Type 2 surge protection device - VAL-MS 320/3+1-FM-UD - 2856689

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The illustration shows the version VAL-MS 120/3+1/FM-UD

Surge voltage arrester consisting of base element with remote indicator contact and ground connectors, for mounting on NS 35/7.5, nominal voltage: 320 V AC, 3 + 1 circuit

Why buy this product

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

Key commercial data

Packing unit	1
Minimum order quantity	1
Catalog page	Page 36 (TT-2011)
GTIN	4 017918 877057
Custom tariff number	85363030
Country of origin	GERMANY

Technical data

Standards

Housing material	PBT / PA
Inflammability class according to UL 94	V0
Color	black
Standards for air and creepage distances	DIN EN 60664-1
Degree of protection	IP20
Mounting type	DIN rail: 35 mm
Design	DIN rail module, two-section, divisible

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Standards

Number of positions	4
Ambient temperature (operation)	-40 °C ... 80 °C
Message: Surge protection fault	Optical, remote indicator contact
Direction of action	3L-N & N-PE
Width	70.8 mm
Height	96.8 mm
Depth	65.5 mm
Pitch unit	4 Div.

Protective circuit

IEC category	II
IEC category	T2
EN type	T2
Nominal voltage UN	230 V AC (400 V AC)
Nominal voltage UN	400 V AC
Nominal voltage UN	230 V AC ... 415 V AC
Arrester rated voltage UC	335 V AC
Arrester rated voltage UC (L-N)	335 V AC
Arrester rated voltage UC (N-PE)	260 V AC
UT (TOV-proof)	415 V AC (5 s / L-N)
UT (TOV-proof)	1200 V AC (200 ms / N-PE)
Nominal frequency fN	50 Hz (60 Hz)
Ground conductor current IPE	≤ 1 µA
Standby power consumption PC	≤ 360 mVA
Max. discharge surge current Imax (8/20) µs	40 kA
Max. discharge surge current Imax (8/20) µs maximum (L-N)	40 kA
Max. discharge surge current Imax (8/20) µs maximum (L-PE)	40 kA
Max. discharge surge current Imax (8/20) µs maximum (N-PE)	40 kA
Nominal discharge surge current In (8/20) µs (L-N)	20 kA
Nominal discharge surge current In (8/20) µs (L-PE)	20 kA
Nominal discharge surge current In (8/20) µs (N-PE)	20 kA
Lightning test current (10/350) µs, peak value limp	12 kA (N-PE)
Impulse operate voltage at 6 kV (1.2/50)µs (N-PE)	≤ 1.5 kV
Protection level UP (L-N)	≤ 1.6 kV
Protection level UP (L-PE)	≤ 1.75 kV
Protection level UP (N-PE)	≤ 1.5 kV
Residual voltage (L-N)	≤ 1.6 kV (at In)
Residual voltage (L-N)	≤ 1.35 kV (at 10 kA)
Residual voltage (L-N)	≤ 1.25 kV (at 5 kA)
Residual voltage (L-N)	≤ 1.2 kV (at 3 kA)
Residual voltage (L-PE)	≤ 1.75 kV (at In)
Residual voltage (L-PE)	≤ 1.45 kV (at 10 kA)

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Residual voltage (L-PE)	≤ 1.35 kV (at 5 kA)
Residual voltage (L-PE)	≤ 1.25 kV (at 3 kA)
Residual voltage (N-PE)	≤ 0.4 kV (at In)
Residual voltage (N-PE)	≤ 0.25 kV (at 10 kA)
Residual voltage (N-PE)	≤ 0.15 kV (at 5 kA)
Residual voltage (N-PE)	≤ 0.1 kV (at 3 kA)
Response time (L-N)	≤ 25 ns
Response time (L-PE)	≤ 100 ns
Response time (N-PE)	≤ 100 ns
Max. required backup fuse with branch wiring	125 A (gL)
Short-circuit resistance IP with max. backup fuse (effective)	25 kA
Follow current quenching capacity If (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 stranded min.	0.5 mm²
Conductor cross section stranded max.	25 mm²
Conductor cross section solid min.	0.5 mm²
Conductor cross section solid max.	35 mm²
Conductor cross section AWG/kcmil min.	20
Conductor cross section AWG/kcmil max	2

Remote indicator contact

Connection name	Remote fault indicator contact
Switching function	PDT contact
Connection method	Screw connection
Screw thread	M2
Tightening torque	0.25 Nm
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
Conductor cross section AWG/kcmil min.	28
Conductor cross section AWG/kcmil max	16
Maximum operating voltage Umax. AC	250 V AC
Maximum operating voltage Umax DC	30 V DC

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Remote indicator contact

Max. operating current Imax	0.75 A AC (250 V AC)
Max. operating current Imax	3 A AC (125 V AC)
Max. operating current Imax	2 A DC (30 V DC)
Min. permissible switching capacity	0.12 VA (12 V, 10 mA)

Standards

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

Classifications

eclass

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

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 / cUL Recognized / GOST / cULus Recognized

Ex Approvals

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Approvals

Approvals submitted

Approval details

UL Recognized

KEMA-KEUR

cUL Recognized

GOST

cULus Recognized

Accessories

Accessories

Bridges

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.

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Accessories

Marking

Zack marker strip - ZBN 18,LGS:ERDE - 2749589

Zack marker strip, 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

Zack marker strip - ZBN 18,LGS:L1-N,ERDE - 2749576

Zack marker strip, 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

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

Marker pen - B-STIFT - 1051993

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

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

Feed-through terminal block for VAL and FLT applications

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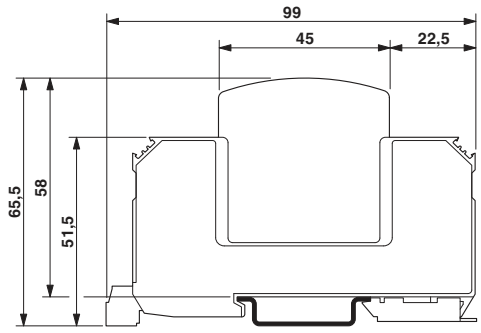
Accessories

Type 2 surge protection connector - VAL-MS 320-UD ST - 2858315

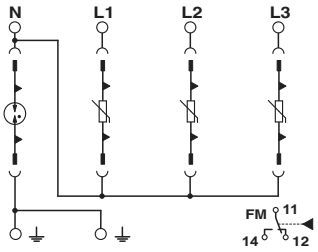
Surge protection connector type 2 with high-capacity varistor for VAL-MS base element, thermal monitoring, visual fault warning. Design: 320 V AC

Drawings

Dimensioned drawing



Circuit diagram



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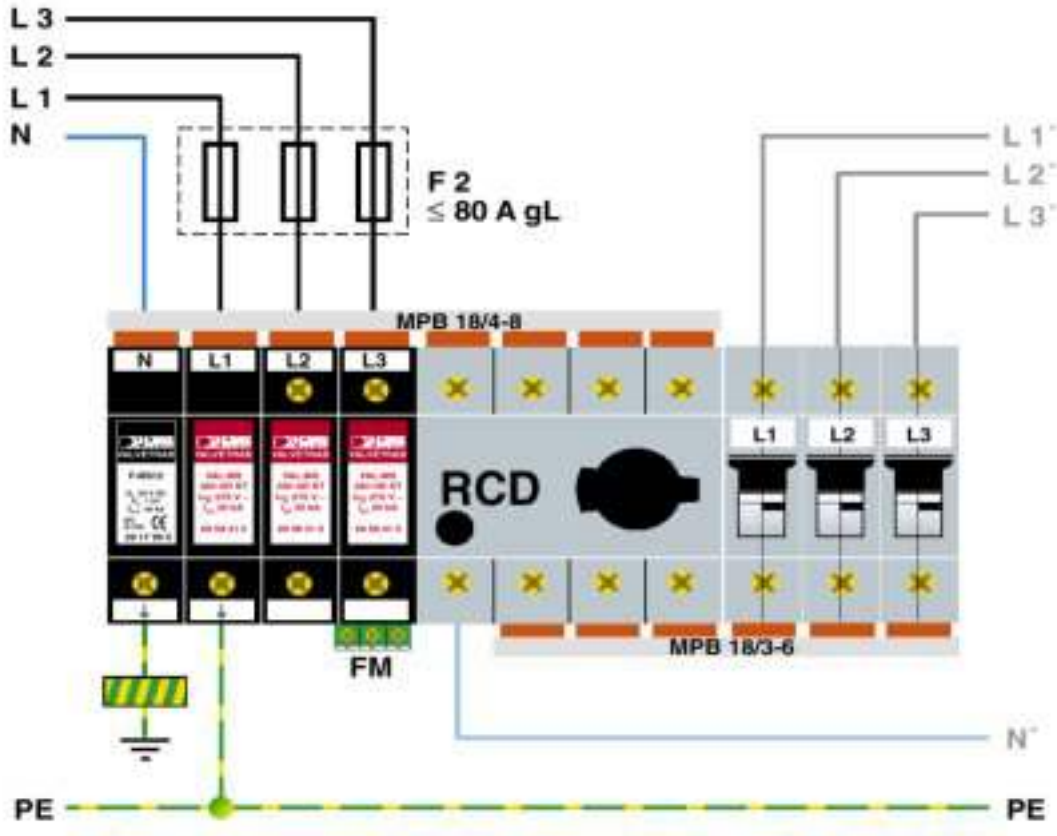
Application drawing



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