

## VPU AC I 1 N-PE 305/50

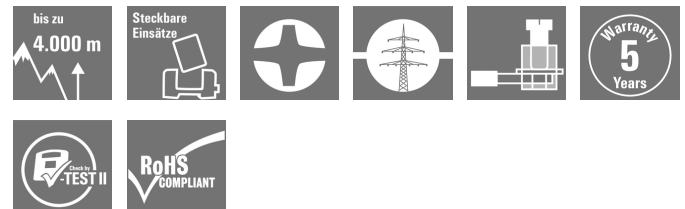
**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

[www.weidmueller.com](http://www.weidmueller.com)



Weidmüller VPU I (Type I), VPU II (Type II) and VPU III (Type III) surge protection products effectively reduce the interference coupling that can occur due to transient surge voltages, even significantly below the limits prescribed by insulation co-ordination according to EN 60664-3 / DIN VDE 0110-3. This means that the whole installation is exposed to fewer malfunctions. The arresters are co-ordinated using technical means. This means that decoupling between Types I, II and III is unnecessary. The arresters are tested according to product standard IEC 61643-11 / DIN EN 61643-11 and can be installed in systems according to IEC 61643-12 / VDE 0675-6-12 and IEC 62305-4 / VDE 0185-4. This lightning and surge protection device is suited for installation in power supply systems. Weidmüller offers different products depending on the particular mains network type and voltage level. A special Type I and Type II protective device is even available for photovoltaic applications.

### General ordering data

|            |                                                                                                                         |
|------------|-------------------------------------------------------------------------------------------------------------------------|
| Version    | Surge voltage arrester, Low voltage, Surge protection, Single-phase, TT nur für N-PE, $U_p(L/N-PE) \leq 1.5 \text{ kV}$ |
| Order No.  | <a href="#">2591570000</a>                                                                                              |
| Type       | VPU AC I 1 N-PE 305/50                                                                                                  |
| GTIN (EAN) | 4050118599374                                                                                                           |
| Qty.       | 1 pc(s).                                                                                                                |

## VPU AC I 1 N-PE 305/50

Weidmüller Interface GmbH &amp; Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

## Technical data

## Dimensions and weights

|                |            |                 |            |
|----------------|------------|-----------------|------------|
| Depth          | 91 mm      | Depth (inches)  | 3.583 inch |
| Height         | 96.3 mm    | Height (inches) | 3.791 inch |
| Net weight     | 143 g      | Width           | 18 mm      |
| Width (inches) | 0.709 inch |                 |            |

## Temperatures

|                     |                       |                       |                |
|---------------------|-----------------------|-----------------------|----------------|
| Storage temperature | -40 °C...85 °C        | Operating temperature | -40 °C...85 °C |
| Humidity            | 5 - 95% rel. humidity |                       |                |

## Probability of failure

|      |          |
|------|----------|
| MTBF | 15 Years |
|------|----------|

## Rated data UL

|                         |          |                     |              |
|-------------------------|----------|---------------------|--------------|
| Operating altitude      | ≤ 4000 m | Rated Voltage $U_N$ | 0 V          |
| VPR (N-PE)              | 1,800 V  | MCOV (N-PE)         | 305 V        |
| $I_n$                   | 20 kA    | Category            | SPD TYPE 1CA |
| Certificate No. (cURus) | E354261  | Voltage type        | AC           |

## General data

|                    |                         |                           |                                                   |
|--------------------|-------------------------|---------------------------|---------------------------------------------------|
| Colour             | blue, black             | Design                    | Installation housing; 1TE, Insta IP 20            |
| Operating altitude | ≤ 4000 m                | Optical function display  | green = OK; red = arrester is defective - replace |
| Protection degree  | IP20 in installed state | Rail                      | TS 35                                             |
| Segment            | Power distribution      | UL 94 flammability rating | V-0                                               |
| Version            | Surge protection        |                           |                                                   |

## Insulation coordination acc. to EN 50178

|                        |          |                    |   |
|------------------------|----------|--------------------|---|
| Operating altitude     | ≤ 4000 m | Pollution severity | 2 |
| Surge voltage category | IV       |                    |   |

## VPU AC I 1 N-PE 305/50

Weidmüller Interface GmbH &amp; Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

## Technical data

## Rated data IEC / EN

|                                                     |                                         |                                                           |                 |
|-----------------------------------------------------|-----------------------------------------|-----------------------------------------------------------|-----------------|
| Discharge current $I_{\max}$ (8/20 $\mu$ s) N-PE    | 100 kA                                  | Discharge current $I_n$ (8/20 $\mu$ s) N-PE               | 50 kA           |
| Follow-on current extinguishing capability $I_{fi}$ | Not available due for technical reasons | Frequency range, max.                                     | 60 Hz           |
| Frequency range, min.                               | 50 Hz                                   | Fuse                                                      | Not required    |
| Leakage current at $U_n$                            | 1 $\mu$ A                               | Lightning test current, $I_{imp}$ (10/350 $\mu$ s) (N-PE) | 50 kA           |
| Low voltage network                                 | Single-phase, TT nur für N-PE           | Max. continuous voltage, $U_c$ (N-PE)                     | 305 V           |
| Number of poles                                     | 1                                       | Protection level $U_p$ (typ.)                             | $\leq 1.5$ kV   |
| Protection level $U_p$ at $I_N$ (N-PE)              | $\leq 1.5$ kV                           | Rated load current $I_L$                                  | 100 A           |
| Rated voltage (AC)                                  | 230 V                                   | Requirements category acc. to IEC 61643-11                | Type I, Type II |
| Requirements class, acc. to EN 61643-11             | T1, T2                                  | Response time                                             | $\leq 100$ ns   |
| Short-circuit current rating $I_{SCCR}$             | 0.1 kA                                  | Signalling contact                                        | No              |
| Standards                                           | IEC61643-11, EN61643-11                 | Temporary surge voltage (over-voltage) - TOV              | 1,200 V         |
| Voltage type                                        | AC                                      |                                                           |                 |

## Connection data

|                                                            |                     |                                                            |                    |
|------------------------------------------------------------|---------------------|------------------------------------------------------------|--------------------|
| Wire connection method                                     | Screw connection    | Type of connection                                         | Screw connection   |
| Stripping length, rated connection                         | 15 mm               | Tightening torque, min.                                    | 2 Nm               |
| Tightening torque, max.                                    | 4.5 Nm              | Clamping range, rated connection                           | 16 mm <sup>2</sup> |
| Clamping range, min.                                       | 4 mm <sup>2</sup>   | Clamping range, max.                                       | 35 mm <sup>2</sup> |
| Wire cross-section, solid, min.                            | 2.5 mm <sup>2</sup> | Wire cross-section, solid, max.                            | 35 mm <sup>2</sup> |
| Wire connection cross section, finely stranded, min.       | 2.5 mm <sup>2</sup> | Wire connection cross section, finely stranded, max.       | 35 mm <sup>2</sup> |
| Conductor cross-section, flexible, AEH (DIN 46228-1), min. | 2.5 mm <sup>2</sup> | Conductor cross-section, flexible, AEH (DIN 46228-1), max. | 35 mm <sup>2</sup> |
| Connection cross-section, stranded, min.                   | 2.5 mm <sup>2</sup> | Connection cross-section, stranded, max.                   | 35 mm <sup>2</sup> |

## Ratings IECEx/ATEX/cUL

|                         |         |
|-------------------------|---------|
| Certificate no. (cULus) | E354261 |
|-------------------------|---------|

## Guarantee

|               |         |
|---------------|---------|
| Time interval | 5 years |
|---------------|---------|

## Classifications

|             |             |             |             |
|-------------|-------------|-------------|-------------|
| ETIM 6.0    | EC000941    | ETIM 7.0    | EC000941    |
| ECLASS 9.0  | 27-13-08-05 | ECLASS 9.1  | 27-13-08-05 |
| ECLASS 10.0 | 27-13-08-05 | ECLASS 11.0 | 27-13-08-05 |

## Important note

|                     |                                                                                                                                                                                           |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product information | Only applicable to IT power systems where the earth on the distribution transformer is interconnected with the earth on the consumer side (RE=RA in Figure 44.A1 of IEC 60634-4-44:2018). |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## VPU AC I 1 N-PE 305/50

**Weidmüller Interface GmbH & Co. KG**  
Klingenbergstraße 26  
D-32758 Detmold  
Germany

[www.weidmueller.com](http://www.weidmueller.com)

## Technical data

### Approvals

Approvals



|                       |         |
|-----------------------|---------|
| ROHS                  | Conform |
| UL File Number Search | E354261 |

### Downloads

|                                             |                                                                                                                                                                       |
|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Approval/Certificate/Document of Conformity | <a href="#">EAC VPU SERIES</a><br><a href="#">Declaration of Conformity</a><br><a href="#">Declaration of Conformity</a><br><a href="#">Declaration of Conformity</a> |
| Engineering Data                            | <a href="#">STEP</a>                                                                                                                                                  |
| User Documentation                          | <a href="#">Instruction sheet</a>                                                                                                                                     |
| Brochure/Catalogue                          | <a href="#">Catalogues in PDF-format</a>                                                                                                                              |

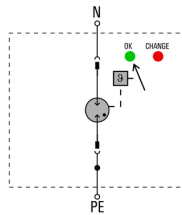
## VPU AC I 1 N-PE 305/50

**Weidmüller Interface GmbH & Co. KG**  
Klingenbergstraße 26  
D-32758 Detmold  
Germany

[www.weidmueller.com](http://www.weidmueller.com)

## Drawings

### Electric symbol



### Schematic circuit diagram