

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



2905344

<https://www.phoenixcontact.com/us/products/2905344>

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Plug-in surge arrester, 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).

## 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                          | 2905344       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | CL01          |
| Product key                          | CL1351        |
| GTIN                                 | 4046356947978 |
| Weight per piece (including packing) | 319.6 g       |
| Weight per piece (excluding packing) | 314.7 g       |
| Customs tariff number                | 85363090      |
| Country of origin                    | DE            |

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## 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-C                                    |
| Type                           | DIN rail module, two-section, divisible |
| Number of positions            | 3                                       |
| Surge protection fault message | optical                                 |
| Number of ports                | One                                     |

### Insulation characteristics

|                      |     |
|----------------------|-----|
| Overvoltage category | III |
| Pollution degree     | 2   |

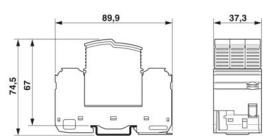
### Electrical properties

|                         |               |
|-------------------------|---------------|
| Nominal frequency $f_N$ | 50 Hz (60 Hz) |
|-------------------------|---------------|

### 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>  |

### Dimensions

|                     |  |
|---------------------|--|
| Dimensional drawing |  |
| Width               | 37.3 mm  |
| Height              | 89.9 mm  |
| Depth               | 74.5 mm (incl. DIN rail 7.5 mm)  |
| Horizontal pitch    | 2 Div.   |

### Material specifications

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|  |                             |
|--|-----------------------------|
| 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-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> )<br>63 A (TWIN ferrule 2 x 10 mm <sup>2</sup> )          |
| Standby power consumption $P_C$               | ≤ 450 mVA  |
| Nominal discharge current $I_n$ (8/20) μs     | 20 kA  |
| Maximum discharge current $I_{max}$ (8/20) μs | 40 kA  |
| Short-circuit current rating $I_{SCCR}$       | 25 kA (for a backup fuse of up to 315 A gG)<br>50 kA (for a backup fuse of up to 200 A gG)                         |
| Voltage protection level $U_p$                | ≤ 1.5 kV   |
| Residual voltage $U_{res}$                    | ≤ 1.5 kV (at $I_n$ )<br>≤ 1.3 kV (at 10 kA)<br>≤ 1.2 kV (at 5 kA)<br>≤ 1.1 kV (at 4 kA)<br>≤ 1 kV (at 2 kA)        |
| TOV behavior at $U_T$                         | 415 V AC (5 s / withstand mode)<br>457 V AC (120 min / safe failure mode)  |
| Response time $t_A$                           | ≤ 25 ns  |
| Max. backup fuse with V-type through wiring   | 40 A (gG / Biconnect M4 fork-type cable lug, 6 mm <sup>2</sup> )<br>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                                | ≤ 2000 m (amsl)                         |
| Permissible humidity (operation)        | 5 % ... 95 %                            |
| Shock (operation)                       | 30g (Half-sine / 11 ms / 3x ±X, ±Y, ±Z) |

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|                       |                                      |
|-----------------------|--------------------------------------|
| Vibration (operation) | 5g (10 ... 500 Hz / 2.5 h / X, Y, Z) |
|-----------------------|--------------------------------------|

## Approvals

### UL specifications

|   |              |
|---|--------------|
| Maximum continuous operating voltage MCOV (L-L) | 700 V AC     |
| Maximum continuous operating voltage MCOV (L-N) | 350 V AC     |
| Nominal discharge current $I_n$ (L-L)           | 20 kA        |
| Nominal discharge current $I_n$ (L-N)           | 20 kA        |
| Mode of protection                              | L-L          |
|   | L-N          |
| Nominal voltage                                 | 277/480 V AC |
| Power distribution system                       | Wye          |
| Nominal frequency                               | 50/60 Hz     |
| Measured limiting voltage MLV (L-L)             | 3280 V       |
| Measured limiting voltage MLV (L-N)             | 2000 V       |
| SPD Type  | 4CA          |

### 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 61643-1 |
| 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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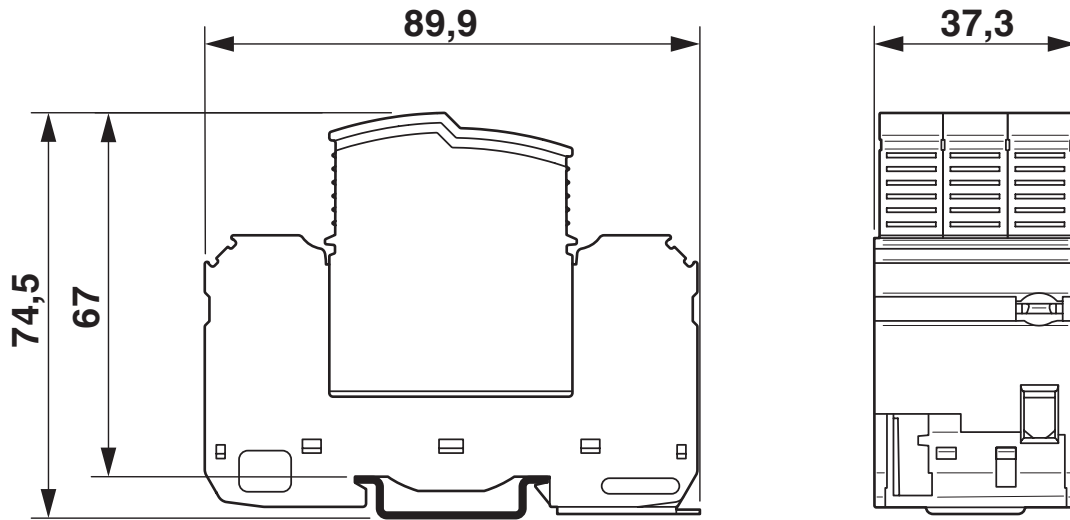
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## Drawings

Dimensional drawing



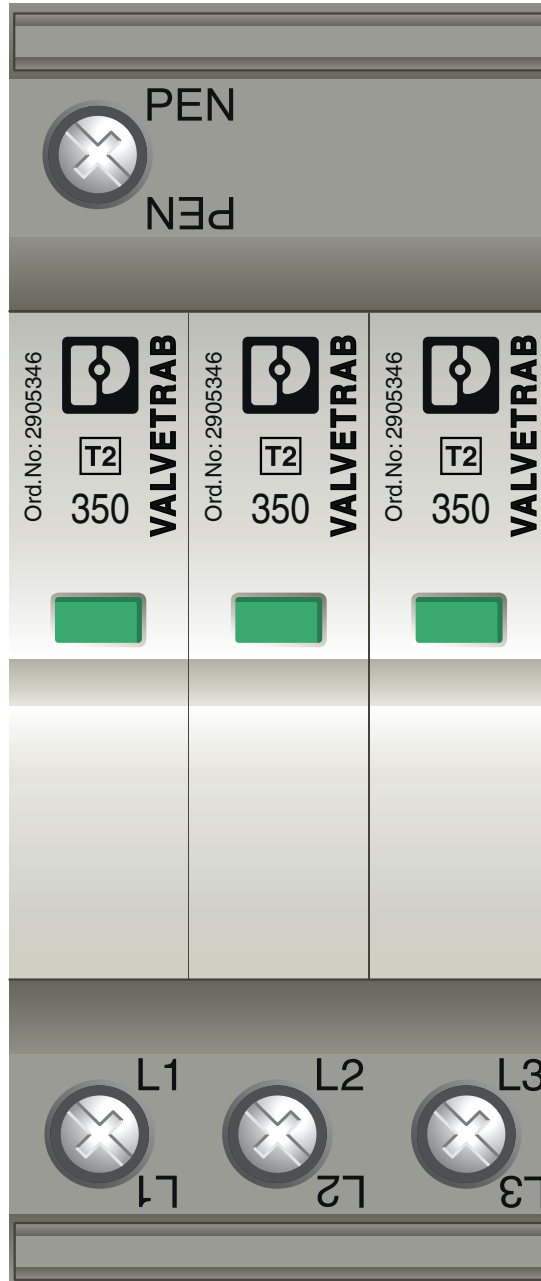
# VAL-SEC-T2-3C-350 - Type 2 surge arrester

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Product drawing



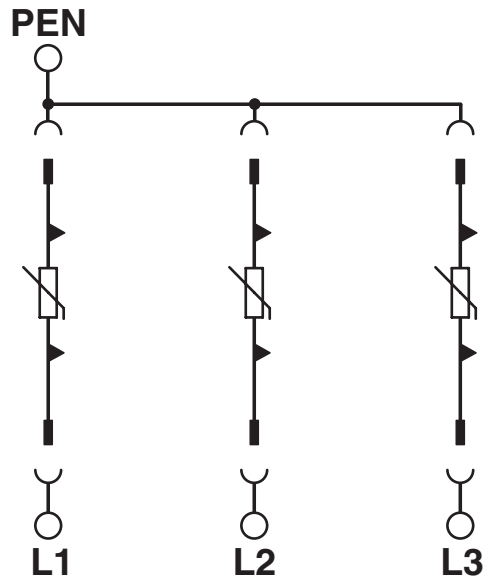
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Circuit diagram



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



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2905344>



**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

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## Classifications

### ECLASS

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

### ETIM

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

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

### EF3.1 Climate Change

|         |               |
|---------|---------------|
| CO2e kg | 2.777 kg CO2e |
|---------|---------------|

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