

## Type 2 surge arrester - VAL-SEC-T2-3S-350-FM - 2905340

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Plug-in surge arrester, 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.

### Why buy this product

- ✓ Varistor arrester free of leakage current
- ✓ High-performance gas-filled surge arrester for N/PE protection
- ✓ Extremely narrow design, just 12 mm per position
- ✓ High continuous voltage of 350 V AC for 230/400 V AC networks with high voltage fluctuations
- ✓ Pluggable
- ✓ Low voltage protection level of 1.5 kV
- ✓ Optical, mechanical status indicator
- ✓ With floating remote indication contact as an option
- ✓
- ✓



### Key commercial data

Packing unit	1 pc
GTIN	 4 046356 948173
Weight per Piece (excluding packing)	406.0 g
Weight per piece (including packing)	406.0 g
Custom tariff number	85363030
Country of origin	Germany
Sales Key	K1 - Overvoltage Protect.

### Technical data

#### Dimensions

Height	97.9 mm
Width	49.2 mm

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## Technical data

### Dimensions

Depth	74.5 mm
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### 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 (above mean sea level))
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	30g (half sinus / 11 ms / 3x ±X, ±Y, ±Z)
Vibration (operation)	5g (10 ... 500 Hz / 2.5 h / X, Y, Z)

### General

Standards/specifications	IEC 61643-11 2011
	EN 61643-11 2012
IEC test classification	II
	T2
EN type	T2
IEC power supply system	TT
	TN-S
Number of ports	One
SPD design	Combination type
Mode of protection	L-N
	N-PE
Mounting type	DIN rail: 35 mm
Color	light grey RAL 7035
	traffic grey A RAL 7042
Housing material	PA 6.6-FR 20% GF
	PBT-FR
Pollution degree	2
Inflammability class according to UL 94	V-0
Type	DIN rail module, two-section, divisible
Number of positions	4
Surge protection fault message	Optical, remote indicator contact

### Protective circuit

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 voltage $U_C$ (N-PE)	264 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> )
Residual current $I_{PE}$	≤ 1 μA

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### Technical data

#### Protective circuit

Nominal discharge current $I_n$ (8/20) $\mu$ s (L-N)	20 kA
Nominal discharge current $I_n$ (8/20) $\mu$ s (N-PE)	20 kA
Maximum discharge current $I_{max}$ (8/20) $\mu$ s (L-N)	40 kA
Maximum discharge current $I_{max}$ (8/20) $\mu$ s (N-PE)	40 kA
Follow current interrupt rating $I_{fi}$ (N-PE)	100 A (264 V AC)
Short-circuit current rating $I_{SCCR}$	25 kA (in case of 315 A gG backup fuse)
	50 kA (in case of 200 A gG backup fuse)
Voltage protection level $U_p$ (L-N)	$\leq 1.5$ 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)	$\leq 0.5$ kV (at $I_n$ )
	$\leq 0.5$ kV (at 10 kA)
	$\leq 0.5$ kV (at 5 kA)
	$\leq 0.5$ kV (at 4 kA)
	$\leq 0.5$ kV (at 2 kA)
Front of wave sparkover voltage at 6 kV (1.2/50) $\mu$ s (N-PE)	$\leq 1.5$ kV
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 $t_A$ (N-PE)	$\leq 100$ ns
Max. backup fuse with branch wiring	315 A AC (gG)
Max. backup fuse with V-type through wiring	40 A AC (gG / Biconnect M4 fork-type cable lug, 6 mm <sup>2</sup> )
	63 A AC (gG / TWIN ferrule 2x 10mm <sup>2</sup> )

#### Indicator/remote signaling

Connection name	Remote fault indicator contact
Switching function	PDT contact
Operating voltage	5 V AC ... 250 V AC
	125 V AC (UL)
	125 V DC (200 mA DC)
Operating current	5 mA AC ... 1 A AC
	1 A AC (UL)
	1 A DC (30 V DC)
Connection method	Pluggable screw connection
Screw thread	M2

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### Technical data

#### Indicator/remote signaling

Tightening torque	0.25 Nm
	2 lb <sub>F</sub> -in. ... 4 lb <sub>F</sub> -in. (UL)
Stripping length	7 mm
Conductor cross section flexible min.	0.14 mm <sup>2</sup>
Conductor cross section flexible max.	1.5 mm <sup>2</sup>
Conductor cross section solid min.	0.14 mm <sup>2</sup>
Conductor cross section solid max.	1.5 mm <sup>2</sup>
AWG conductor cross section	28 ... 16
	30 ... 14 (UL)

#### Connection data

Connection method	Screw connection
Conductor cross section flexible min.	2.5 mm <sup>2</sup>
Conductor cross section flexible max.	16 mm <sup>2</sup>
Conductor cross section solid min.	2.5 mm <sup>2</sup>
Conductor cross section solid max.	25 mm <sup>2</sup>
AWG conductor cross section	12 ... 4
	14 ... 2 (Solid - UL)
	14 ... 4 (Stranded - UL)
Screw thread	M5
Tightening torque	4.5 Nm
	40 lb <sub>F</sub> -in. ... 50 lb <sub>F</sub> -in. (UL)
Stripping length	16 mm

#### UL specifications

UL class	Type 4 SPD for Type 2 applications
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)	614 V AC
Maximum continuous operating voltage MCOV (N-G)	264 V AC
Nom. voltage	240/415 V AC
Mode of protection	L-L
	L-N
	L-G
	N-G
Power distribution system	3Y
Nominal frequency	50/60 Hz
Voltage protection rating VPR (L-L)	2 kV
Voltage protection rating VPR (L-N)	1.2 kV
Voltage protection rating VPR (L-G)	1.8 kV
Voltage protection rating VPR (N-G)	1.2 kV
Nominal discharge current I <sub>n</sub> (L-L)	20 kA

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## Technical data

### UL specifications

Nominal discharge current I <sub>n</sub> (L-N)	20 kA
Nominal discharge current I <sub>n</sub> (L-G)	20 kA
Nominal discharge current I <sub>n</sub> (N-G)	20 kA
Follow current (N-G)	200 A (264 V AC)

## Classifications

### eCl@ss

eCl@ss 5.1	27130801
eCl@ss 6.0	27130805
eCl@ss 8.0	27130805

### ETIM

ETIM 5.0	EC000941
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## Approvals

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#### Approvals

UL Recognized / KEMA-KEUR / cUL Recognized / CCA / IECCEB Scheme / GL / EAC / cULus Recognized

#### Ex Approvals

#### Approvals submitted

### Approval details

UL Recognized


KEMA-KEUR

cUL Recognized

## Type 2 surge arrester - VAL-SEC-T2-3S-350-FM - 2905340

### Approvals

CCA

IECEE CB Scheme 

GL

EAC

cULus Recognized 

### Accessories

#### Accessories

#### Device marking

Zack marker strip - ZBN 18:UNBEDRUCKT - 2809128



Zack marker strip, Strip, white, unlabeled, can be labeled with: Plotter, Mounting type: Snap into tall marker groove, for terminal block width: 18 mm, Lettering field: 18 x 5 mm

Zack marker strip - ZBN 18:UNBEDRUCKT - 2809128



Zack marker strip, Strip, white, unlabeled, can be labeled with: Plotter, Mounting type: Snap into tall marker groove, for terminal block width: 18 mm, Lettering field: 18 x 5 mm

Label - EML (20XE)R - 0803452



Label, Roll, white, unlabeled, can be labeled with: THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK X, THERMOMARK S1.1, Mounting type: Adhesive, Lettering field: continuous x 20 mm

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### Accessories

Label - EML (20XE)R YE - 0803453



Label, Roll, yellow, unlabeled, can be labeled with: THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK X, THERMOMARK S1.1, Mounting type: Adhesive, Lettering field: continuous x 20 mm

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### End block

End clamp - CLIPFIX 35 - 3022218



Quick mounting end clamp for NS 35/7,5 DIN rail or NS 35/15 DIN rail, with marking option, width: 9.5 mm, color: gray

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### Labeled device marker

Marker for terminal blocks - ZBN 18,LGS:ERDE - 2749589



Marker for terminal blocks, Strip, white, labeled, Horizontal: Grounding symbol, Mounting type: Snap into tall marker groove, for terminal block width: 18 mm, Lettering field: 18 x 5 mm

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### Terminal marking

Flat zack marker sheet - ZBFM 5/WH:UNBEDRUCKT - 0803595



Flat zack marker sheet, Sheet, white, unlabeled, can be labeled with: Plotter, Mounting type: Snap into flat marker groove, for terminal block width: 5.2 mm, Lettering field: 5 x 4.5 mm

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### Spare parts

Type 2 surge protection plug - VAL-SEC-T2-350-P - 2905346



Replacement plug for surge arresters from the VALVETRAB SEC product range for L-N and L-PEN paths.

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## Accessories

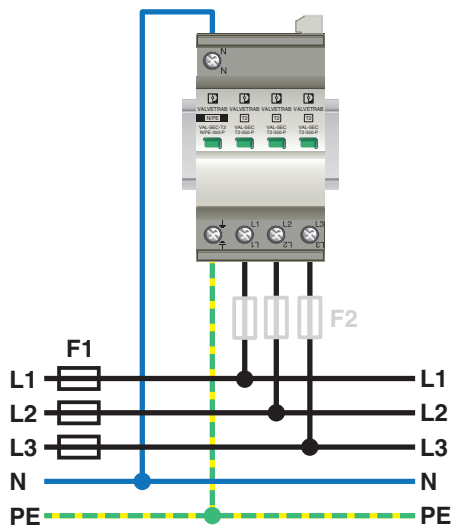
Type 2 surge protection plug - VAL-SEC-T2-N/PE-350-P - 2905347



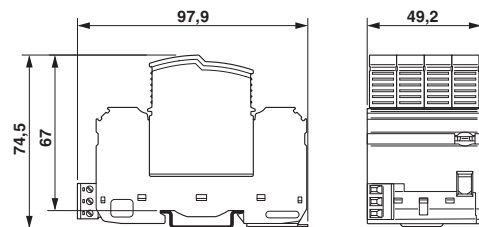
Replacement plug for surge arresters from the VALVETRAB SEC product range for the N-PE path.

## Drawings

Application drawing



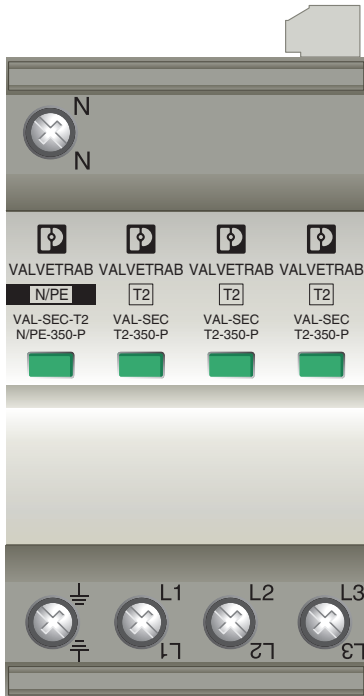
Dimensional drawing





# Type 2 surge arrester - VAL-SEC-T2-3S-350-FM - 2905340

Product drawing



Circuit diagram

