

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



2909590

<https://www.phoenixcontact.com/us/products/2909590>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



Pluggable surge protective device free of leakage current, 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.

## 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	2909590
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	CL1351
Catalog page	Page 54 (C-4-2019)
GTIN	4055626371597
Weight per piece (including packing)	388.04 g
Weight per piece (excluding packing)	385 g
Country of origin	DE

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



2909590

<https://www.phoenixcontact.com/us/products/2909590>

## 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

Overvoltage 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

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

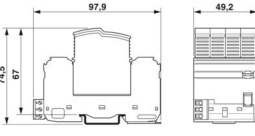


2909590

<https://www.phoenixcontact.com/us/products/2909590>

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 grey (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 $U_N$	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)	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 $\mu$ A
Nominal discharge current $I_n$ (8/20) $\mu$ s (L-N)	10 kA
Nominal discharge current $I_n$ (8/20) $\mu$ s (L-PE)	10 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)	20 kA

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



2909590

<https://www.phoenixcontact.com/us/products/2909590>

Maximum discharge current $I_{\max}$ (8/20) $\mu\text{s}$ (L-PE)	20 kA
Maximum discharge current $I_{\max}$ (8/20) $\mu\text{s}$ (N-PE)	40 kA
Follow current interrupt rating $I_{fi}$ (N-PE)	100 A (264 V AC)
Short-circuit current rating $I_{SCCR}$	50 kA
Voltage protection level $U_p$ (L-N)	$\leq 1.5$ kV
Voltage protection level $U_p$ (L-PE)	$\leq 2.3$ kV
Voltage protection level $U_p$ (N-PE)	$\leq 1.5$ kV
Residual voltage $U_{res}$ (L-N)	$\leq 1.35$ 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)
Residual voltage $U_{res}$ (L-PE)	$\leq 1.75$ kV (at $I_n$ )
	$\leq 1.2$ kV (at 5 kA)
	$\leq 1.05$ kV (at 2 kA)
	$\leq 0.95$ kV (at 1 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)
TOV behavior at $U_T$ (L-N)	457 V AC (5 s / withstand mode)
	457 V AC (120 min / withstand mode)
TOV behavior at $U_T$ (N-PE)	1200 V AC (200 ms / withstand mode)
Response time $t_A$	$\leq 100$ 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	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	$\leq 2000$ 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

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



2909590

<https://www.phoenixcontact.com/us/products/2909590>

## Mounting

Mounting type	DIN rail: 35 mm
---------------	-----------------

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

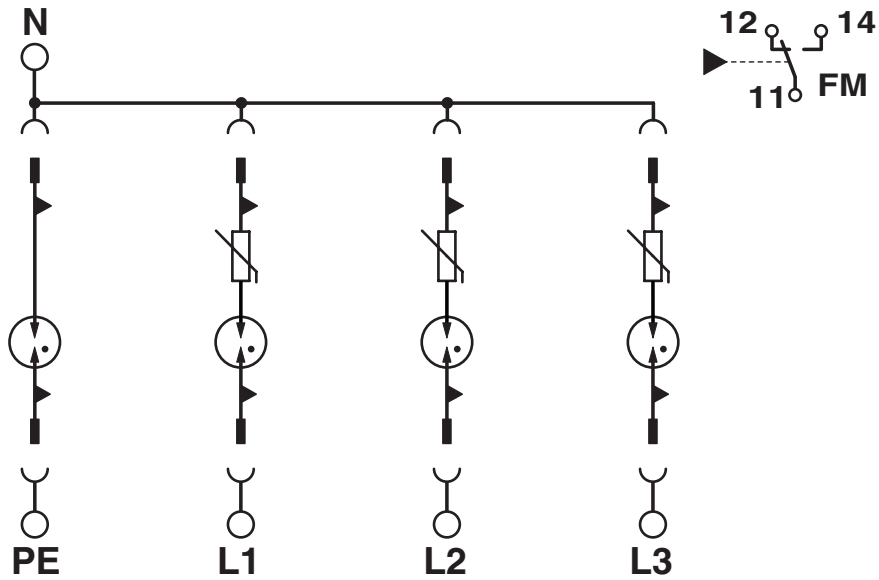


2909590

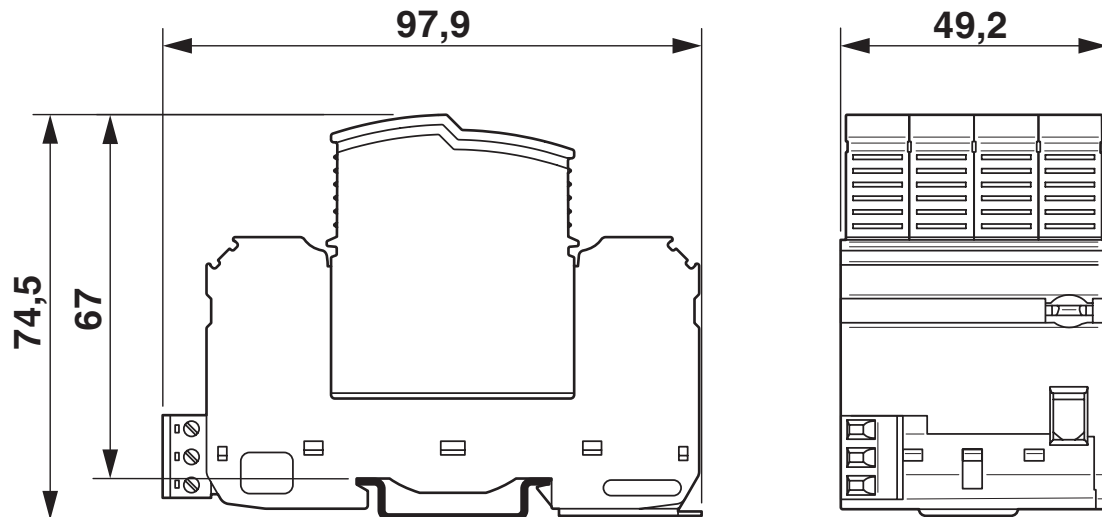
<https://www.phoenixcontact.com/us/products/2909590>

## Drawings

Circuit diagram



Dimensional drawing



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



2909590

<https://www.phoenixcontact.com/us/products/2909590>

## Approvals

🔗 To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2909590>



**EAC**

Approval ID: RU C-DE.\*09.B.00169

**UAE-RoHS**

Approval ID: 23-10-88707

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



2909590

<https://www.phoenixcontact.com/us/products/2909590>

## Classifications

### ECLASS

ECLASS-11.0	27130805
ECLASS-13.0	27171202

### ETIM

ETIM 9.0	EC000941
----------	----------

### UNSPSC

UNSPSC 21.0	39121600
-------------	----------



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



2909590

<https://www.phoenixcontact.com/us/products/2909590>

## 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%
-------------------------------------	----------------------------

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



2909590

<https://www.phoenixcontact.com/us/products/2909590>

## Accessories

### CLIPFIX 35 - End bracket

3022218

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

---

### EML (20XE)R - Label

0803452

<https://www.phoenixcontact.com/us/products/0803452>



Label, Roll, white, unlabeled, can be labeled with: THERMOMARK E.300 (D)/600 (D), THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, mounting type: adhesive, lettering field size: continuous x 20 mm, Number of individual labels: 1

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



2909590

<https://www.phoenixcontact.com/us/products/2909590>

## EML (20XE)R YE - Label

0803453

<https://www.phoenixcontact.com/us/products/0803453>



Label, Roll, yellow, unlabeled, can be labeled with: THERMOMARK E.300 (D)/600 (D), THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, mounting type: adhesive, lettering field size: continuous x 20 mm, Number of individual labels: 1

---

## 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

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



2909590

<https://www.phoenixcontact.com/us/products/2909590>

## ZBN 18,LGS:L1-N,ERDE - Marker for terminal blocks

2749576

<https://www.phoenixcontact.com/us/products/2749576>



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

---

## 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

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



2909590

<https://www.phoenixcontact.com/us/products/2909590>

## ZBN 18 CUS - Zack marker strip

0825059

<https://www.phoenixcontact.com/us/products/0825059>



Zack marker strip, can be ordered: Strip, white, labeled according to customer specifications, mounting type: snap into tall marker groove, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

---

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

0803595

<https://www.phoenixcontact.com/us/products/0803595>



Flat zack marker sheet, Sheet, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snapped, for terminal block width: 5.2 mm, lettering field size: 5 x 4.5 mm, Number of individual labels: 120

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



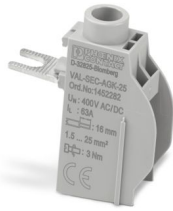
2909590

<https://www.phoenixcontact.com/us/products/2909590>

## VAL-SEC-AGK-25 - Pick-off terminal block

1452282

<https://www.phoenixcontact.com/us/products/1452282>



Pick-off terminal block, can only be used in combination with VAL-SEC-T2 series, nominal voltage: 400 V, nominal current: 63 A, connection method: screw connection, rated cross-section: 25 mm<sup>2</sup>, cross-section: 1.5 mm<sup>2</sup> ... 25 mm<sup>2</sup>, color: gray

---

## X-PEN 0,35 - Marker pen

0811228

<https://www.phoenixcontact.com/us/products/0811228>



Marker pen without ink cartridge, for manual labeling of markers, labeling extremely wipe-proof, line thickness 0.35 mm

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



2909590

<https://www.phoenixcontact.com/us/products/2909590>

## SZK PZ2 VDE - Screwdriver

1206463

<https://www.phoenixcontact.com/us/products/1206463>



Screwdriver, PZ crosshead, VDE insulated, size: PZ 2 x 100 mm, 2-component grip, with non-slip grip

---

## VAL-SEC-T2-350VF-P - Type 2 surge protection plug

2909596

<https://www.phoenixcontact.com/us/products/2909596>



Replacement plug free of leakage current for surge protective devices from the VALVETRAB SEC product range for L-N and L-PEN paths.

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

2909590

<https://www.phoenixcontact.com/us/products/2909590>



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

2905347

<https://www.phoenixcontact.com/us/products/2905347>



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

---

Phoenix Contact 2024 © - all rights reserved

<https://www.phoenixcontact.com>

Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)