

Type 2 surge arrester - VAL-MS 230/3+1 FM/32



2908476

<https://www.phoenixcontact.com/gb/products/2908476>

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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: 230 V AC, 3 + 1 circuit

Product Description

Large-scale packaging

Your advantages

- Quality proven millions of times over in the widest range of applications
- Rapid installation with bridges, thanks to industry-standard overall width of 1 HP
- Easy testing and insulation measurement, thanks to pluggable protection modules
- Wide range of applications due to various nominal voltages
- High degree of modularity provides individual solutions for every application
- With floating remote indication contact
- Plugs can be checked with CHECKMASTER
- Optical, mechanical status indication for the individual arresters

Commercial Data

Item number	2908476
Packing unit	32 pc
Minimum order quantity	32 pc
Sales Key	CL1321
Product Key	CL1321
GTIN	4055626305295
Weight per Piece (including packing)	414 g
Weight per Piece (excluding packing)	396 g
Customs tariff number	85363030
Country of origin	DE

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Technical Data

Product properties

IEC test classification	II
	T2
EN type	T2
Type	DIN rail module, two-section, divisible
Product type	Surge arrester
Number of positions	4
Surge protection fault message	Optical, remote indicator contact

Insulation characteristics

Overvoltage category	III
Pollution degree	2

Electrical properties

Nominal frequency f_N	50 Hz (60 Hz)
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Indicator/remote signaling

Connection name	Remote fault indicator contact
Switching function	Changeover contact
Operating voltage	5 V AC ... 250 V AC 30 V DC
Operating current	5 mA AC ... 750 mA AC 1 A DC

Connection data

Connection method	Screw connection
Screw thread	M5
Tightening torque	3 Nm (1.5 mm ² ... 16 mm ²) 4.5 Nm (25 mm ² ... 35 mm ²)
Stripping length	16 mm
Conductor cross section flexible	1.5 mm ² ... 25 mm ²
Conductor cross section solid	1.5 mm ² ... 35 mm ²
Conductor cross section AWG	15 ... 2
Connection method	Fork-type cable lug
Conductor cross section flexible	1.5 mm ² ... 16 mm ²

Dimensions

Dimensional drawing	
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Width	71 mm
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Height	98.7 mm
Height	98.7 mm
Depth	65.7 mm (incl. DIN rail 7.5 mm)
Depth	65.7 mm
Horizontal pitch	4 Div.

Material specifications

Color	jet black RAL 9005
Flammability rating according to UL 94	V-0
CTI value of material	600
Insulating material	PA 6.6/PBT
Material group	I
Housing material	PA 6.6
	PBT

Protective circuit

Mode of protection	L-N
	L-PE
	N-PE
Direction of action	3L-N & N-PE
Nominal voltage U_N	240/415 V AC (TN-S)
	240/415 V AC (TT)
Nominal frequency f_N	50 Hz (60 Hz)
Maximum continuous operating voltage U_C (L-N)	275 V AC
Maximum continuous operating voltage U_C (L-PE)	275 V AC
Maximum continuous operating voltage U_C (N-PE)	260 V AC
Rated load current I_L	80 A
Residual current I_{PE}	$\leq 5 \mu A$
Standby power consumption P_C	$\leq 360 \text{ mVA}$
Nominal discharge current I_n (8/20) μs	20 kA
Maximum discharge current I_{max} (8/20) μs	40 kA
Follow current interrupt rating I_{fi} (N-PE)	100 A
Short-circuit current rating I_{SCCR}	25 kA
Voltage protection level U_p (L-N)	$\leq 1.35 \text{ kV}$
Voltage protection level U_p (L-PE)	$\leq 1.6 \text{ kV}$
Voltage protection level U_p (N-PE)	$\leq 1.5 \text{ kV}$
Residual voltage U_{res} (L-N)	$\leq 1.35 \text{ kV}$ (at I_n)
	$\leq 1.1 \text{ kV}$ (at 10 kA)
	$\leq 1 \text{ kV}$ (at 5 kA)
	$\leq 0.9 \text{ kV}$ (at 3 kA)
Residual voltage U_{res} (L-PE)	$\leq 1.6 \text{ kV}$ (at I_n)
	$\leq 1.2 \text{ kV}$ (at 10 kA)

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	≤ 1 kV (at 5 kA)
	≤ 0.9 kV (at 3 kA)
Residual voltage U_{res} (N-PE)	≤ 0.4 kV (at I_n)
	≤ 0.25 kV (at 10 kA)
	≤ 0.15 kV (at 5 kA)
	≤ 0.1 kV (at 3 kA)
TOV behavior at U_T (L-N)	335 V AC (5 s / withstand mode)
	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 (L-PE)	≤ 100 ns
Response time t_A (N-PE)	≤ 100 ns
Max. backup fuse with V-type through wiring	80 A (gG)
Max. backup fuse with branch wiring	125 A (gG)

Environmental and real-life conditions

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)	25g (Half-sine / 11 ms / 3x ±X, ±Y, ±Z)
Vibration (operation)	5g (10 ... 500 Hz / 2.5 h / X, Y, Z)

Approval data

UL specifications

Maximum continuous operating voltage MCOV (L-L)	550 V AC
Maximum continuous operating voltage MCOV (L-N)	275 V AC
Maximum continuous operating voltage MCOV (L-G)	275 V AC
Maximum continuous operating voltage MCOV (N-G)	260 V AC
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
Mode of protection	L-L
	L-N
	L-G
	N-G
Nominal voltage	230/400 V AC
Power distribution system	Wye
Nominal frequency	50/60 Hz
Measured limiting voltage MLV (L-L)	2720 V

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Measured limiting voltage MLV (L-N)	1910 V
Measured limiting voltage MLV (L-G)	2630 V
Measured limiting voltage MLV (N-G)	1370 V
SPD Type	4CA
AC operating voltage	125 V AC
AC operating current	1 A AC

UL connection data

Tightening torque	30 lb _f -in.
Conductor cross section AWG	10 ... 2

Standards and regulations

Standards/specifications	IEC 61643-11
Standards/specifications	EN 61643-11

Mounting

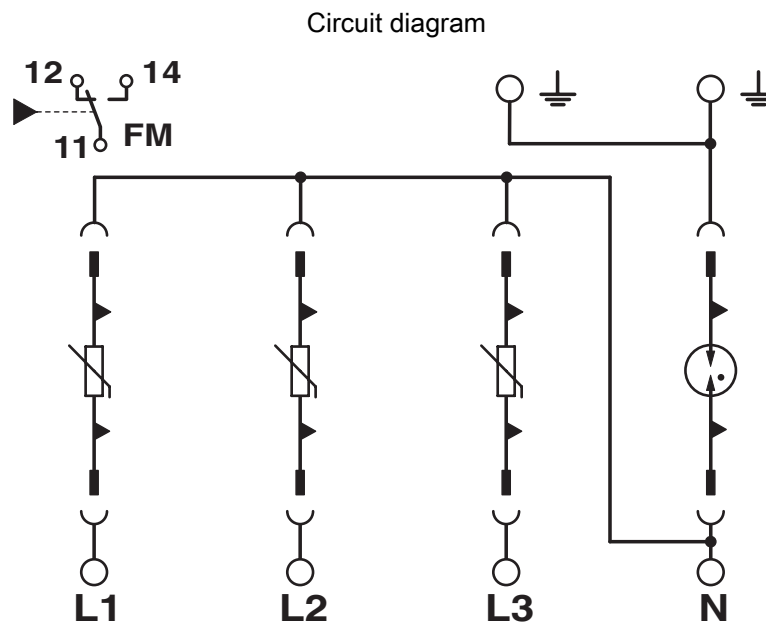
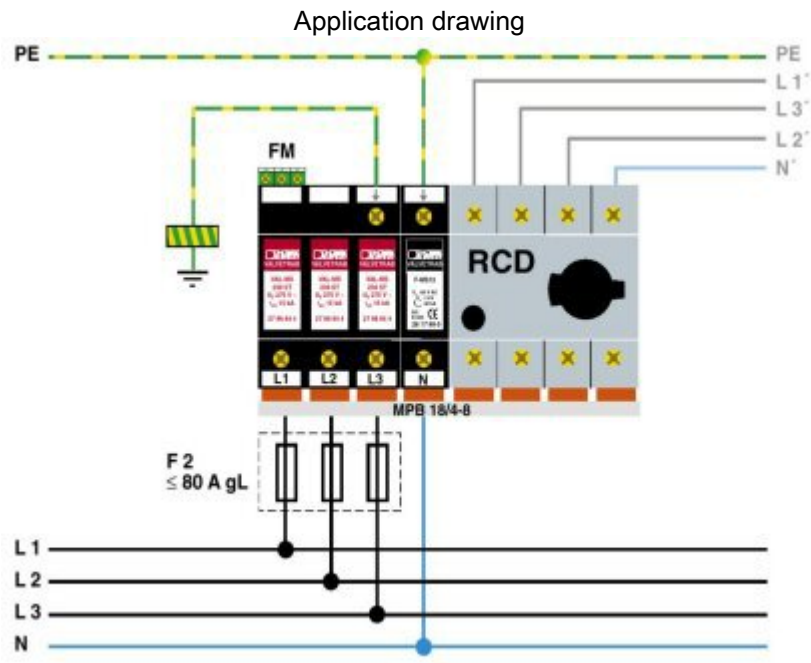
Mounting type	DIN rail: 35 mm
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Drawings



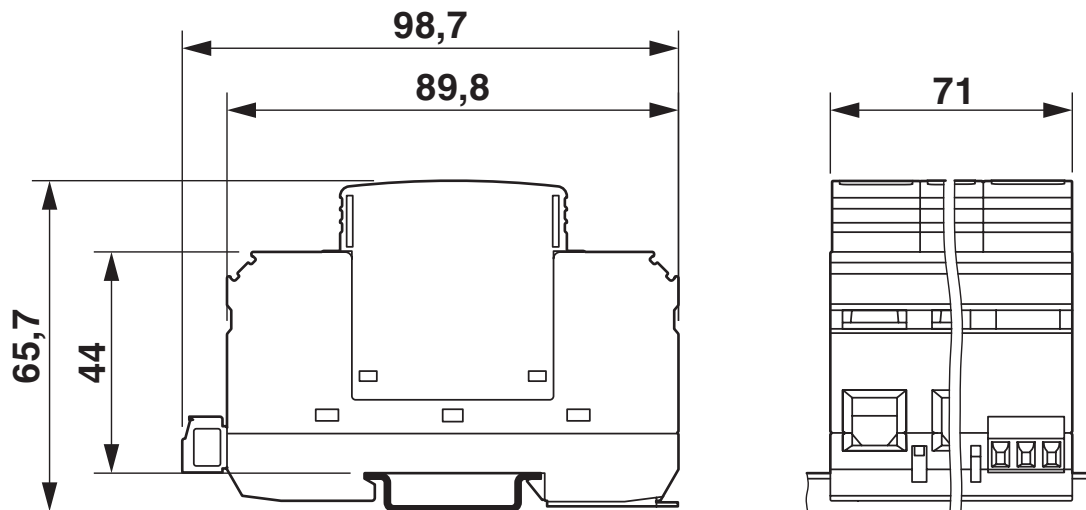
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Dimensional drawing



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Classifications

ECLASS

ECLASS-9.0	27130805
ECLASS-10.0.1	27130805
ECLASS-11.0	27130805

ETIM

ETIM 8.0	EC000941
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UNSPSC

UNSPSC 21.0	39121600
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Environmental Product Compliance

China RoHS	Environmentally Friendly Use Period = 50 years For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"
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Accessories

Wiring bridge

Wiring bridge - MPB 18/4- 8 - 2809283

<https://www.phoenixcontact.com/gb/products/2809283>



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

Wiring bridge

Wiring bridge - MPB 18/1-57 - 2809238

<https://www.phoenixcontact.com/gb/products/2809238>



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

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Wiring bridge

Wiring bridge - MPB 18/1-12 - 2748593

<https://www.phoenixcontact.com/gb/products/2748593>



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

Wiring bridge

Wiring bridge - MPB 18/1- 9 - 2748580

<https://www.phoenixcontact.com/gb/products/2748580>



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

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Wiring bridge

Wiring bridge - MPB 18/1- 8 - 2748577

<https://www.phoenixcontact.com/gb/products/2748577>



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

Wiring bridge

Wiring bridge - MPB 18/1- 6 - 2748564

<https://www.phoenixcontact.com/gb/products/2748564>



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

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Wiring bridge

Wiring bridge - MPB 18/1- 4 - 2809225

<https://www.phoenixcontact.com/gb/products/2809225>



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

Wiring bridge

Wiring bridge - MPB 18/1- 3 - 2809212

<https://www.phoenixcontact.com/gb/products/2809212>



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

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Wiring bridge

Wiring bridge - MPB 18/1- 2 - 2809209

<https://www.phoenixcontact.com/gb/products/2809209>

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



Marker for terminal blocks

Marker for terminal blocks - ZBN 18,LGS:ERDE - 2749589

<https://www.phoenixcontact.com/gb/products/2749589>

Marker for terminal blocks, Strip, white, labeled, horizontal: Grounding symbol, mounting type: snapped, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5



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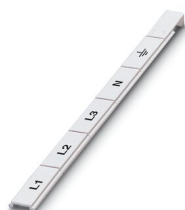
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Marker for terminal blocks

Marker for terminal blocks - ZBN 18,LGS:L1-N,ERDE - 2749576

<https://www.phoenixcontact.com/gb/products/2749576>



Marker for terminal blocks, Strip, white, labeled, horizontal: L1, L2, L3, N, GND, mounting type: snapped, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

Zack marker strip

Zack marker strip - ZBN 18:UNBEDRUCKT - 2809128

<https://www.phoenixcontact.com/gb/products/2809128>



Zack marker strip, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snapped, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

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Marker pen

Marker pen - B-STIFT - 1051993

<https://www.phoenixcontact.com/gb/products/1051993>



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

Feed-through terminal block

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

<https://www.phoenixcontact.com/gb/products/2749880>



Feed-through terminal block for VAL and FLT applications

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Wiring bridge

Wiring bridge - MPB 18/4- 8 - 2809283

<https://www.phoenixcontact.com/gb/products/2809283>



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

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