC (TT)

230 V AC (IT)

Nominal frequency f_N

50 Hz (60 Hz)

Maximum continuous voltage U_C

350 V AC

Rated load current I_L

80 A

Residual current I_{PE}

≤ 5 μA

Standby power consumption P_C

≤ 2.00 mVA

Nominal discharge current I_n (8/20) μs

10 kA

Maximum discharge current I_{max} (8/20) μs

20 kA

Short-circuit current rating I_{SCCR}

25 kA

Voltage protection level U_p

≤ 1.5 kV

Residual voltage U_{res}

≤ 1.2 kV (at I_n)

≤ 1.2 kV (at 10 kA)

≤ 1.1 kV (at 5 kA)

Front of wave sparkover voltage at 6 kV (1.2/50) μs

≤ 1.5 kV

TOV behavior at U_T

415 V AC (5 s / withstand mode)

440 V AC (120 min / withstand mode)

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Response time t_A	≤ 100 ns
Max. backup fuse with V-type through wiring	80 A (gG)
Max. backup fuse with branch wiring	125 A (gG)

Additional technical data

Impulse discharge current (10/350) μ s, charge	0.25 As
Impulse discharge current (10/350) μ s, specific energy	62.5 J/ Ω
Impulse discharge current (10/350) μ s, peak value I_{imp}	500 A

Environmental and real-life conditions

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)
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	25g (Half-sine / 11 ms / 3x \pm X, \pm Y, \pm Z)
Vibration (operation)	5g (10 ... 500 Hz / 2.5 h / X, Y, Z)

Approvals

UL specifications

Maximum continuous operating voltage MCOV (L-N)	350 V AC
Nominal discharge current I_n (L-N)	10 kA
Mode of protection	L-N
Nominal voltage	240 V AC
Power distribution system	Single phase
Nominal frequency	50/60 Hz
Measured limiting voltage MLV (L-N)	2420 V
SPD Type	4CA

UL connection data

Tightening torque	30 lb _F ·in.
Conductor cross section AWG	14 ... 2

Standards and regulations

Standards/specifications	IEC 61643-11
Note	2011
Standards/specifications	EN 61643-11
Note	2012

Mounting

Mounting type	DIN rail: 35 mm
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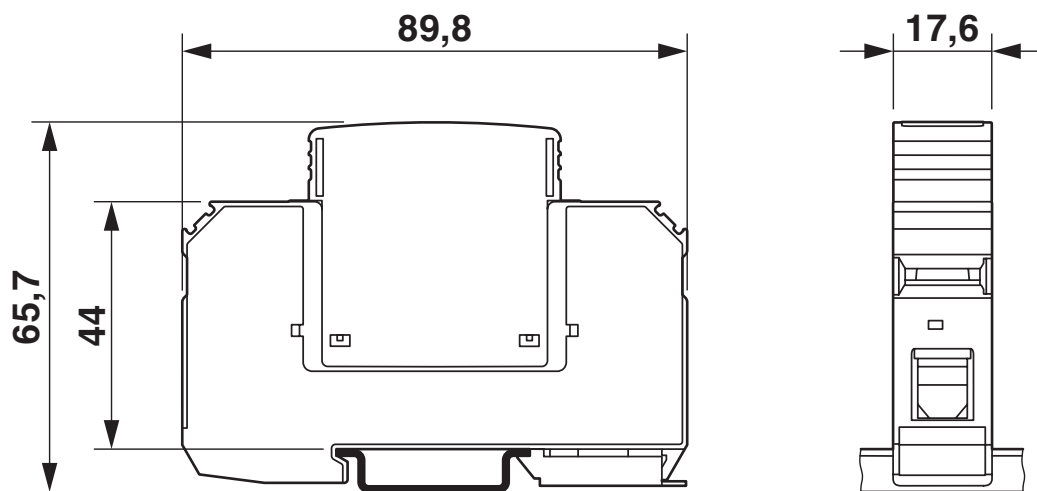
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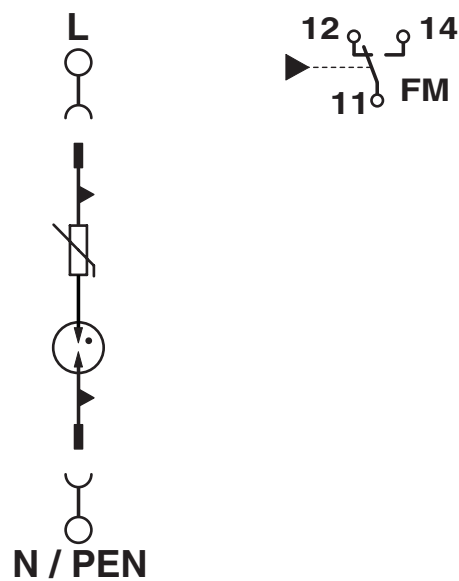


Drawings

Dimensional drawing



Circuit diagram



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Approvals

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cUL Recognized
Approval ID: FILE E 330181



UL Recognized
Approval ID: FILE E 330181



IECEE CB Scheme
Approval ID: AT 2905/M1



EAC
Approval ID: EAC-Zulassung

CCA

Approval ID: NTR-AT 1947-A



KEMA-KEUR
Approval ID: 71-113273 REV.1



EAC
Approval ID: RU C-DE.*09.B.00169



CSA
Approval ID: 13631



ÖVE
Approval ID: 18583-001-17

UAE-RoHS

Approval ID: 22-09-51251

cULus Recognized

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Classifications

ECLASS

ECLASS-11.0	27130805
ECLASS-13.0	27171202

ETIM

ETIM 9.0	EC000941
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UNSPSC

UNSPSC 21.0	39121600
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Environmental product compliance

EU RoHS	
Fulfills EU RoHS substance requirements	Yes, No exemptions
China RoHS	
Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits
EU REACH SVHC	
REACH candidate substance (CAS No.)	No substance above 0.1 wt%

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