

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

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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

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

Product Features

- ✓ With or without floating remote indication contact
- ✓ Multi-channel type 2 arresters
- ✓ Mechanical coding 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 PCE
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

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Technical data

Standards

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
Number of positions	4
Ambient temperature (operation)	-40 °C ... 80 °C
Permissible humidity (operation)	5 % ... 95 %
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 U_N	230 V AC (400 V AC)
Nominal voltage U_N	400 V AC
Nominal voltage U_N	230 V AC ... 415 V AC
Arrester rated voltage U_C	335 V AC
Arrester rated voltage U_C (L-N)	335 V AC
Arrester rated voltage U_C (N-PE)	260 V AC
U_T (TOV-proof)	415 V AC (5 s / L-N)
U_T (TOV-proof)	1200 V AC (200 ms / N-PE)
Nominal frequency f_N	50 Hz (60 Hz)
Ground conductor current I_{PE}	$\leq 1 \mu A$
Standby power consumption P_C	$\leq 360 \text{ mVA}$
Max. discharge surge current I_{max} (8/20) μs	40 kA
Max. discharge surge current I_{max} (8/20) μs maximum (L-N)	40 kA
Max. discharge surge current I_{max} (8/20) μs maximum (L-PE)	40 kA
Max. discharge surge current I_{max} (8/20) μs maximum (N-PE)	40 kA
Nominal discharge surge current I_n (8/20) μs (L-N)	20 kA
Nominal discharge surge current I_n (8/20) μs (L-PE)	20 kA
Nominal discharge surge current I_n (8/20) μs (N-PE)	20 kA
Lightning test current (10/350) μs , peak value I_{imp}	12 kA (N-PE)

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Protective circuit

Impulse operate voltage at 6 kV (1.2/50) μ s (N-PE)	≤ 1.5 kV
Protection level U_p (L-N)	≤ 1.6 kV
Protection level U_p (L-PE)	≤ 1.75 kV
Protection level U_p (N-PE)	≤ 1.5 kV
Residual voltage (L-N)	≤ 1.6 kV (at I_n)
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 I_n)
Residual voltage (L-PE)	≤ 1.45 kV (at 10 kA)
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 I_n)
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 (gG)
Short-circuit resistance I_p with max. backup fuse (effective)	25 kA
Follow current quenching capacity I_f (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 mm ²
Conductor cross section stranded 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/kcmil min.	20
Conductor cross section AWG/kcmil max	2

Remote indicator contact

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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 mm ²
Conductor cross section stranded 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/kcmil min.	28
Conductor cross section AWG/kcmil 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)
Max. operating current I _{max}	1 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

ETIM

ETIM 2.0	EC000941
ETIM 3.0	EC000941
ETIM 4.0	EC000941
ETIM 5.0	EC000941

UNSPSC

UNSPSC 11	39121610
UNSPSC 12.01	39121610
UNSPSC 13.2	39121620
UNSPSC 6.01	30212010
UNSPSC 7.0901	39121610

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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

Approvals

Approvals


Approvals


UL Recognized / KEMA-KEUR / cUL Recognized / GOST / cULus Recognized


Ex Approvals

Approvals submitted

Approval details

UL Recognized 


KEMA-KEUR 

cUL Recognized 

GOST 

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Approvals

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.

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

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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

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

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

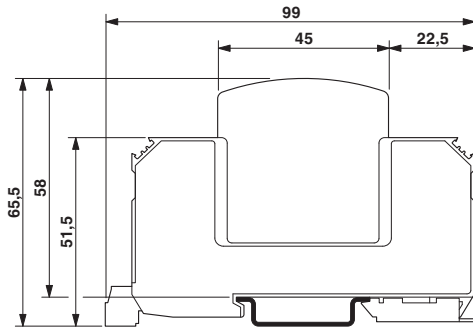


Surge protection connector type 2 with high-capacity varistor for VAL-MS base element, thermal monitoring, visual fault warning. Design: 320 V AC

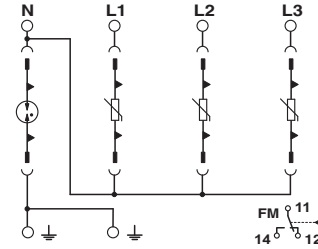
Drawings

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Dimensioned drawing



Circuit diagram



Application drawing

