

# VAL-SEC-T2-1S-350-FM - Type 2 surge arrester



2905333

<https://www.phoenixcontact.com/us/products/2905333>

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.



Plug-in surge arrester, in accordance with Type 2/Class II, for 1-phase power supply networks with separate N and PE (3-conductor system: L1, 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 315 A gG

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 2905333       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | CL01          |
| Product key                          | CL1351        |
| GTIN                                 | 4046356947732 |
| Weight per piece (including packing) | 217.3 g       |
| Weight per piece (excluding packing) | 217.3 g       |
| Customs tariff number                | 85363090      |
| Country of origin                    | DE            |

# VAL-SEC-T2-1S-350-FM - Type 2 surge arrester



2905333

<https://www.phoenixcontact.com/us/products/2905333>

## Technical data

### Product properties

|                                |   |
|--------------------------------|---|
| Product type                   | Surge arrester                          |
| Product family                 | SEC Family                              |
| IEC test classification        | II<br>T2                                |
| EN type                        | T2                                      |
| IEC power supply system        | TN-S<br>TT                              |
| 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) |
|-------------------------|---------------|

### Indicator/remote signaling

|                    |   |
|--------------------|---|
| Connection name    | Remote fault indicator contact              |
| Switching function | Changeover contact                          |
| Operating voltage  | 5 V AC ... 250 V AC<br>125 V DC (200 mA DC) |
| Operating current  | 5 mA AC ... 1 A AC<br>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                               |

# VAL-SEC-T2-1S-350-FM - Type 2 surge arrester



2905333

<https://www.phoenixcontact.com/us/products/2905333>

|                                  |  |
|----------------------------------|--|
| 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                                    |

## Dimensions

|                     |                                 |
|---------------------|---------------------------------|
| Dimensional drawing |                                 |
| Width               | 25.4 mm                         |
| Height              | 97.9 mm                         |
| Depth               | 74.5 mm (incl. DIN rail 7.5 mm) |
| Horizontal pitch    | 1.4 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<br>PBT-FR   |
| Material group                         | I                           |
| Housing material                       | PA 6.6-FR 20 % GF<br>PBT-FR |

## Protective circuit

|  |  |
|--|--|
| Mode of protection                                 | L-N  |
|  | L-PE   |
|  | N-PE   |
| Direction of action                                | 1L-N & N-PE  |
| Nominal voltage $U_N$                              | 240 V AC (TN-S)  |
|  | 240 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> )                |
| Protective conductor current $I_{PE}$              | $\leq 1 \mu A$   |
| Standby power consumption $P_C$                    | $\leq 150 \text{ mVA}$                                     |
| Nominal discharge current $I_n$ (8/20) $\mu s$     | 20 kA  |
| Maximum discharge current $I_{max}$ (8/20) $\mu s$ | 40 kA  |

# VAL-SEC-T2-1S-350-FM - Type 2 surge arrester



2905333

<https://www.phoenixcontact.com/us/products/2905333>

|   |  |
|---|--|
| 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 $U_{res}$ (L-PE)               | $\leq 1.9$ kV (at $I_n$ )  |
|   | $\leq 1.5$ kV (at 10 kA)   |
|   | $\leq 1.4$ kV (at 5 kA)  |
|   | $\leq 1.3$ kV (at 4 kA)  |
|   | $\leq 1.2$ 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)  |
| 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)                      |

## Approvals

### UL specifications

# VAL-SEC-T2-1S-350-FM - Type 2 surge arrester



2905333

<https://www.phoenixcontact.com/us/products/2905333>

|   |                  |
|---|------------------|
| Maximum continuous operating voltage MCOV (L-N) | 350 V AC         |
| Maximum continuous operating voltage MCOV (L-G) | 350 V AC         |
| Maximum continuous operating voltage MCOV (N-G) | 264 V AC         |
| Nominal discharge current $I_n$ (L-N)           | 20 kA            |
| Nominal discharge current $I_n$ (L-G)           | 20 kA            |
| Nominal discharge current $I_n$ (N-G)           | 20 kA            |
| Mode of protection                              | L-N              |
|   | L-G              |
|   | N-G              |
| Nominal voltage                                 | 240 V AC         |
| Power distribution system                       | Single phase     |
| Nominal frequency                               | 50/60 Hz         |
| Measured limiting voltage MLV (L-N)             | 2000 V           |
| Measured limiting voltage MLV (L-G)             | 2080 V           |
| Measured limiting voltage MLV (N-G)             | 950 V            |
| Follow current (L-G)                            | 200 A (264 V AC) |
| 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 61643-11 |
| Standards/specifications | IEC 61643-11                                |
| Note                     | 2011  |

### EN 61643-11

|                          |             |
|--------------------------|-------------|
| Standards/specifications | EN 61643-11 |
| Note                     | 2012        |

## Mounting

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

# VAL-SEC-T2-1S-350-FM - Type 2 surge arrester

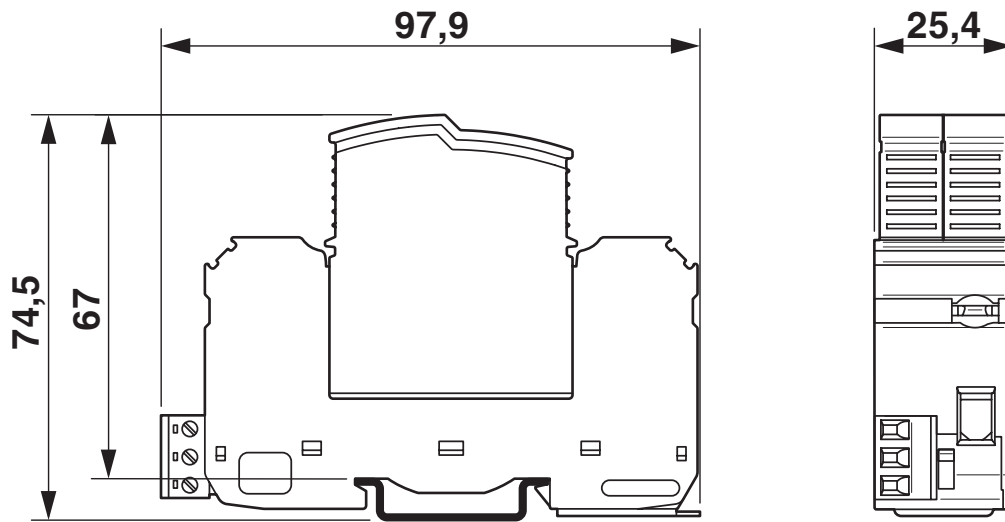
2905333

<https://www.phoenixcontact.com/us/products/2905333>



## Drawings

Dimensional drawing



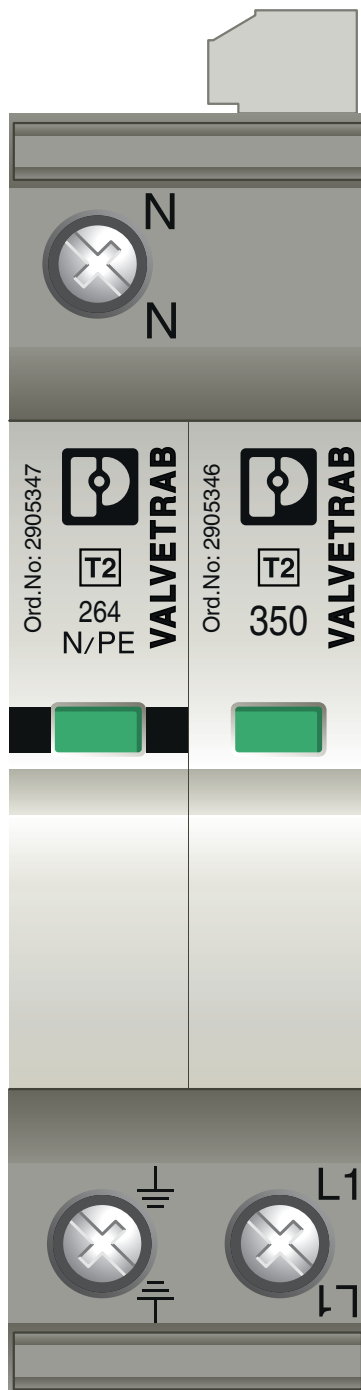
# VAL-SEC-T2-1S-350-FM - Type 2 surge arrester

2905333

<https://www.phoenixcontact.com/us/products/2905333>



Product drawing



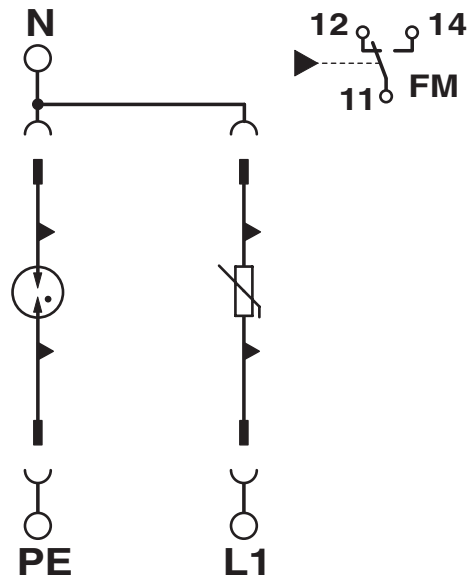
# VAL-SEC-T2-1S-350-FM - Type 2 surge arrester

2905333

<https://www.phoenixcontact.com/us/products/2905333>



Circuit diagram



# VAL-SEC-T2-1S-350-FM - Type 2 surge arrester



2905333

<https://www.phoenixcontact.com/us/products/2905333>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2905333>



**cUL Recognized**  
Approval ID: FILE E 330181



**UL Recognized**  
Approval ID: FILE E 330181



**IECEE CB Scheme**  
Approval ID: NL-34356

**CCA**

Approval ID: NTR-NL 7347



**KEMA-KEUR**  
Approval ID: 2196453.01



**DNV GL**  
Approval ID: TAE000023D

**UAE-RoHS**

Approval ID: 23-10-88707

# VAL-SEC-T2-1S-350-FM - Type 2 surge arrester



2905333

<https://www.phoenixcontact.com/us/products/2905333>

## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27171202 |
| ECLASS-15.0 | 27171202 |

### ETIM

|           |          |
|-----------|----------|
| ETIM 10.0 | EC000941 |
|-----------|----------|

### UNSPSC

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

# VAL-SEC-T2-1S-350-FM - Type 2 surge arrester



2905333

<https://www.phoenixcontact.com/us/products/2905333>

## 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% |
|-------------------------------------|----------------------------|

### EF3.1 Climate Change

|         |              |
|---------|--------------|
| CO2e kg | 1.58 kg CO2e |
|---------|--------------|

Phoenix Contact 2026 © - 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)