Type 2 surge protection device - VAL-MS 320/3+1 - 2859178

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Surge voltage arrester combination 4-channel (in the 3+1 circuit), for mounting on NS 35/7.5, voltage 230 V AC

Product Features

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

Key commercial data

package_quantity	1
GTIN	4017918911225

Technical data

Dimensions

Height	90 mm
Width	71 mm
Depth	58 mm
Horizontal pitch	4 Div.

Ambient conditions

Degree of protection	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)	25 g
Vibration (operation)	5 g

General

Standards/specifications	IEC 61643-11 2011

Type 2 surge protection device - VAL-MS 320/3+1 - 2859178

Technical data

General

Standards/specifications	EN 61643-11 2012
IEC test classification	II
IEC test classification	T2
EN type	T2
Number of ports	One
SPD design	Combination type
Mode of protection	L-N
Mode of protection	L-PE
Mode of protection	N-PE
Mounting type	DIN rail: 35 mm
Color	black
Housing material	PA 6.6
Housing material	PBT
Pollution degree	2
Inflammability class according to UL 94	V-0
Type	DIN rail module, two-section, divisible
Number of positions	4
Surge protection fault message	Optical

Protective circuit

Nominal voltage U_N	240/415 V AC (TN-S)
Nominal voltage U_N	240/415 V AC (TT)
Nominal frequency f_N	50 Hz (60 Hz)
Maximum continuous operating voltage U_C (L-N)	335 V AC
Maximum continuous voltage U_C (N-PE)	260 V AC
Rated load current I_L	80 A
Residual current I_{PE}	≤ 5 µA
Standby power consumption P_C	≤ 450 mVA
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
Maximum discharge current I_{max} (8/20) µs (L-N)	40 kA
Maximum discharge current I_{max} (8/20) µs (L-PE)	40 kA
Maximum discharge current I_{max} (8/20) µs (N-PE)	40 kA
Follow current interrupt rating I_{fi} (N-PE)	100 A (260 V)
Short-circuit current rating I_{SCCR}	25 kA
Voltage protection level U_p (L-N)	≤ 1.6 kV
Voltage protection level U_p (L-PE)	≤ 1.9 kV
Voltage protection level U_p (N-PE)	≤ 1.5 kV
Residual voltage U_{res} (L-N)	≤ 1.6 kV (at I_n)
Residual voltage U_{res} (L-N)	≤ 1.5 kV (at 10 kA)

Type 2 surge protection device - VAL-MS 320/3+1 - 2859178

Technical data

Protective circuit

Residual voltage U_{res} (L-N)	≤ 1.3 kV (at 5 kA)
Residual voltage U_{res} (L-N)	≤ 1.1 kV (at 3 kA)
Residual voltage U_{res} (L-PE)	≤ 1.9 kV (at I_n)
Residual voltage U_{res} (L-PE)	≤ 1.5 kV (at 10 kA)
Residual voltage U_{res} (L-PE)	≤ 1.3 kV (at 5 kA)
Residual voltage U_{res} (L-PE)	≤ 1.2 kV (at 3 kA)
Residual voltage U_{res} (N-PE)	≤ 0.4 kV (at I_n)
Residual voltage U_{res} (N-PE)	≤ 0.25 kV (at 10 kA)
Residual voltage U_{res} (N-PE)	≤ 0.15 kV (at 5 kA)
Residual voltage U_{res} (N-PE)	≤ 0.1 kV (at 3 kA)
Front of wave sparkover voltage at 6 kV (1.2/50) µs (N-PE)	≤ 1.5 kV
TOV behavior at U_T (L-N)	415 V AC (5 s / withstand mode)
TOV behavior at U_T (L-N)	440 V AC (120 min / safe failure 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 (N-PE)	≤ 100 ns
Max. required backup fuse with branch wiring	125 A AC (gG)
Max. required backup fuse with V-type through wiring	80 A AC (gG)

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
AWG conductor cross section	10 ... 2 (UL)
Screw thread	M5
Tightening torque	4.5 Nm
Tightening torque	30 lb in (UL)
Stripping length	16 mm

NEMA/UL protective circuit

UL class	Type 4 SPD for Type 2 applications
Maximum continuous operating voltage MCOV (L-N)	320 V AC
Maximum continuous operating voltage MCOV (N-G)	260 V AC
Nominal voltage U_N	240/415 V AC
Mode of protection	L-L
Mode of protection	L-N
Mode of protection	L-G
Mode of protection	N-G
Power distribution system	3Y

Type 2 surge protection device - VAL-MS 320/3+1 - 2859178

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NEMA/UL protective circuit

Nominal frequency	50/60 Hz
Voltage protection rating VPR (L-L)	2 kV
Voltage protection rating VPR (L-N)	1.2 kV
Voltage protection rating VPR (L-G)	1.8 kV
Voltage protection rating VPR (N-G)	1.2 kV
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

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

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

Approval details

UL Recognized

Type 2 surge protection device - VAL-MS 320/3+1 - 2859178

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KEMA-KEUR

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accessories

Device marking

ZBN 18:UNBEDRUCKT - 2809128

Type 2 surge protection device - VAL-MS 320/3+1 - 2859178

accessories

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Labeled device marker

ZBN 18,LGS:ERDE - 2749589

ZBN 18,LGS:L1-N,ERDE - 2749576

ZBN 18,LGS:ERDE - 2749589

ZBN 18,LGS:L1-N,ERDE - 2749576

Marker pen

Type 2 surge protection device - VAL-MS 320/3+1 - 2859178

accessories

B-STIFT - 1051993

Bridge

MPB 18/4- 8 - 2809283

MPB 18/4-12 - 2809296

accessories

ZBN 18:SO/CMS - 0800763

ZBN 18,LGS:L1-N,ERDE - 2830469

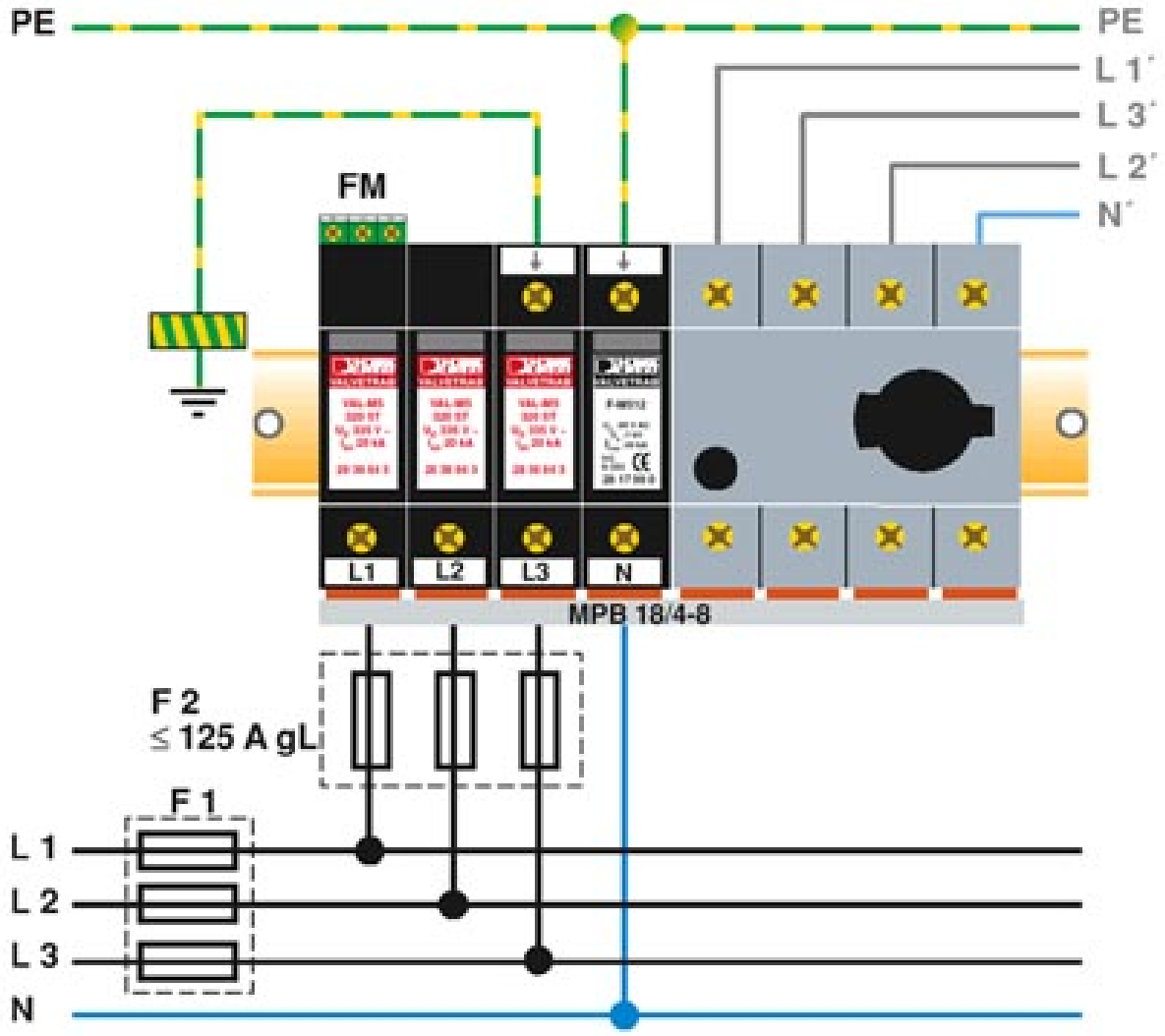
Type 2 surge protection device - VAL-MS 320/3+1 - 2859178

accessories

ZBN 18:SO/CMS - 0800763

Drawings

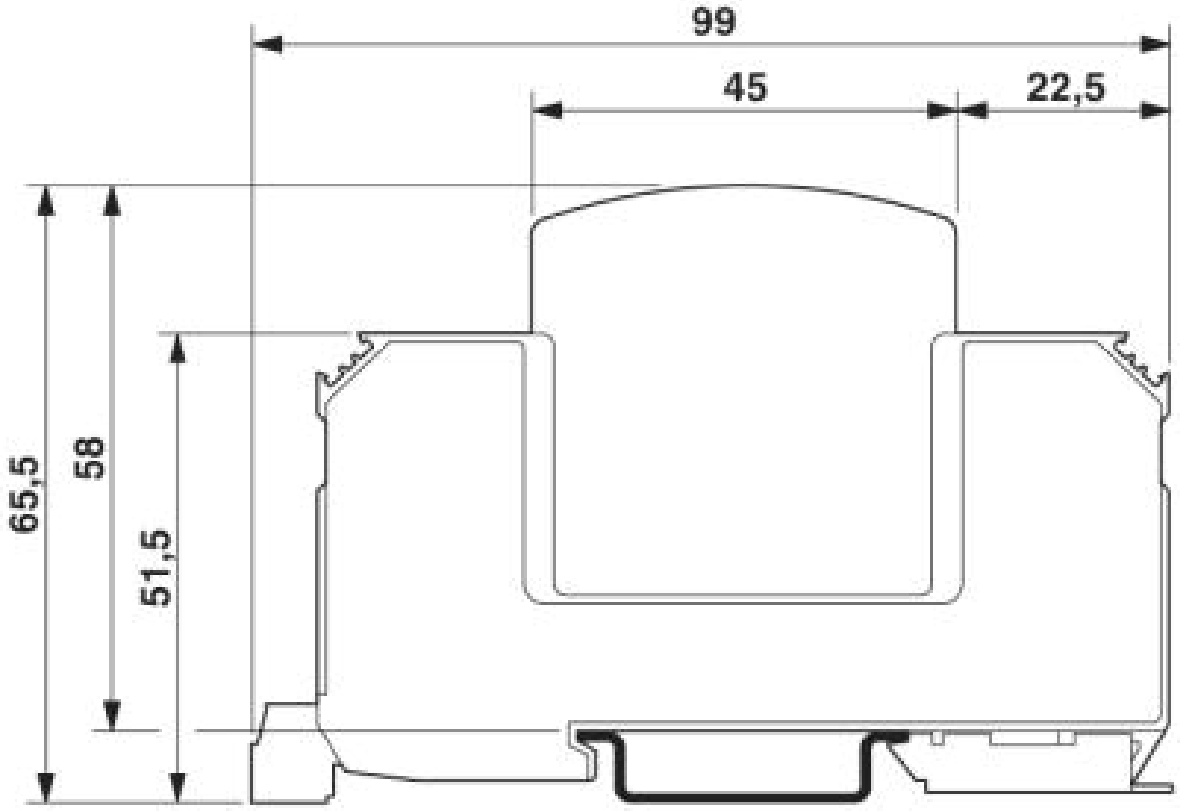
Application drawing



The illustration shows the version VAL-MS 320/3+1/FM (with remote indicator contact)

Type 2 surge protection device - VAL-MS 320/3+1 - 2859178

Dimensioned drawing



The illustration shows the dimensional drawing for a version with remote indicator contact

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Circuit diagram