Type 2 surge protection device - VAL-MS 230/3+1 FM - 2838199

Surge voltage arrester consisting of base element with remote indicator contact and ground connectors, for mounting on NS 35/7.5, nominal voltage: 230 V AC, 3 + 1 circuit

Product Features

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

Key commercial data

package_quantity	1
GTIN	4017918172800

Technical data

Dimensions

Height	96.8 mm
Width	70.8 mm
Depth	65.5 mm
Pitch unit	4 Div.

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 80 °C
Permissible humidity (operation)	5 % ... 95 %

General

Housing material	PBT / PA
Inflammability class according to UL 94	V0
Color	black
Standards for air and creepage distances	DIN EN 60664-1
Mounting type	DIN rail: 35 mm

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Technical data

General

Design	DIN rail module, two-section, divisible
Number of positions	4
Message: Surge protection fault	Optical, remote indicator contact
Direction of action	3L-N & N-PE

Protective circuit

IEC test classification	II
IEC test classification	T2
EN type	T2
Nominal voltage U_N	230 V AC (400 V AC)
Nominal voltage U_N	230 V AC ... 415 V AC
Maximum continuous operating voltage U_C	275 V AC
Maximum continuous operating voltage U_C (L-N)	275 V AC
Maximum continuous operating voltage U_C (N-PE)	260 V AC
U_T (TOV-proof)	335 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)
Residual current I_{PE}	≤ 1 µA
Standby power consumption P_C	≤ 360 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
Impulse discharge current (10/350) µs, peak value I_{imp}	12 kA (N-PE)
Front of wave sparkover voltage at 6 kV (1.2/50) µs (N-PE)	≤ 1.5 kV
Voltage protection level U_P (L-N)	≤ 1.35 kV
Voltage protection level U_P (L-PE)	≤ 1.6 kV
Voltage protection level U_P (N-PE)	≤ 1.5 kV
Residual voltage (L-N)	≤ 1.35 kV (at I_n)
Residual voltage (L-N)	≤ 1.2 kV (at 10 kA)
Residual voltage (L-N)	≤ 1.1 kV (at 5 kA)
Residual voltage (L-N)	≤ 0.95 kV (at 3 kA)
Residual voltage (L-PE)	≤ 1.6 kV (at I_n)
Residual voltage (L-PE)	≤ 1.35 kV (at 10 kA)
Residual voltage (L-PE)	≤ 1.2 kV (at 5 kA)
Residual voltage (L-PE)	≤ 1 kV (at 3 kA)
Residual voltage (N-PE)	≤ 0.4 kV (at I_n)
Residual voltage (N-PE)	≤ 0.25 kV (at 10 kA)

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Protective circuit

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 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 $U_{max.}$ 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 and Regulations

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Technical data

Standards and Regulations

Standards/regulations	IEC 61643-1 2005
Standards/regulations	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
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

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

Approval details

IECEE CB Scheme

UL Recognized

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approvals

KEMA-KEUR

ÖVE

cUL Recognized

GOST

GL

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cULus Recognized

accessories

Labeled device marker

ZBN 18,LGS:ERDE - 2749589

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

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accessories

Device marking

ZBN 18:UNBEDRUCKT - 2809128

Marker pen

B-STIFT - 1051993

Feed-through terminal block

DK-BIC-35 - 2749880

Bridge

MPB 18/4- 8 - 2809283

MPB 18/4-12 - 2809296

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accessories

MPB F200X16/ 1GS - 2818339

MPB F400X16/ 1GS - 2818342

MPB F600X16/ 1GS - 2818355

MPB F600X16/ 1GS - 2818355

MPB F400X16/ 1GS - 2818342

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accessories

MPB F200X16/ 1GS - 2818339

MPB 18/4-12 - 2809296

MPB 18/4- 8 - 2809283

MPB 18/1-57 - 2809238

MPB 18/1-12 - 2748593

MPB 18/1- 9 - 2748580

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accessories

MPB 18/1- 8 - 2748577

MPB 18/1- 6 - 2748564

MPB 18/1- 4 - 2809225

MPB 18/1- 3 - 2809212

MPB 18/1- 2 - 2809209

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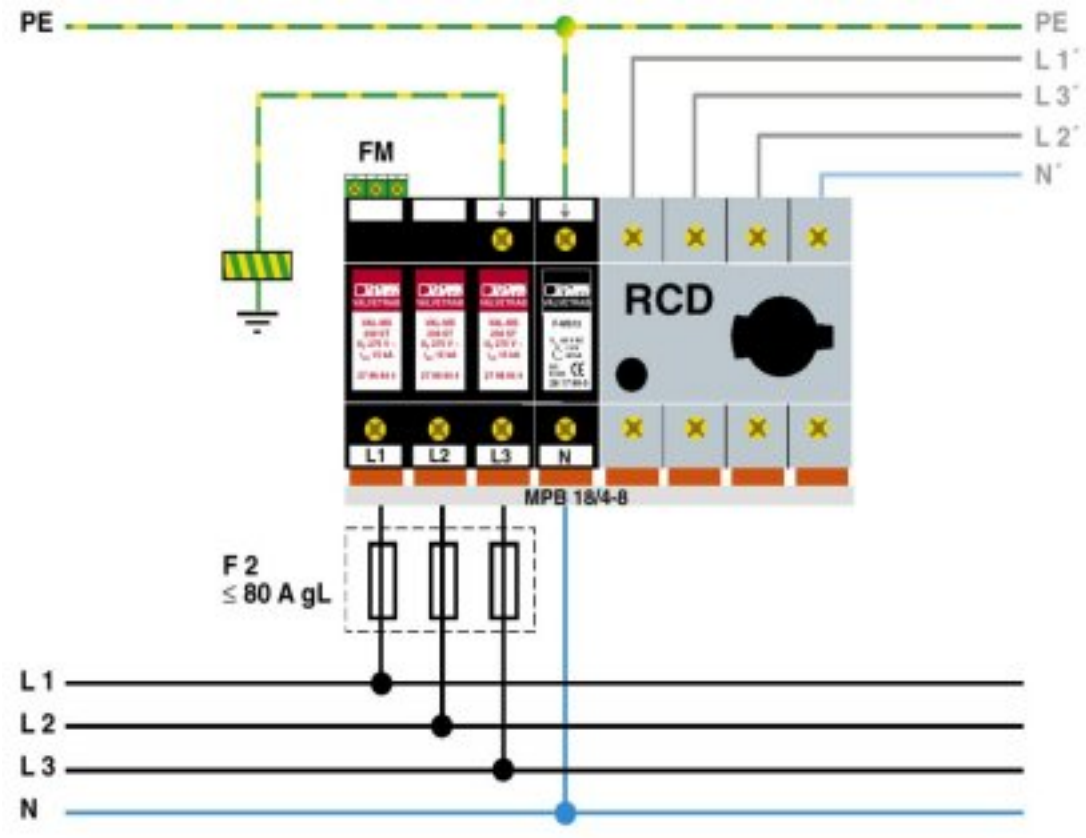
accessories

ZBN 18:SO/CMS - 0800763

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

Drawings

Application drawing



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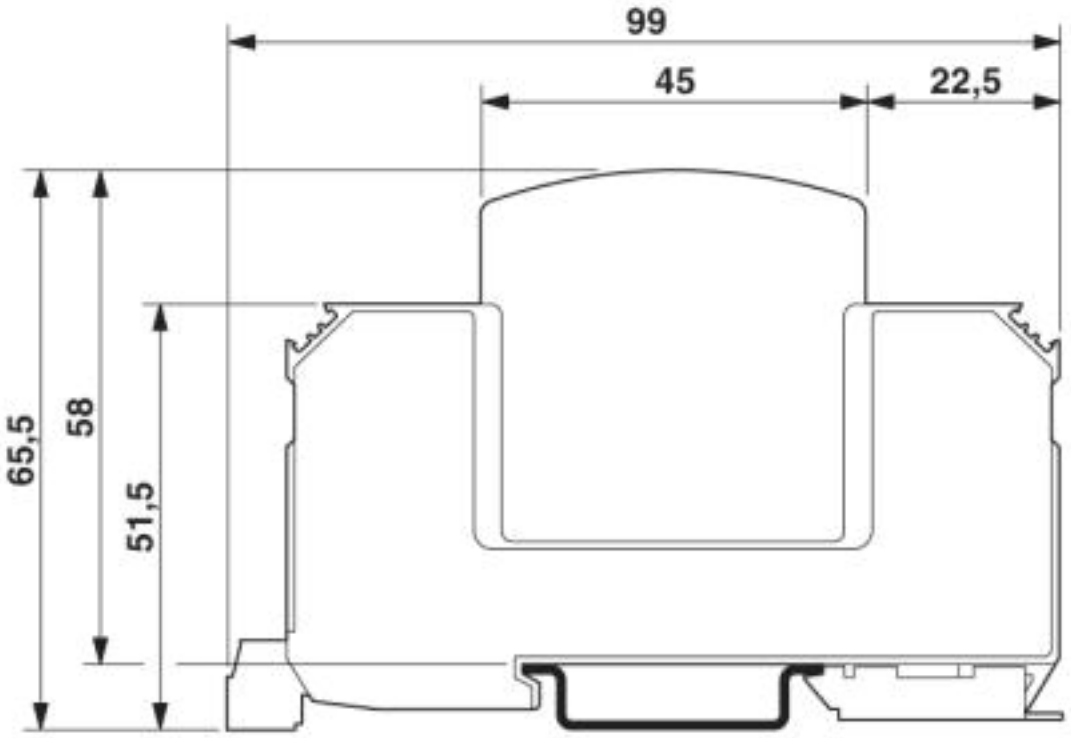
Dimensioned drawing



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Circuit diagram