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Type 2 surge protection device - VAL-MS 350 VF/FM - 2856579

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Surge voltage arrester consisting of base element with remote indicator contact and 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

Product Features

- Single-channel, DIN-rail mountable protective devices
- Consists of base element and plug
- Mechanical coding of all slots
- Optical, mechanical status indication for the individual arresters
- Disconnect device on each individual plug
- Base element with/without floating remote indication contact

Key commercial data

Packing unit	1 pc
Weight per Piece (excluding packing)	133.4 GRM
Custom tariff number	85363030
Country of origin	Germany

Technical data

Dimensions

Height	97 mm
Width	17.6 mm
Depth	58 mm
Horizontal pitch	1 Div.

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

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Technical data

Ambient conditions

Altitude	≤ 2000 m (amsl (above mean sea level))
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	25g
Vibration (operation)	5g

General

Standards/specifications	IEC 61643-11 2011
	EN 61643-11 2012
IEC test classification	II
	T2
EN type	T2
Number of ports	One
SPD design	Combination type
Mode of protection	L-PEN
	L-N
	L-PE
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
Number of positions	1
Surge protection fault message	Optical, remote indicator contact

Additional descriptions

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)

Protective circuit

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)
Nominal DC sparkover voltage U_{agn}	600 V +30 % / -5 %

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Technical data

Protective circuit

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

Indicator/remote signaling

Connection name	Remote fault indicator contact
Switching function	PDT contact
Operating voltage	5 V AC ... 250 V AC
	125 V AC (UL)
	30 V DC
Operating current	5 mA AC ... 1 A AC
	1 A AC (UL)
	1 A DC
Connection method	Screw connection
Screw thread	M2
Tightening torque	0.25 Nm
	4 lb_f-in. (UL)
Stripping length	7 mm
Conductor cross section stranded min.	0.14 mm²
Conductor cross section stranded max.	1.5 mm²
Conductor cross section solid min.	0.14 mm²
Conductor cross section solid max.	1.5 mm²
AWG conductor cross section	28 ... 16

Type 2 surge protection device - VAL-MS 350 VF/FM - 2856579

Technical data

Indicator/remote signaling

	30 ... 14 (UL)

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

NEMA/UL protective circuit

UL class	Type 4 SPD for Type 2 applications
Maximum continuous operating voltage MCOV (L-N)	350 V AC
Nominal voltage U_N	350 V AC
Mode of protection	L-N
Power distribution system	1
Nominal frequency	50/60 Hz
Voltage protection rating VPR (L-N)	1.2 kV
Nominal discharge current I_n (L-N)	10 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	27130805
eCl@ss 7.0	27130805

ETIM

ETIM 2.0	EC000941
ETIM 3.0	EC000941

Type 2 surge protection device - VAL-MS 350 VF/FM - 2856579

Classifications

ETIM

ETIM 4.0	EC000941
ETIM 5.0	EC000941

UNSPSC

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

Approvals

Approvals

Approvals

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

Ex Approvals

Approvals submitted

Approval details

IECEE CB Scheme

UL Recognized

KEMA-KEUR

Type 2 surge protection device - VAL-MS 350 VF/FM - 2856579

Approvals

ÖVE

cUL Recognized

GOST

CCA

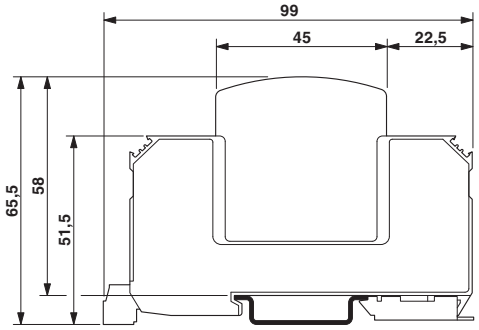
KEMA-KEUR

CSA

cULus Recognized

Drawings

Dimensioned drawing



Circuit diagram