Type 2 surge protection device - VAL-MS 580/3+0-FM - 2920447

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Surge arrester for 4-conductor power supply systems (L1, L2, L3, PEN), consisting of a base element with remote indication contact and protective connectors, for mounting on NS 35.

Product Features

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

Key commercial data

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

Technical data

Dimensions

Height	99 mm
Width	53.4 mm
Depth	58 mm
Horizontal pitch	3 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
Vibration (operation)	5g

General

Standards/specifications	IEC 61643-11 2011
	EN 61643-11 2012
IEC test classification	II
	T2
EN type	T2
IEC power supply system	TN-C
Number of ports	One
SPD design	Voltage-limiting type
Mode of protection	L-PEN
	L-PE
Mounting type	DIN rail: 35 mm
Color	black
Housing material	PA 6.6
	PBT
Pollution degree	2
Distance between live and grounded parts	5 mm
Inflammability class according to UL 94	V-0
Type	DIN rail module, two-section, divisible
Number of positions	3
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	400/690 V AC (TN-C)
	500 V AC (IT)

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Protective circuit

Nominal frequency f_N	50 Hz (60 Hz)
Maximum continuous operating voltage U_C	580 V AC
Maximum continuous operating voltage U_C (L-PE)	580 V AC
Maximum continuous operating voltage U_C (L-PEN)	580 V AC
Rated load current I_L	80 A
Residual current I_{PE}	≤ 0.75 mA
Standby power consumption P_C	≤ 450 mVA
Nominal discharge current I_n (8/20) µs (L-PE)	15 kA
Nominal discharge current I_n (8/20) µs (L-PEN)	15 kA
Maximum discharge current I_{max} (8/20) µs	30 kA
Maximum discharge current I_{max} (8/20) µs (L-PE)	30 kA
Maximum discharge current I_{max} (8/20) µs (L-PEN)	30 kA
Short-circuit current rating I_{SCCR}	25 kA
Voltage protection level U_p (L-PE)	≤ 2.5 kV
Voltage protection level U_p (L-PEN)	≤ 2.5 kV
Residual voltage U_{res} (L-PE)	≤ 2.5 kV (at I_n)
	≤ 2.3 kV (at 10 kA)
	≤ 2.1 kV (at 5 kA)
	≤ 1.9 kV (at 3 kA)
Residual voltage U_{res} (L-PEN)	≤ 2.5 kV (at I_n)
	≤ 2.3 kV (at 10 kA)
	≤ 2.1 kV (at 5 kA)
	≤ 1.9 kV (at 3 kA)
TOV behavior at U_T (L-PEN)	690 V AC (5 s / withstand mode)
Response time t_A (L-PE)	≤ 25 ns
Response time t_A (L-PEN)	≤ 25 ns
Max. backup fuse with branch wiring	125 A AC (gG)
Max. 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 ... 1.5 A AC
	1 A AC (UL)

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Indicator/remote signaling

	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
	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

UL specifications

UL class	Type 4 SPD for Type 2 applications
Maximum continuous operating voltage MCOV (L-L)	750 V AC
Maximum continuous operating voltage MCOV (L-G)	580 V AC
Nom. voltage	400/690 V AC
Mode of protection	L-L
	L-G
Power distribution system	3D
Nominal frequency	50/60 Hz
Voltage protection rating VPR (L-L)	4 kV
Voltage protection rating VPR (L-G)	2 kV
Nominal discharge current I_n (L-L)	10 kA

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UL specifications

Nominal discharge current I_n (L-G)	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
eCl@ss 8.0	27130805

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

Approvals

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

Ex Approvals

Approvals submitted

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Approvals

Approval details

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Accessories

Accessories

Bridge

Wiring bridge - MPB 18/3- 6 - 2809241

Wiring bridge for modules with connecting pitch 17.5 mm, 3-phase, 6-pos.

Wiring bridge - MPB F200X16/ 1GS - 2818339

Wiring bridge flexible, diameter 16 mm², with a fork-type cable lug on one side, length: 200 mm

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Wiring bridge - MPB F400X16/ 1GS - 2818342

Wiring bridge flexible, diameter 16 mm², with a fork-type cable lug on one side, length: 400 mm

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Wiring bridge - MPB F600X16/ 1GS - 2818355

Wiring bridge flexible, diameter: 16 mm², with a fork-type cable lug on one side, length: 600 mm

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Device marking

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Accessories

Zack marker strip - ZBN 18:UNBEDRUCKT - 2809128

Zack marker strip, Strip, white, unlabeled, can be labeled with: Plotter, Mounting type: Snap into tall marker groove, for terminal block width: 18 mm, Lettering field: 18 x 5 mm

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Feed-through terminal block

Feed-through terminal block - DK-BIC-35 - 2749880

Feed-through terminal block for VAL and FLT applications

Labeled device marker

Marker for terminal blocks - ZBN 18,LGS:ERDE - 2749589

Marker for terminal blocks, Strip, white, labeled, Horizontal: Grounding symbol, Mounting type: Snap into tall marker groove, for terminal block width: 18 mm, Lettering field: 18 x 5 mm

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Marker for terminal blocks - ZBN 18,LGS:L1-N,ERDE - 2749576

Marker for terminal blocks, Strip, white, labeled, Horizontal: L1, L2, L3, N, GND, Mounting type: Snap into tall marker groove, for terminal block width: 18 mm, Lettering field: 18 x 5 mm

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Marker pen

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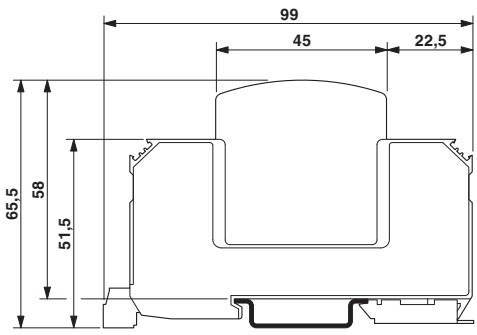
Accessories

Marker pen - B-STIFT - 1051993

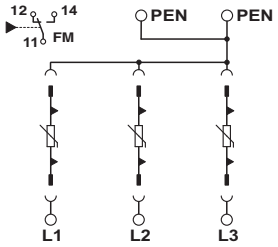
Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm

Drawings

Dimensioned drawing



Circuit diagram



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Application drawing