

2858755

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Surge voltage arrester 4-channel, for mounting on NS 35/7.5 350 V AC

Commercial data

Item number	2858755
Packing unit	1 pc
Minimum order quantity	1 pc
Note	Made to order (non-returnable)
Product key	CL1321
Catalog page	Page 54 (C-4-2017)
GTIN	4017918900618
Weight per piece (including packing)	391 g
Weight per piece (excluding packing)	340.9 g
Country of origin	DE

VAL-MS 350 VF/3+1 - Type 2 surge arrester



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Technical data

Product properties

Product type	Surge arrester
Product family	VALVETRAB MS
IEC test classification	II
	T2
EN type	T2
Type	DIN rail module, two-section, divisible
Number of positions	4
Surge protection fault message	optical

Insulation characteristics

Overvoltage category	III
Pollution degree	2

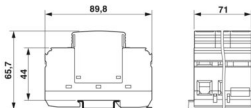
Electrical properties

Nominal frequency f_N	50 Hz (60 Hz)
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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 rigid	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	
Width	71 mm
Height	89.8 mm
Depth	65.7 mm (incl. DIN rail 7.5 mm)
Horizontal pitch	4 Div.

Material specifications

Flammability rating according to UL 94	V-0
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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)	350 V AC
Maximum continuous operating voltage U_C (L-PE)	350 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	$\leq 0.60 \text{ mVA}$
Nominal discharge current I_n (8/20) μs (L-N)	10 kA
Nominal discharge current I_n (8/20) μs (L-PE)	10 kA
Nominal discharge current I_n (8/20) μs (N-PE)	20 kA
Maximum discharge current I_{max} (8/20) μs (L-N)	20 kA
Maximum discharge current I_{max} (8/20) μs (L-PE)	20 kA
Maximum discharge current I_{max} (8/20) μs (N-PE)	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)	$\leq 1.5 \text{ kV}$
Voltage protection level U_p (L-PE)	$\leq 2 \text{ kV}$
Voltage protection level U_p (N-PE)	$\leq 1.5 \text{ kV}$
Residual voltage U_{res} (L-N)	$\leq 1.2 \text{ kV}$ (at I_n)
	$\leq 1.2 \text{ kV}$ (at 10 kA)
	$\leq 1.1 \text{ kV}$ (at 5 kA)
Residual voltage U_{res} (L-PE)	$\leq 1.35 \text{ kV}$ (at I_n)
	$\leq 1.35 \text{ kV}$ (at 10 kA)
	$\leq 1.2 \text{ kV}$ (at 5 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)	415 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)

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Response time t_A	$\leq 100 \text{ ns}$
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	$\leq 2000 \text{ m (amsl)}$
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	25g (Half-sine / 11 ms / 3x $\pm X$, $\pm Y$, $\pm Z$)
Vibration (operation)	5g (10 ... 500 Hz / 2.5 h / X, Y, Z)

Approvals

UL specifications

Maximum continuous operating voltage MCOV (L-L)	700 V AC
Maximum continuous operating voltage MCOV (L-N)	350 V AC
Maximum continuous operating voltage MCOV (L-G)	350 V AC
Maximum continuous operating voltage MCOV (N-G)	260 V AC
Nominal discharge current I_n (L-L)	10 kA
Nominal discharge current I_n (L-N)	10 kA
Nominal discharge current I_n (L-G)	10 kA
Nominal discharge current I_n (N-G)	10 kA
Mode of protection	L-L
	L-N
	L-G
	N-G
Nominal voltage	240/415 V AC
Power distribution system	Wye
Nominal frequency	50/60 Hz
Measured limiting voltage MLV (L-L)	2420 V
Measured limiting voltage MLV (L-N)	1610 V
Measured limiting voltage MLV (L-G)	2030 V
Measured limiting voltage MLV (N-G)	870 V
SPD Type	4CA

UL connection data

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

Standards and regulations

Standards/specifications	IEC 61643-11
Note	2011

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Standards/specifications	EN 61643-11
Note	2012

Mounting

Mounting type	DIN rail: 35 mm
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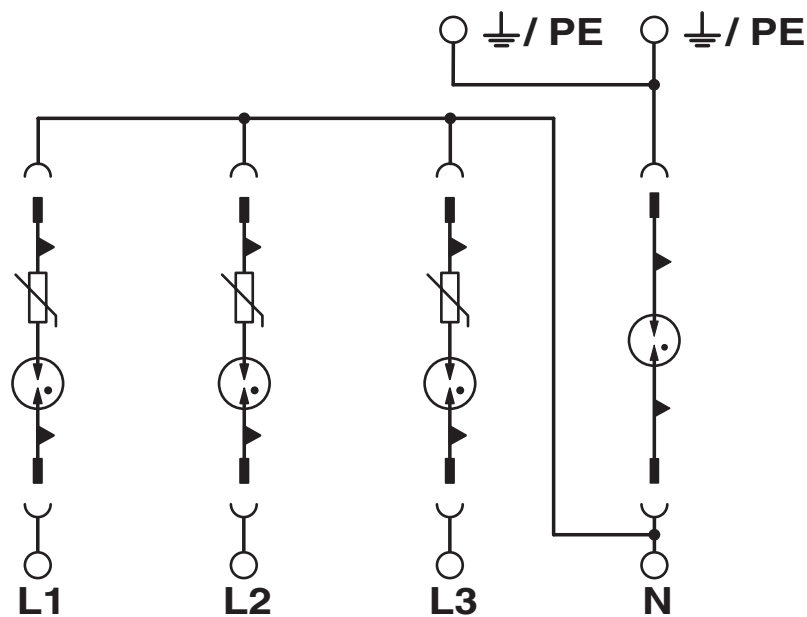
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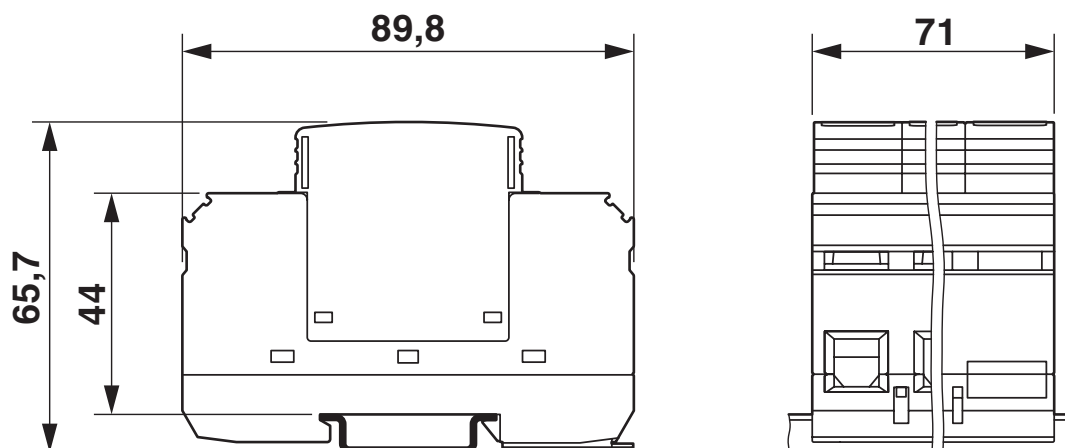
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Drawings

Circuit diagram



Dimensional drawing



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Environmental product compliance

EU REACH SVHC

REACH candidate substance (CAS No.)	No substance above 0.1 wt%
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Accessories

ZBN 18:UNBEDRUCKT - Zack marker strip

2809128

<https://www.phoenixcontact.com/us/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

ZBN 18,LGS:ERDE - Marker for terminal blocks

2749589

<https://www.phoenixcontact.com/us/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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ZBN 18,LGS:L1-N,ERDE - Marker for terminal blocks

2749576

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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

B-STIFT - Marker pen

1051993

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



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

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MPB 18/4- 8 - Wiring bridge

2809283

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



MPB 18/4-12 - Wiring bridge

2809296

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Wiring bridge for modules with connecting pitch 17.5 mm, 4-phase, 12-pos.



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VAL-MS 350 VF ST - Type 2 surge protection plug

2856595

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Surge protection connector type 2 with series connection consisting of varistor and gas-filled spark gap for VAL-MS base element, thermal monitoring, visual fault warning. Design: 350 V AC

F-MS 12 ST - Type 2 surge protection plug

2817990

<https://www.phoenixcontact.com/us/products/2817990>



Surge protection plug type 2, with N-PE total current spark gap for base element.

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