

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



1248960

<https://www.phoenixcontact.com/au/products/1248960>

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Surge protective device consisting of base element with Push-in connection technology, Push-in remote indication contact, and protective plugs, for mounting on NS 35/7.5. Nominal voltage: 230 V AC, 3+1 circuit

Your advantages

- Push-in connection technology for easy installation and uniform connection technology in the entire control cabinet
- Time savings when wiring thanks to not having to check the recommended connection torque
- Savings on additional installation materials thanks to through-wiring
- Permanent protective device monitoring due to optional remote indication contact with through-wiring

Commercial data

Item number	1248960
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL132A
Product key	CL132A
GTIN	4063151351182
Weight per piece (including packing)	371.6 g
Weight per piece (excluding packing)	372 g
Customs tariff number	85363030
Country of origin	DE

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Technical data

Product properties

Product type	Surge arrester
Product family	VALVETRAB MS
IEC test classification	II
	T2
EN type	T2
IEC power supply system	TN-S
	TT
Type	DIN rail module, two-section, divisible
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	Push-in connection
Stripping length	10 mm ... 12 mm
Conductor cross section rigid	0.5 mm ² ... 10 mm ²
Conductor cross section AWG	20 ... 8
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.5 mm ² ... 6 mm ²
Conductor cross section flexible, with ferrule without plastic sleeve	0.5 mm ² ... 10 mm ²

Remote fault indicator contact

Connection method	Push-in connection
Stripping length	10 mm
Conductor cross section flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross section rigid	0.2 mm ² ... 2.5 mm ²
Conductor cross section AWG	30 ... 12

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Dimensions

Dimensional drawing	
Width	71.2 mm
Height	97.2 mm
Depth	65.7 mm (incl. DIN rail 7.5 mm)
Horizontal pitch	4 Div.

Material specifications

Color (Base element)	gray (RAL 7042)
Color (Male connector)	light gray (RAL 7035)
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	32 A (at 6 mm ²) 40 A (at 10 mm ²)
Protective conductor 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)	$\leq 1.5 \text{ kV}$

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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)
	$\leq 1 \text{ kV}$ (at 5 kA)
	$\leq 0.9 \text{ kV}$ (at 3 kA)
Residual voltage U_{res} (N-PE)	$\leq 0.4 \text{ kV}$ (at I_n)
	$\leq 0.25 \text{ kV}$ (at 10 kA)
	$\leq 0.15 \text{ kV}$ (at 5 kA)
	$\leq 0.1 \text{ kV}$ (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)	$\leq 25 \text{ ns}$
Response time t_A (L-PE)	$\leq 100 \text{ ns}$
Response time t_A (N-PE)	$\leq 100 \text{ ns}$
Max. backup fuse with V-type through wiring	32 A (gG - 6 mm ²)
	35 A (gG - 10 mm ²)
	40 A (MCB C - 10 mm ²)
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 ... 85 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	$\leq 2000 \text{ m}$ (amsl)
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	25g (Half-sine / 11 ms / 3x $\pm X$, $\pm Y$, $\pm Z$)
Vibration (operation)	2g (10 ... 500 Hz / 2.5 h / X, Y, Z)

Standards and regulations

Standards/specifications	IEC 61643-11
Note	2011
Standards/specifications	EN 61643-11
Note	2012

Mounting

Mounting type	DIN rail: 35 mm
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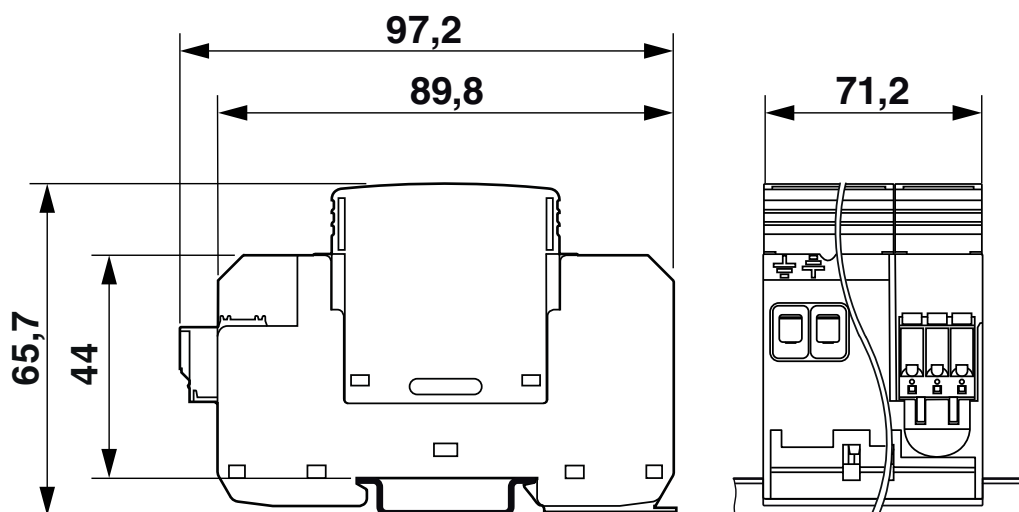
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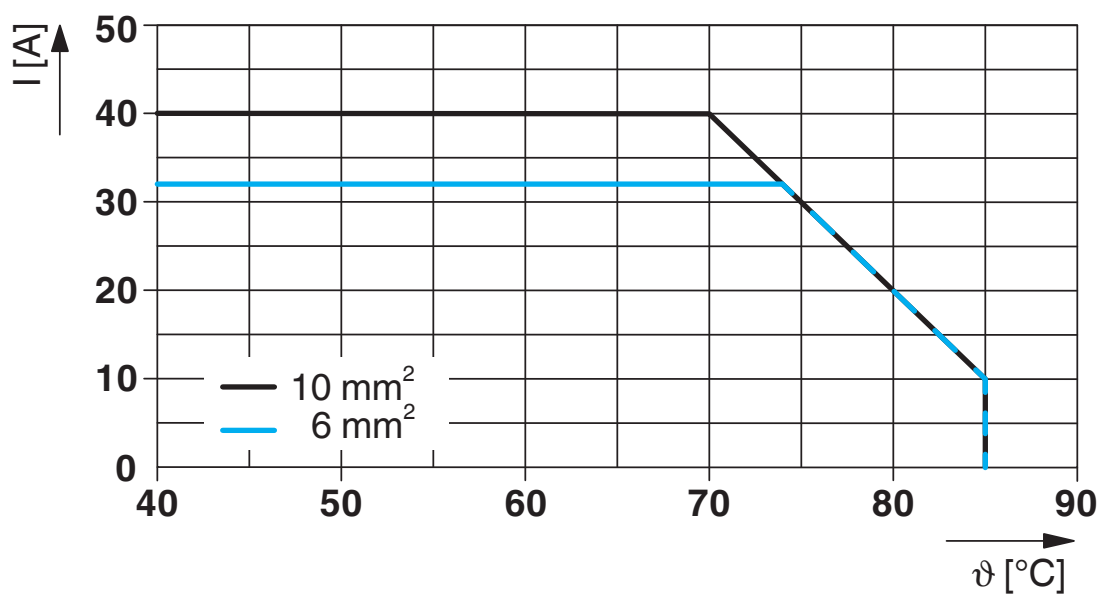
<https://www.phoenixcontact.com/au/products/1248960>

Drawings

Dimensional drawing



Diagram



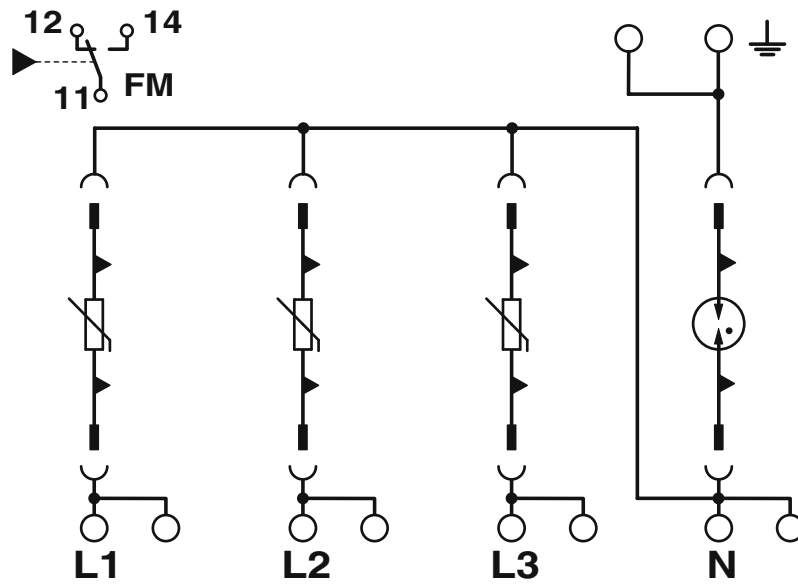
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Circuit diagram



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Approvals

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IECEE CB Scheme

Approval ID: NL-71987

CCA

Approval ID: NTR-NL 7875



KEMA-KEUR

Approval ID: 71-118125

UAE-RoHS

Approval ID: 22-09-51250

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Classifications

ECLASS

ECLASS-13.0	27171202
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ETIM

ETIM 9.0	EC000941
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UNSPSC

UNSPSC 21.0	39121600
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Environmental product compliance

EU RoHS	
Fulfills EU RoHS substance requirements	Yes, No exemptions
China RoHS	
Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits
EU REACH SVHC	
REACH candidate substance (CAS No.)	No substance above 0.1 wt%
EF3.0 Climate Change	
CO2e kg	2.896 kg CO2e

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