

# VAL-SEC-T2-3S-350/40-FM - Type 2 surge arrester

2909635

<https://www.phoenixcontact.com/us/products/2909635>



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Pluggable surge protective device, in accordance with Type 2/Class II, for 3-phase power supply networks with separate N and PE (5-conductor system: L1, L2, L3, N, PE), with remote indication contact. With 40 kA discharge capacity in accordance with the requirements of VDE 0100-534:2016-10 relating to SPDs at the system feed point.

## 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 315 A gG
- Suitable for use at the system feed point due to increased discharge capacity in accordance with DIN VDE 0100-534

## Commercial data

Item number	2909635
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	CL1351
GTIN	4055626378206
Weight per piece (including packing)	402.8 g
Weight per piece (excluding packing)	378 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-S TT
Type	DIN rail module, two-section, divisible
Number of positions	4
Surge protection fault message	Optical, remote indicator contact

### Insulation characteristics

Ovvoltage category	III
Pollution degree	2

### Electrical properties

Nominal frequency $f_N$	50 Hz (60 Hz)
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

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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

## Dimensions

Dimensional drawing	
Width	49.2 mm
Height	97.9 mm
Depth	74.5 mm (incl. DIN rail 7.5 mm)
Horizontal pitch	2.7 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-N
	L-PE
	N-PE
Direction of action	3L-N & N-PE
Nominal voltage U <sub>N</sub>	240/415 V AC (TN-S)
	240/415 V AC (TT)
Nominal frequency f <sub>N</sub>	50 Hz (60 Hz)
Maximum continuous operating voltage U <sub>C</sub> (L-N)	350 V AC
Maximum continuous operating voltage U <sub>C</sub> (L-PE)	350 V AC
Maximum continuous operating voltage U <sub>C</sub> (N-PE)	264 V AC
Rated load current I <sub>L</sub>	40 A (Biconnect M4 fork-type cable lug 6 mm <sup>2</sup> )
	63 A (TWIN ferrule 2 x 10 mm <sup>2</sup> )
Protective conductor current I <sub>PE</sub>	≤ 1 µA
Nominal discharge current I <sub>n</sub> (8/20) µs (L-N)	20 kA
Nominal discharge current I <sub>n</sub> (8/20) µs (L-PE)	20 kA
Nominal discharge current I <sub>n</sub> (8/20) µs (N-PE)	40 kA
Maximum discharge current I <sub>max</sub> (8/20) µs (L-N)	40 kA

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Maximum discharge current $I_{max}$ (8/20) $\mu$ s (L-PE)	40 kA
Maximum discharge current $I_{max}$ (8/20) $\mu$ s (N-PE)	80 kA
Follow current interrupt rating $I_{fi}$ (N-PE)	100 A (264 V AC)
Short-circuit current rating $I_{SCCR}$	25 kA (for a backup fuse of up to 315 A gG) 50 kA (for a backup fuse of up to 200 A gG)
Voltage protection level $U_p$ (L-N)	$\leq 1.5$ kV
Voltage protection level $U_p$ (L-PE)	$\leq 1.9$ kV
Voltage protection level $U_p$ (N-PE)	$\leq 1.5$ kV
Residual voltage $U_{res}$ (L-N)	$\leq 1.5$ kV (at $I_n$ ) $\leq 1.3$ kV (at 10 kA) $\leq 1.2$ kV (at 5 kA) $\leq 1.1$ kV (at 4 kA) $\leq 1$ kV (at 2 kA)
Residual voltage $U_{res}$ (N-PE)	$\leq 0.7$ kV (at $I_n$ ) $\leq 0.7$ kV (at 20 kA) $\leq 0.7$ kV (at 8 kA) $\leq 0.7$ kV (at 4 kA)
TOV behavior at $U_T$ (L-N)	415 V AC (5 s / withstand mode) 457 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)	$\leq 25$ ns
Response time $t_A$ (L-PE)	$\leq 100$ ns
Response time $t_A$ (N-PE)	$\leq 100$ 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)

## 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	$\leq 2000$ m (amsl)
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	30g (Half-sine / 11 ms / 3x $\pm X$ , $\pm Y$ , $\pm Z$ )
Vibration (operation)	5g (10 ... 500 Hz / 2.5 h / X, Y, Z)

## Standards and regulations

Standards/specifications	IEC 61643-11
Note	2011

EN 61643-11

Standards/specifications	EN 61643-11
Note	2012

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## Mounting

Mounting type

DIN rail: 35 mm

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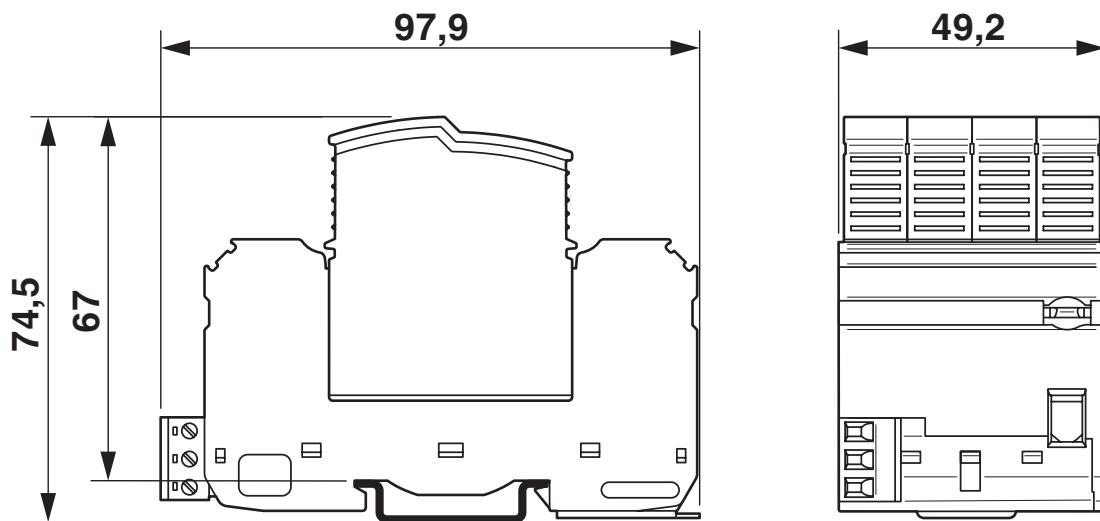


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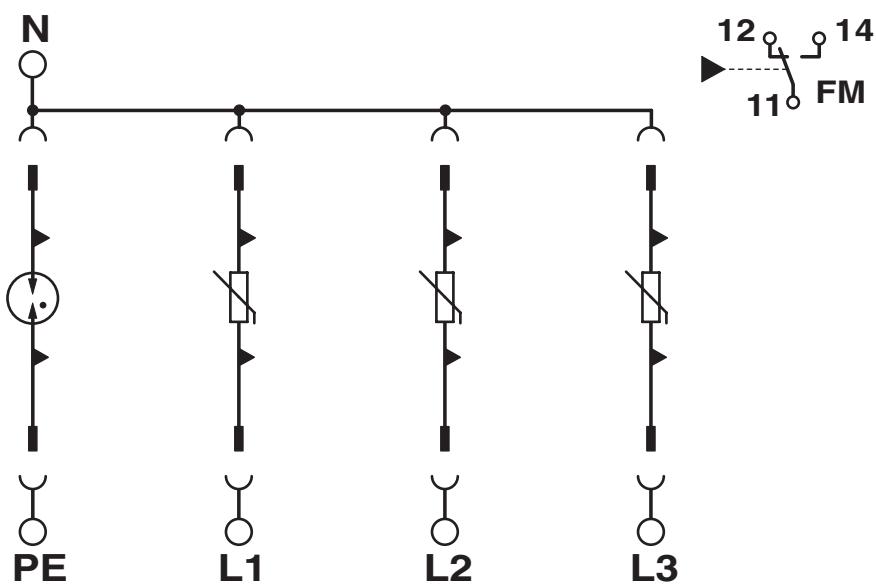
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## Drawings

Dimensional drawing



Circuit diagram



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## Approvals

ⓘ To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2909635>



**KEMA-KEUR**

Approval ID: 2196453.01

**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
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### 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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### EF3.0 Climate Change

CO2e kg	2.96 kg CO2e
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