

Type 2 surge arrester - VAL-MS 385/80/3+1-FM - 2920968

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Type 2 surge arrester for 5-wire power supply systems (L1, L2, L3, N, PE), with connector latching and remote indication contact.

Why buy this product

- ✓ With or without floating remote indication contact
- ✓ Plugs can be checked with CHECKMASTER
- ✓ Secure hold of plugs in the event of high lightning current loads and strong vibrations thanks to new latching
- ✓ Multi-channel type 2 arresters
- ✓ Mechanical coding of all slots
- ✓ Disconnect device on each individual plug
- ✓ Type 2 consistent plug-in surge arresters
- ✓ Optical, mechanical status indication for the individual arresters



Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 280983
Weight per Piece (excluding packing)	599.35 g
Custom tariff number	85363030
Country of origin	Germany
Note	Made to Order (non-returnable)

Technical data

Dimensions

Height	99 mm
Width	71.2 mm
Depth	77.5 mm
Horizontal pitch	4 Div.

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Ambient conditions

Degree of protection	IP20
	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 (above mean sea level))
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	30g
Vibration (operation)	7.5g

General

Standards/specifications	IEC 61643-11 2011
	EN 61643-11 2012
IEC test classification	II
	T2
EN type	T2
IEC power supply system	TT
	TN-C
	TN-S
Number of ports	One
SPD design	Combination type
Mode of protection	L-N
	N-PE
Mounting type	DIN rail: 35 mm
Color	black
Housing material	PA 6.6
	PBT
Pollution degree	2
Flammability rating according to UL 94	V-0
Type	DIN rail module, two-section, divisible
Surge protection fault message	Optical, remote indicator contact

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)	385 V AC
Maximum continuous voltage U_C (N-PE)	264 V AC
Rated load current I_L	80 A
Residual current I_{PE}	≤ 5 μA
Standby power consumption P_C	≤ 690 mVA
Nominal discharge current I_n (8/20) μs (L-N)	40 kA

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Protective circuit

Nominal discharge current I_n (8/20) μs (L-PE)	40 kA
Nominal discharge current I_n (8/20) μs (N-PE)	40 kA
Maximum discharge current I_{max} (8/20) μs (L-N)	80 kA
Maximum discharge current I_{max} (8/20) μs (L-PE)	80 kA
Maximum discharge current I_{max} (8/20) μs (N-PE)	80 kA
Impulse discharge current (10/350) μs (L-N), charge	1.25 As
Impulse discharge current (10/350) μs (L-N), specific energy	1.56 kJ/ Ω
Impulse discharge current (10/350) μs (L-N), peak current value I_{imp}	2.5 kA
Impulse discharge current (10/350) μs (L-PE), charge	1.25 As
Impulse discharge current (10/350) μs (L-PE), specific energy	1.56 kJ/ Ω
Impulse discharge current (10/350) μs (L-PE), peak current value I_{imp}	2.5 kA
Impulse discharge current (10/350) μs (N-PE), charge	5 As
Impulse discharge current (10/350) μs (N-PE), specific energy	25 kJ/ Ω
Impulse discharge current (10/350) μs (N-PE), peak current value I_{imp}	10 kA
Total discharge current I_{Total} (8/20) μs	80 kA
Total discharge current I_{Total} (10/350) μs	10 kA
Follow current interrupt rating I_f (N-PE)	100 A (264 V AC)
Short-circuit current rating I_{SCCR}	25 kA
Voltage protection level U_p (L-N)	≤ 2 kV
Voltage protection level U_p (L-PE)	≤ 2 kV
Voltage protection level U_p (N-PE)	≤ 1.7 kV
Residual voltage U_{res} (L-N)	≤ 2 kV (at I_n)
	≤ 1.4 kV (at 10 kA)
	≤ 1.25 kV (at 5 kA)
	≤ 1.2 kV (at 3 kA)
Residual voltage U_{res} (L-PE)	≤ 2 kV (at I_n)
	≤ 1.5 kV (at 10 kA)
	≤ 1.4 kV (at 5 kA)
	≤ 1.3 kV (at 3 kA)
Residual voltage U_{res} (N-PE)	≤ 0.6 kV (at I_n)
	≤ 0.5 kV (at 10 kA)
	≤ 0.5 kV (at 5 kA)
	≤ 0.4 kV (at 3 kA)
Front of wave sparkover voltage at 6 kV (1.2/50) μs (N-PE)	≤ 1.7 kV
TOV behavior at U_T (L-N)	480 V AC (5 s / withstand mode)
TOV behavior at U_T (N-PE)	1200 V AC (200 ms / withstand mode)
Response time t_A (L-N)	≤ 25 ns
Response time t_A (L-PE)	≤ 100 ns
Response time t_A (N-PE)	≤ 100 ns

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Protective circuit

Max. backup fuse with branch wiring	250 A AC (gG)
Max. backup fuse with V-type through wiring	80 A AC (gG - 16 mm ²)

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 ... 1.5 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 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
AWG conductor cross section	28 ... 16
	30 ... 14 (UL)

Connection data

Connection method	Screw connection
Conductor cross section flexible min.	1.5 mm ²
Conductor cross section flexible max.	25 mm ²
Conductor cross section solid min.	1.5 mm ²
Conductor cross section solid max.	35 mm ²
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

UL specifications

UL class	SPD type 4CA
Maximum continuous operating voltage MCOV (L-L)	770 V AC
Maximum continuous operating voltage MCOV (L-N)	385 V AC
Maximum continuous operating voltage MCOV (L-G)	385 V AC

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Maximum continuous operating voltage MCOV (N-G)	264 V AC
Nom. voltage	240/415 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)	3860 V
Measured limiting voltage MLV (L-N)	2710 V
Measured limiting voltage MLV (L-G)	3730 V
Measured limiting voltage MLV (N-G)	2590 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

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	27130806

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

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Approvals

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KEMA-KEUR / CCA / IECCE CB Scheme / GL / UL Recognized / cUL Recognized / EAC / cULus Recognized


Ex Approvals

Approvals submitted


Approval details


KEMA-KEUR 

CCA

IECEE CB Scheme 

GL

UL Recognized 

cUL Recognized 

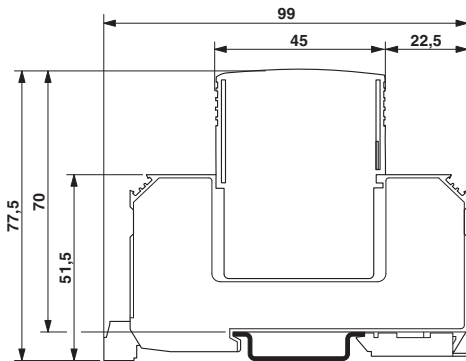
EAC

cULus Recognized 

Drawings

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Dimensional drawing



Circuit diagram

