

## VPU AC I 1 R 480/10

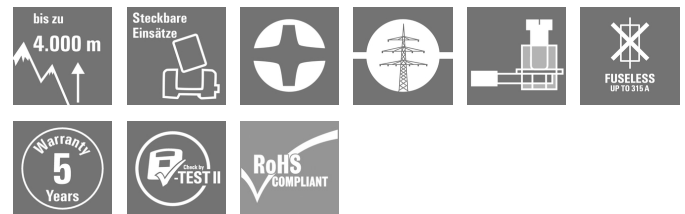
**Weidmüller Interface GmbH & Co. KG**

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, with remote contact, Single-phase, IT with N, IT without N, TN |
| Order No.         | <a href="#">2591520000</a>  |
| Type              | VPU AC I 1 R 480/10   |
| GTIN (EAN)        | 4050118599428   |
| Qty.              | 1 pc(s).  |
| Replacement parts | <a href="#">2591500000</a> <a href="#">2855300000</a>   |

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## Technical data

## Dimensions and weights

|            |          |                 |            |
|------------|----------|-----------------|------------|
| Depth      | 91 mm    | Depth (inches)  | 3.583 inch |
| Height     | 104.5 mm | Height (inches) | 4.114 inch |
| Width      | 18 mm    | Width (inches)  | 0.709 inch |
| Net weight | 206 g    |                 |            |

## Temperatures

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

## Probability of failure

|      |      |
|------|------|
| MTBF | 15 a |
|------|------|

## Rated data UL

|  |                         |              |
|--|-------------------------|--------------|
| Ambient temperature (operational), max. 85 °C  | Rated Voltage $U_N$     | 400 V        |
| MCOV (L/N-PE)                                  | SCCR                    | 200 kA       |
| $I_n$  | Category                | SPD TYPE 1CA |
| Ambient temperature (operational), min. -40 °C | Certificate No. (cURus) | E354261      |
| MODE   | VPR (L-PE)              | 1,500 V      |
| Voltage type                                   | AC                      |              |

## Connection data, remote alert

|  |                      |  |                     |
|--|----------------------|--|---------------------|
| Connection type                                    | PUSH IN              | Cross-section for connected wire, solid core, max. | 1.5 mm <sup>2</sup> |
| Cross-section for connected wire, solid core, min. | 0.14 mm <sup>2</sup> | Stripping length                                   | 8 mm                |

## General data

|                    |                                       |                           |   |
|--------------------|---------------------------------------|---------------------------|---|
| Colour             | orange, 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, with remote contact |                           |   |

## Insulation coordination acc. to EN 50178

|                    |   |                        |    |
|--------------------|---|------------------------|----|
| Pollution severity | 2 | Surge voltage category | IV |
|--------------------|---|------------------------|----|

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## Technical data

## Rated data IEC / EN

|  |  |   |   |
|--|--|---|---|
| Discharge current $I_{\max}$ (8/20 $\mu$ s) wire-PE      | 50 kA  | Discharge current $I_n$ (8/20 $\mu$ s) wire-PE      | 20 kA                                     |
| Energy coordination ( $\leq 10$ m)                       | Type I, Type II, Type III  | Follow-on current extinguishing capability $I_{fi}$ | Not available due for technical reasons   |
| Frequency range, max.                                    | 60 Hz  | Frequency range, min.                               | 50 Hz                                     |
| Fuse   | No Fuse necessary $\leq 315$ A gG, 250 A gG @50 kA<br>$I_{scrr}$ , 315 A gG @25 kA<br>$I_{scrr}$ | Leakage current at $U_n$                            | 0.6 mA                                    |
| Lightning test current $I_{imp}$ (10/350 $\mu$ s) (L-PE) | 10 kA  | Low voltage network                                 | Single-phase, IT with N, IT without N, TN |
| Mains voltage  | 400 V / 690 V  | Max. continuous voltage, $U_c$ (AC)                 | 480 V                                     |
| Number of poles  | 1  | Protection level $U_p$ at $I_N$ (L/N-PE)            | $\leq 2.1$ kV                             |
| Rated voltage (AC)                                       | 400 V  | Requirements category acc. to IEC 61643-11          | Type I, Type II                           |
| Requirements class, acc. to EN 61643-11                  | T1, T2   | Response time                                       | $\leq 25$ ns                              |
| Short-circuit current rating $I_{scrr}$                  | 50 kA  | Signalling contact                                  | 250 V 1A 1CO                              |
| Standards  | IEC61643-11, EN61643-11, UL 1449   | Temporary surge voltage (over-voltage) - TOV        | 762 V                                     |
| Voltage type   | AC   |   |   |

## Connection data

|  |                    |  |                     |
|--|--------------------|--|---------------------|
| Stripping length                                     | 15 mm              | 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.                      | 1.5 mm <sup>2</sup> |
| Wire cross-section, solid, max.                      | 35 mm <sup>2</sup> | Wire connection cross section, finely stranded, min. | 1.5 mm <sup>2</sup> |
| Wire connection cross section, finely stranded, max. | 25 mm <sup>2</sup> | Connection cross-section, stranded, min.             | 1.5 mm <sup>2</sup> |
| Connection cross-section, stranded, max.             | 35 mm <sup>2</sup> |  |                     |

## Guarantee

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

## Classifications

|             |             |             |             |
|-------------|-------------|-------------|-------------|
| ETIM 6.0    | EC000941    | ETIM 7.0    | EC000941    |
| ETIM 8.0    | EC000941    | ETIM 9.0    | 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 |
| ECLASS 12.0 | 27-17-90-90 | ECLASS 13.0 | 27-17-90-90 |

## Environmental Product Compliance

|                        |                             |
|------------------------|-----------------------------|
| REACH SVHC             | /                           |
| RoHS Compliance Status | Compliant without exemption |

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## Technical data

## Important note

|                     |   |
|---------------------|---|
| Product information | For use in DC applications, please use the fuse of SIBA Type NH2XL aR/aSF DC 1500 V   |
| Notes               | 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). |

## Approvals

Approvals



|                         |            |
|-------------------------|------------|
| ROHS                    | Conform    |
| UL File Number Search   | UL Website |
| Certificate No. (cURus) | E354261    |

## Downloads

|   |   |
|---|---|
| Approval/Certificate/Document of Conformity | <a href="#">EU Konformitätserklärung / EU Declaration of Conformity</a> |
| Engineering Data                            | <a href="#">CAD data – STEP</a>   |
| User Documentation                          | <a href="#">Beipackzettel / Instruction sheet</a>                       |
| Catalogues                                  | <a href="#">Catalogues in PDF-format</a>                                |

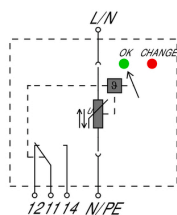
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# Drawings

## Electric symbol



## Schematic circuit diagram

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**Replacement parts****Spare arrester**

In the event of a defective arrester, you can easily reorder this spare arrester, replace the defective arrester and thus restore protection.

**General ordering data**

|            |                            |   |
|------------|----------------------------|---|
| Type       | VPU AC I 0 480/10          | Version   |
| Order No.  | <a href="#">2591500000</a> | Spare arrester, Surge protection, $U_p(L/N-PE) \leq 2.1 \text{ kV}$ |
| GTIN (EAN) | 4050118599442              |   |
| Qty.       | 1 pc(s).                   |   |

**VPU Series**

Extensive accessories round off the product range

**General ordering data**

|            |                            |
|------------|----------------------------|
| Type       | PLUG VPU AC                |
| Order No.  | <a href="#">2855300000</a> |
| GTIN (EAN) | 4064675533283              |
| Qty.       | 10 pc(s).                  |

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[www.weidmueller.com](http://www.weidmueller.com)**Accessories****Blank**

ESG is the tried-and-tested marker in MultiCard format for use on many well-known electrical devices. The result is high-quality device marking with a high-contrast appearance.

Various types are available for devices from manufacturers like Siemens, ABB, Beckhoff etc.

Advantages at a glance:

- Tags for universal usage, self-adhesive or clip-on tags, depending on type
- For aligned equipment, e.g. circuit breakers, we supply ESG markers for clipping onto tag rails
- Individual laser-quality printing according to specifications

**For custom printing:** Please send us a file of our labeling software M-Print PRO or M-Print PRO Online (without installation) for your labeling specifications.

**General ordering data**

|            |                            |  |
|------------|----------------------------|--|
| Type       | ESG 6/15 K MC NE WS        | Version  |
| Order No.  | <a href="#">1880100000</a> | ESG, Device markers x 15 mm, PA 66, Colour: white, Self-adhesive |
| GTIN (EAN) | 4032248478781              |  |
| Qty.       | 200 pc(s).                 |  |

**Slotted screwdriver**

VDE insulated slot-head screwdriver, SDI DIN 7437, ISO 2380/2, drive output acc. to DIN 5264, ISO 2380/1. SoftFinish grip

**General ordering data**

|            |                            |   |
|------------|----------------------------|---|
| Type       | SDIS 1.0X5.5X125           | Version   |
| Order No.  | <a href="#">2749850000</a> | Screwdriver, Blade width (B): 5.5 mm, Blade length: 125 mm, Blade |
| GTIN (EAN) | 4050118897050              | thickness (A): 1 mm   |
| Qty.       | 1 pc(s).                   |   |

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[www.weidmueller.com](http://www.weidmueller.com)**Accessories****Crosshead screwdriver Phillips**

VDE insulated crosshead screwdriver, for Phillips screws, SDIK PH DIN 7438, ISO 8764/2-PH, output to ISO 8764-PH, SoftFinish grip

**General ordering data**

|            |                            |   |
|------------|----------------------------|---|
| Type       | SDIK PH1 X 80              | Version   |
| Order No.  | <a href="#">2749890000</a> | Screwdriver, Blade width (B): 1 mm, 80 mm, Blade thickness (A): 1 |
| GTIN (EAN) | 4050118897098              |   |
| Qty.       | 1 pc(s).                   |   |