

# VAL-SEC-T2-3C-350VF-FM - Type 2 surge arrester



2909591

<https://www.phoenixcontact.com/us/products/2909591>

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Pluggable surge protective device free of leakage current, in accordance with Type 2/Class II, for 3-phase power supply networks with combined PE and N installed in one conductor (4-conductor system: L1, L2, L3, PEN), with remote indication contact.

## Your advantages

- Surge protection family for universal use with optimum energy coordination from the lightning current arrester to the device protection
- Easy to maintain due to consistently pluggable protection modules
- Excellent level of information provided by mechanical/visual status indicator and remote indication contact
- More space in the control cabinet due to the narrow overall width of just 12 mm per position and use without separate backup fuse up to 200 A gG
- Suitable for use in insulation-monitored systems due to combination of varistor and gas discharge tube free of leakage current
- Extremely narrow design, just 12 mm per position
- Free of leakage current
- High-performance gas-filled surge arrester for N/PE protection

## Commercial data

Item number	2909591
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	CL1351
GTIN	4055626371603
Weight per piece (including packing)	303.1 g
Weight per piece (excluding packing)	222.222 g
Country of origin	DE

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## Technical data

### Product properties

Product type	Surge arrester
Product family	SEC Family
IEC test classification	II
	T2
EN type	T2
IEC power supply system	TN-C
Type	DIN rail module, two-section, divisible
Number of positions	3
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
	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
Connection method	Fork-type cable lug
Conductor cross-section flexible	1.5 mm <sup>2</sup> ... 6 mm <sup>2</sup>

### Remote fault indicator contact

Connection method	Plug-in/screw connection via COMBICON
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>

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Conductor cross-section rigid	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross-section AWG	28 ... 16

## Dimensions

Dimensional drawing	
Width	37.3 mm
Height	97.9 mm
Depth	74.5 mm (incl. DIN rail 7.5 mm)
Horizontal pitch	2 Div.

## Material specifications

Color (Male connector)	light gray (RAL 7035)
Color (Base element)	gray (RAL 7042)
Flammability rating according to UL 94	V-0
CTI value of material	600
Insulating material	PA6.6-FR 20% GF PBT-FR
Material group	I
Housing material	PA 6.6-FR 20 % GF PBT-FR

## Protective circuit

Mode of protection	L-PEN
Direction of action	3L-N/PE
Nominal voltage $U_N$	240/415 V AC (TN-C)
Nominal frequency $f_N$	50 Hz (60 Hz)
Maximum continuous operating voltage $U_C$	350 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	10 kA
Maximum discharge current $I_{max}$ (8/20) $\mu$ s	20 kA
Short-circuit current rating $I_{SCCR}$	50 kA
Voltage protection level $U_p$	$\leq 1.5$ kV
Residual voltage $U_{res}$	$\leq 1.35$ kV (at $I_n$ ) $\leq 1.1$ kV (at 5 kA) $\leq 0.95$ kV (at 2 kA) $\leq 0.9$ kV (at 1 kA)
Front-of-wave sparkover voltage at 6 kV (1.2/50) $\mu$ s	$\leq 1.5$ kV
TOV behavior at $U_T$	457 V AC (5 s / withstand mode) 457 V AC (120 min / withstand mode)

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Response time $t_A$	$\leq 100 \text{ ns}$
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	200 A (gG)

## 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	$\leq 2000 \text{ m (amsl)}$
Permissible humidity (operation)	5 % ... 95 %

## Standards and regulations

Standards/specifications	IEC 61643-11
Note	2011

### EN 61643-11

Standards/specifications	EN 61643-11
Note	2012

## Mounting

Mounting type	DIN rail: 35 mm
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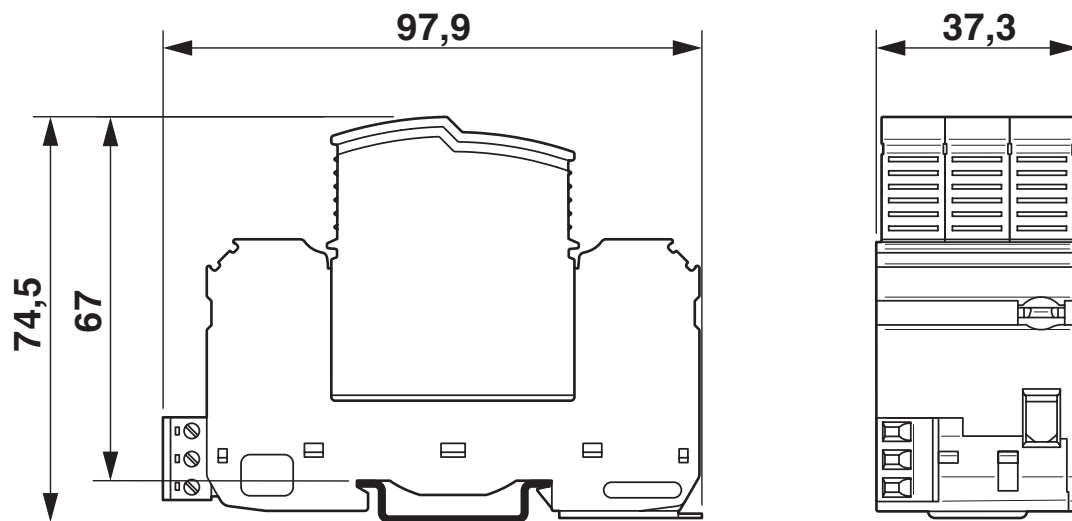
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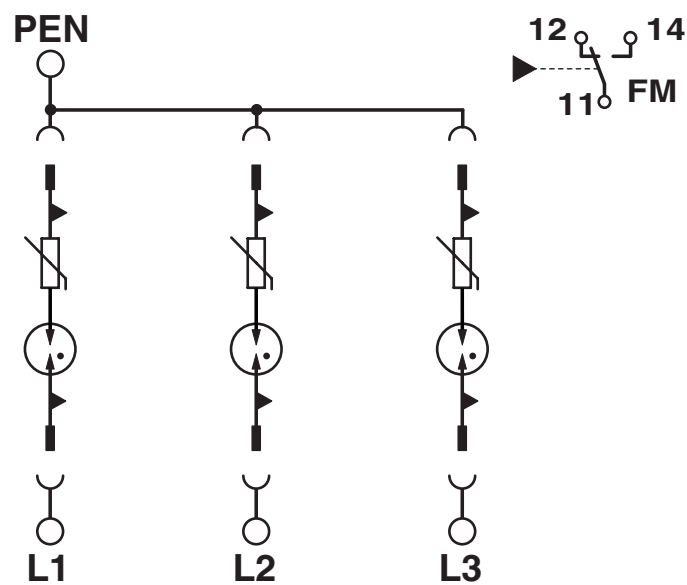
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## Drawings

Dimensional drawing



Circuit diagram



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## Approvals

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### UAE-RoHS

Approval ID: 23-10-88707

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## Classifications

### ECLASS

ECLASS-13.0	27171202
ECLASS-15.0	27171202

### 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%

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