

Type 2 surge protection device - VAL-MS 120/3+1/FM-UD - 2856692

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Surge arrester consisting of base element with remote indicator contact and ground connectors, for mounting on NS 35/7.5, nominal voltage: 120 V AC, 3 + 1 circuit

Product Features

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



Key Commercial Data

Packing unit	1 pc
Weight per Piece (excluding packing)	409.8 g
Custom tariff number	85363030
Country of origin	Germany

Technical data

Dimensions

Height	96.8 mm
Width	70.8 mm
Depth	65.5 mm
Horizontal pitch	4 Div.

Ambient conditions

Degree of protection	IP20
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Technical data

Ambient conditions

Ambient temperature (operation)	-40 °C ... 80 °C
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General

Housing material	PBT / PA
Flammability rating according to UL 94	V0
Color	black
Standards for clearances and creepage distances	DIN EN 60664-1
Mounting type	DIN rail: 35 mm
Type	DIN rail module, two-section, divisible
Number of positions	4
Surge protection fault message	Optical, remote indicator contact
Direction of action	3L-N & N-PE

Protective circuit

IEC test classification	II
	T2
EN type	T2
Nominal voltage U_N	120 V AC ... 208 V AC
Maximum continuous operating voltage U_C	150 V AC
Maximum continuous operating voltage U_C (L-N)	150 V AC
Maximum continuous operating voltage U_C (N-PE)	260 V AC
U_T (TOV-proof)	175 V AC (5 s / L-N)
	1200 V AC (200 ms / N-PE)
Nominal frequency f_N	50 Hz (60 Hz)
Residual current I_{PE}	$\leq 1 \mu A$
Standby power consumption P_C	$\leq 150 \text{ mVA}$
Max. discharge current I_{max} (8/20) μs	40 kA
Max. discharge current I_{max} (8/20) μs maximum (L-N)	40 kA
Max. discharge current I_{max} (8/20) μs maximum (L-PE)	40 kA
Max. discharge current I_{max} (8/20) μs maximum (N-PE)	40 kA
Nominal discharge current I_n (8/20) μs (L-N)	20 kA
Nominal discharge current I_n (8/20) μs (L-PE)	20 kA
Nominal discharge current I_n (8/20) μs (N-PE)	20 kA
Front of wave sparkover voltage at 6 kV (1.2/50) μs (N-PE)	$\leq 1.5 \text{ kV}$
Voltage protection level U_p (L-N)	$\leq 0.85 \text{ kV}$
Voltage protection level U_p (L-PE)	$\leq 1.05 \text{ kV}$
Voltage protection level U_p (N-PE)	$\leq 1.5 \text{ kV}$

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Protective circuit

Residual voltage (L-N)	$\leq 0.85 \text{ kV (at } I_n)$
	$\leq 0.75 \text{ kV (at 10 kA)}$
	$\leq 0.7 \text{ kV (at 5 kA)}$
	$\leq 0.65 \text{ kV (at 3 kA)}$
Residual voltage (L-PE)	$\leq 1.05 \text{ kV (at } I_n)$
	$\leq 0.85 \text{ kV (at 10 kA)}$
	$\leq 0.8 \text{ kV (at 5 kA)}$
	$\leq 0.7 \text{ kV (at 3 kA)}$
Residual voltage (N-PE)	$\leq 0.4 \text{ kV (at } I_n)$
	$\leq 0.25 \text{ kV (at 10 kA)}$
	$\leq 0.15 \text{ kV (at 5 kA)}$
	$\leq 0.1 \text{ kV (at 3 kA)}$
Response time t_A (L-N)	$\leq 25 \text{ ns}$
Response time (L-PE)	$\leq 100 \text{ ns}$
Response time t_A (N-PE)	$\leq 100 \text{ ns}$
Max. backup fuse with branch wiring	125 A (gL)
Short-circuit resistance I_p with max. backup fuse (effective)	25 kA
Follow current quenching capacity I_{fi} (N-PE)	100 A (260 V)

Connection, protective circuit

Connection method	Screw connection
Connection type IN	Biconnect screw terminal block
Connection type OUT	Biconnect screw terminal block
Screw thread	M5
Tightening torque	4.5 Nm
Stripping length	14.5 mm
Conductor cross section flexible min.	0.5 mm ²
Conductor cross section flexible max.	25 mm ²
Conductor cross section solid min.	0.5 mm ²
Conductor cross section solid max.	35 mm ²
Conductor cross section AWG min.	20
Conductor cross section AWG max.	2

Remote indicator contact

Connection name	Remote fault indicator contact
Switching function	PDT contact
Connection method	Screw connection
Screw thread	M2

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Remote indicator contact

Tightening torque	0.25 Nm
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
Conductor cross section AWG min.	28
Conductor cross section AWG max.	16
Maximum operating voltage U _{max} AC	250 V AC
Maximum operating voltage U _{max} DC	30 V DC
Max. operating current I _{max}	0.75 A AC (250 V AC)
	1.5 A DC (30 V DC)
Min. permissible switching capacity	0.12 VA (12 V, 10 mA)

Standards and Regulations

Standards/regulations	IEC 61643-1 2005
	EN 61643-11/A11 2007

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
ETIM 4.0	EC000941
ETIM 5.0	EC000941

UNSPSC

UNSPSC 6.01	30212010
UNSPSC 7.0901	39121610
UNSPSC 11	39121610

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Classifications

UNSPSC

UNSPSC 12.01	39121610
UNSPSC 13.2	39121620

Accessories

Accessories

Bridge

Wiring bridge - MPB 18/4- 8 - 2809283



Wiring bridge for modules with connecting pitch 17.5 mm, 4-phase, 8-pos.

Wiring bridge - MPB 18/4-12 - 2809296



Wiring bridge for modules with connecting pitch 17.5 mm, 4-phase, 12-pos.

Wiring bridge - MPB 18/1- 2 - 2809209



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 2-pos.

Wiring bridge - MPB 18/1- 3 - 2809212



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 3-pos.

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Accessories

Wiring bridge - MPB 18/1- 4 - 2809225



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 4-pos.

Wiring bridge - MPB 18/1- 6 - 2748564



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 6-pos.

Wiring bridge - MPB 18/1- 7 BU - 2856278



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 7-pos., color: Blue

Wiring bridge - MPB 18/1- 8 BU - 2858470



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 8-pos., color: Blue

Wiring bridge - MPB 18/1- 8 - 2748577



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 8-pos.

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Accessories

Wiring bridge - MPB 18/1- 9 - 2748580



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 9-pos.

Wiring bridge - MPB 18/1-12 - 2748593



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 12-pos.

Wiring bridge - MPB 18/1-57 - 2809238



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 57-pos.

Wiring bridge - MPB 18/3- 6 - 2809241



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

Wiring bridge - MPB 18/3- 9 - 2809254



Wiring bridge for modules with connecting pitch 17.5 mm, 3-phase, 9-pos.

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Accessories

Wiring bridge - MPB 18/4- 8 - 2809283



Wiring bridge for modules with connecting pitch 17.5 mm, 4-phase, 8-pos.

Wiring bridge - MPB 18/4-12 - 2809296



Wiring bridge for modules with connecting pitch 17.5 mm, 4-phase, 12-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

Wiring bridge - MPB F400X16/ 1GS - 2818342



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

Wiring bridge - MPB F600X16/ 1GS - 2818355



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

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

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

Marker pen

Marker pen - B-STIFT - 1051993



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

Replacement plug

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Accessories

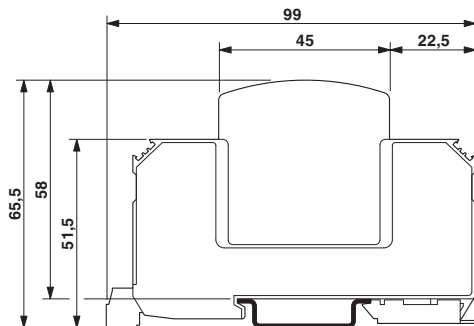
Type 2 surge protection plug - VAL-MS 120-UD ST - 2858292



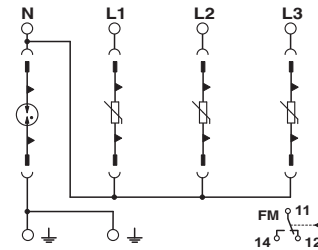
Surge protection connector type 2 with high-capacity varistor for VAL-MS base element, thermal monitoring, visual fault warning. Design: 120 V AC

Drawings

Dimensional drawing

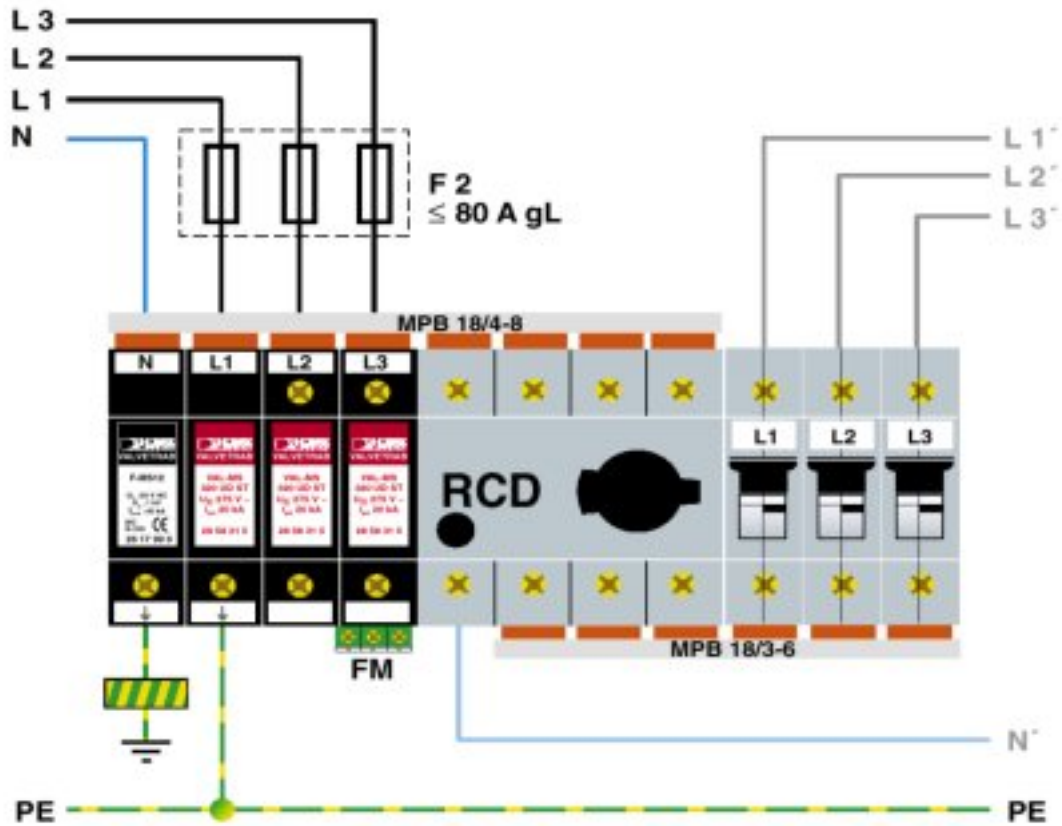


Circuit diagram



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Application drawing



Mouser Electronics

Authorized Distributor

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