

Type 2 surge arrester - VAL-MS 230/3+1 - 2838209

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Surge arrester consisting of base element and ground connectors, for mounting on NS 35/7.5, nominal voltage: 230 V AC, 3 + 1 circuit

Product Features

- With or without floating remote indication contact
- Mechanical coding of all slots
- Optical, mechanical status indication for the individual arresters
- Disconnect device on each individual plug
- Multi-channel type 2 arresters
- Type 2 consistent plug-in surge arresters



Key Commercial Data

Packing unit	1 pc
Weight per Piece (excluding packing)	400.0 g
Custom tariff number	85363030
Country of origin	Germany

Technical data

Dimensions

Height	90 mm
Width	71 mm
Depth	58 mm
Horizontal pitch	4 Div.

Ambient conditions

Degree of protection	IP20 (only when all terminal points are used)
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Technical data

Ambient conditions

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 sinus / 11 ms / 3x ±X, ±Y, ±Z)
Vibration (operation)	5g (10 ... 500 Hz / 2.5 h / X, Y, Z)

General

Standards/specifications	IEC 61643-11 2011
	EN 61643-11 2012
IEC test classification	II
	T2
EN type	T2
IEC power supply system	TN-S
	TT
Number of ports	One
SPD design	Combination type
Mode of protection	L-N
	L-PE
	N-PE
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	4
Surge protection fault message	optical

Protective circuit

Nominal voltage U_N	240/415 V AC (TN-S)
	240/415 V AC (TT)
Nominal frequency f_N	50 Hz (60 Hz)
Maximum continuous operating voltage U_C (L-N)	275 V AC
Maximum continuous operating voltage U_C (L-PE)	275 V AC
Maximum continuous voltage U_C (N-PE)	260 V AC
Rated load current I_L	80 A

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Protective circuit

Residual current I_{PE}	$\leq 5 \mu A$
Standby power consumption P_C	$\leq 360 \text{ mVA}$
Nominal discharge current I_n (8/20) μs	20 kA
Maximum discharge current I_{max} (8/20) μs	40 kA
Follow current interrupt rating I_{fi} (N-PE)	100 A (260 V)
Short-circuit current rating I_{SCCR}	25 kA
Voltage protection level U_p (L-N)	$\leq 1.35 \text{ kV}$
Voltage protection level U_p (L-PE)	$\leq 1.6 \text{ kV}$
Voltage protection level U_p (N-PE)	$\leq 1.5 \text{ kV}$
Residual voltage U_{res} (L-N)	$\leq 1.35 \text{ kV}$ (at I_n)
	$\leq 1.1 \text{ kV}$ (at 10 kA)
	$\leq 1 \text{ kV}$ (at 5 kA)
	$\leq 0.9 \text{ kV}$ (at 3 kA)
Residual voltage U_{res} (L-PE)	$\leq 1.6 \text{ kV}$ (at I_n)
	$\leq 1.2 \text{ kV}$ (at 10 kA)
	$\leq 1 \text{ kV}$ (at 5 kA)
	$\leq 0.9 \text{ kV}$ (at 3 kA)
Residual voltage U_{res} (N-PE)	$\leq 0.4 \text{ kV}$ (at I_n)
	$\leq 0.25 \text{ kV}$ (at 10 kA)
	$\leq 0.15 \text{ kV}$ (at 5 kA)
	$\leq 0.1 \text{ kV}$ (at 3 kA)
Front of wave sparkover voltage at 6 kV (1.2/50) μs (N-PE)	$\leq 1.5 \text{ kV}$
TOV behavior at U_T (L-N)	335 V AC (5 s / withstand mode)
	440 V AC (120 min / safe failure mode)
TOV behavior at U_T (N-PE)	1200 V AC (200 ms / withstand mode)
Response time t_A (L-N)	$\leq 25 \text{ ns}$
Response time t_A (N-PE)	$\leq 100 \text{ ns}$
Max. backup fuse with branch wiring	125 A (gG)
Max. backup fuse with V-type through wiring	80 A (gG)

Connection data

Connection method	Screw connection
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
Screw thread	M5
Tightening torque	4.5 Nm

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Technical data

Connection data

Stripping length	16 mm
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UL specifications

SPD Type	4CA
Maximum continuous operating voltage MCOV (L-L)	550 V AC
Maximum continuous operating voltage MCOV (L-N)	275 V AC
Maximum continuous operating voltage MCOV (L-G)	275 V AC
Maximum continuous operating voltage MCOV (N-G)	260 V AC
Nom. voltage	230/400 V AC
Mode of protection	L-L
	L-N
	L-G
	N-G
Power distribution system	3Y
Nominal frequency	50/60 Hz
Measured limiting voltage MLV (L-L)	2720 V
Measured limiting voltage MLV (L-N)	1910 V
Measured limiting voltage MLV (L-G)	2630 V
Measured limiting voltage MLV (N-G)	1370 V
Nominal discharge current I_n (L-L)	20 kA
Nominal discharge current I_n (L-N)	20 kA
Nominal discharge current I_n (L-G)	20 kA
Nominal discharge current I_n (N-G)	20 kA

UL connection data

Conductor cross section AWG	10 ... 2
Tightening torque	30 lb _f -in.

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
eCl@ss 8.0	27130805

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Classifications

eCl@ss

eCl@ss 9.0	27130805
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ETIM

ETIM 2.0	EC000941
ETIM 3.0	EC000941
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

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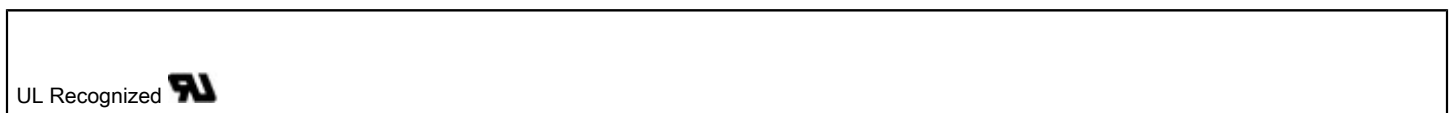
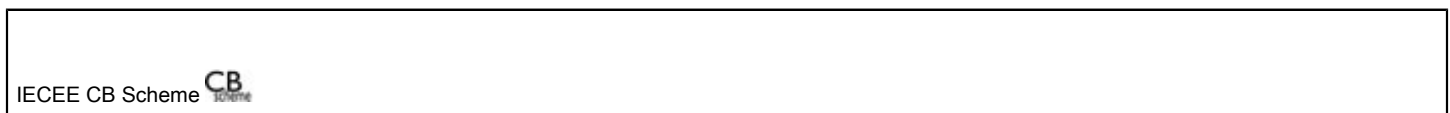
Approvals

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

Ex Approvals

Approvals submitted

Approval details




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Approvals

KEMA-KEUR 

ÖVE 

cUL Recognized 


GL

CCA

EAC

EAC

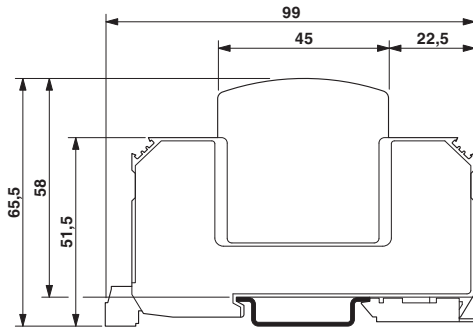
CSA

cULus Recognized 

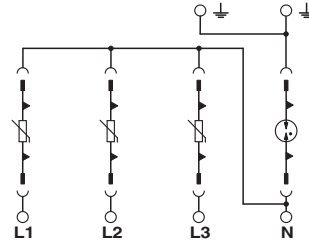
Drawings

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Dimensional drawing



Circuit diagram



The illustration shows the dimensional drawing for a version with remote indicator contact