

# VAL-CP-2C-175 - Type 2 surge arrester



2859482

<https://www.phoenixcontact.com/us/products/2859482>

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Plug-in surge arrester for 2-phase power supply networks with N and PE in a common conductor (3-conductor system: L1, L2, PEN), with remote indication contact.

## Commercial data

Item number	2859482
Packing unit	1 pc
Note	Made to order (non-returnable)
Sales key	CL01
Product key	CL1311
GTIN	4046356045483
Weight per piece (including packing)	218.4 g
Weight per piece (excluding packing)	208.63 g
Customs tariff number	85369010
Country of origin	DE

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## Technical data

### Product properties

Product type	Surge arrester
IEC test classification	II
	T2
EN type	T2
IEC power supply system	TN-C
Type	DIN rail module, two-section, divisible
Number of positions	2
Surge protection fault message	Optical, remote indicator contact
Number of ports	One

### 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
	125 V DC (200 mA DC)
Operating current	5 mA AC ... 1 A AC
	1 A DC (30 V DC)

### Connection data

Connection method	Screw connection
Screw thread	M5
Tightening torque	4.5 Nm
Stripping length	16 mm
Conductor cross-section flexible	2.5 mm <sup>2</sup> ... 16 mm <sup>2</sup>
Conductor cross-section rigid	2.5 mm <sup>2</sup> ... 25 mm <sup>2</sup>
Conductor cross-section AWG	12 ... 4

### Remote fault indicator contact

Connection method	Pluggable screw connection
Screw thread	M2
Tightening torque	0.25 Nm
Stripping length	7 mm
Conductor cross-section flexible	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross-section rigid	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross-section AWG	28 ... 16

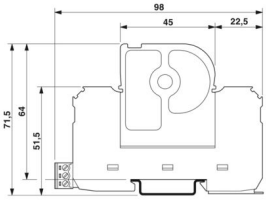
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## Dimensions

Dimensional drawing	
Width	25.3 mm
Height	98 mm
Depth	71.5 mm
Horizontal pitch	1.4 Div.

## Material specifications

Flammability rating according to UL 94	V-0
CTI value of material	600
Insulating material	PBT-FR
Material group	I
Housing material	PBT-FR

## Protective circuit

Mode of protection	L-PEN
Direction of action	2L-N/PE
Nominal voltage $U_N$	120/208 V AC (TN-C)
Nominal frequency $f_N$	50 Hz (60 Hz)
Maximum continuous operating voltage $U_C$ (L-PEN)	175 V AC
Rated load current $I_L$	40 A (Biconnect M4 fork-type cable lug 6 mm <sup>2</sup> )
	63 A (TWIN ferrule 2 x 10 mm <sup>2</sup> )
Nominal discharge current $I_n$ (8/20) $\mu$ s (L-PEN)	20 kA
Maximum discharge current $I_{max}$ (8/20) $\mu$ s (L-PEN)	40 kA
Short-circuit current rating $I_{SCCR}$	25 kA
Voltage protection level $U_p$ (L-PEN)	$\leq 0.85$ kV
Residual voltage $U_{res}$ (L-PEN)	$\leq 0.85$ kV (at $I_n$ )
	$\leq 0.75$ kV (at 10 kA)
	$\leq 0.65$ kV (at 5 kA)
	$\leq 0.63$ kV (at 4 kA)
	$\leq 0.57$ kV (at 2 kA)
TOV behavior at $U_T$ (L-PEN)	240 V AC (5 s / withstand mode)
	240 V AC (120 min / safe failure mode)
Response time $t_A$ (L-PEN)	$\leq 25$ ns
Max. backup fuse with V-type through wiring	40 A (gG / Biconnect M4 fork-type cable lug, 6 mm <sup>2</sup> )
	63 A (gG / TWIN ferrule 2x 10mm <sup>2</sup> )
Max. backup fuse with branch wiring	315 A (gG)

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## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 80 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Altitude	≤ 2000 m (amsl)
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	30g (Half-sine / 11 ms / 3x ±X, ±Y, ±Z)
Vibration (operation)	5g (10 ... 500 Hz / 2.5 h / X, Y, Z)

## Approvals

### UL specifications

Maximum continuous operating voltage MCOV (L-L)	350 V AC
Maximum continuous operating voltage MCOV (L-N)	175 V AC
Nominal discharge current $I_n$ (L-L)	20 kA
Nominal discharge current $I_n$ (L-N)	20 kA
Mode of protection	L-L L-N
Nominal voltage	120/240 V AC
Power distribution system	Split phase
Nominal frequency	50/60 Hz
Measured limiting voltage MLV (L-L)	2010 V
Measured limiting voltage MLV (L-N)	1510 V
SPD Type	4CA

### UL indicator/remote signaling

Operating voltage	125 V AC
AC operating current	1 A AC

### UL connection data

Tightening torque	40 lb <sub>F</sub> -in. ... 50 lb <sub>F</sub> -in.
Conductor cross-section AWG	14 ... 2 (solid) 14 ... 4 (flexible)

## Standards and regulations

### Air clearances and creepage distances

Standards/regulations	DIN VDE 0110-1 / IEC 60664-1 / IEC 61643-1
Standards/specifications	IEC 61643-11
Note	2011
Standards/specifications	EN 61643-11
Note	2012

## Mounting

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Mounting type

DIN rail: 35 mm

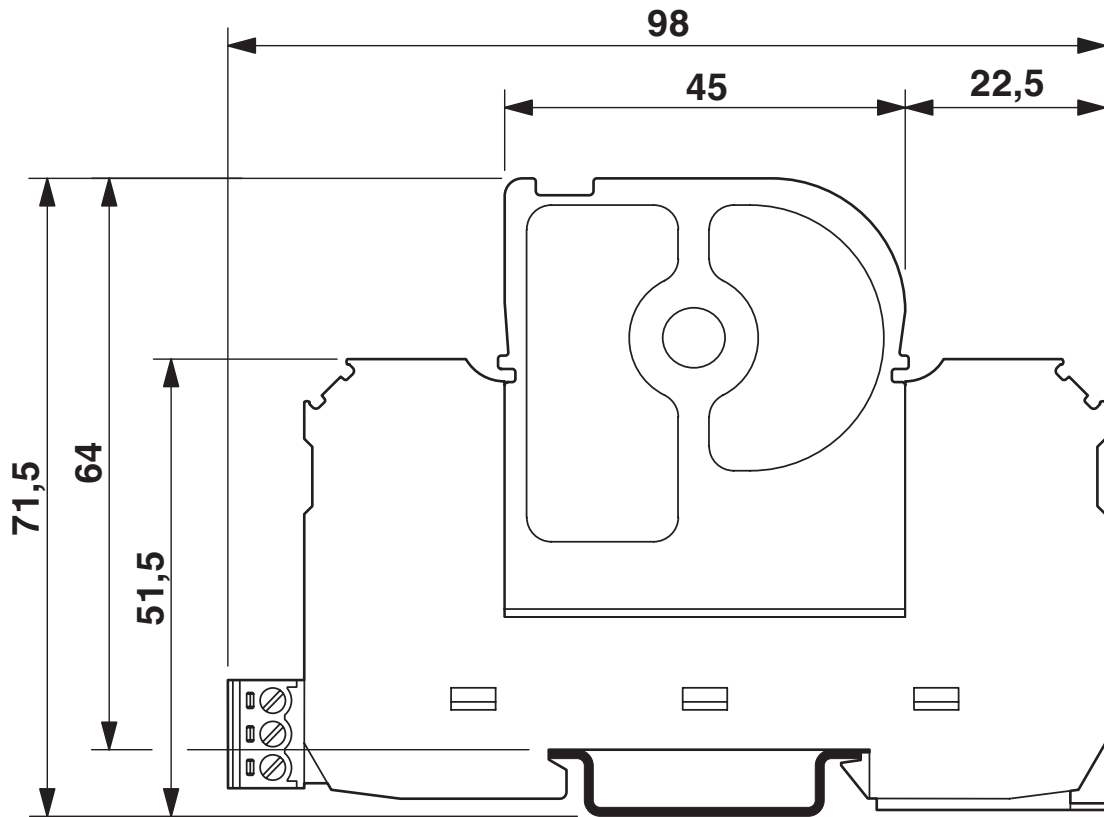
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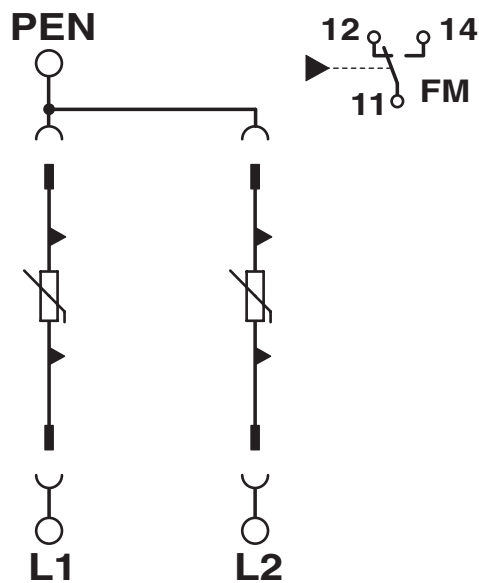
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## Drawings

Dimensional drawing



Circuit diagram



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## Environmental product compliance

EU REACH SVHC

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