

**PVN DC 2I 1O 2MPP SPD1R EVO 11****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com



PV Next combiner boxes for inverters with 1 to 12 MPP trackers are used to protect the DC side of a photovoltaic system. The combiner boxes protect the inverter against overvoltages and thus comply with the European Directive CLC/TS 51643-32. In addition, these products offer the possibility to protect the system against reverse currents and the possibility to combine strings to save cables during installation.

**General ordering data**

|                   |   |
|-------------------|---|
| Version           | Photovoltaics, Combiner Box, 1100 V, 2 MPP's, 2 Inputs / 1 Output per MPP, Surge protection I / II, MC4-Evo 2 |
| Order No.         | <a href="#">2866360000</a>  |
| Type              | PVN DC 2I 1O 2MPP SPD1R EVO 11  |
| GTIN (EAN)        | 4064675604044   |
| Qty.              | 1 pc(s).  |
| Replacement parts | <a href="#">2530600000</a> <a href="#">2534300000</a>   |

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## Technical data

### Dimensions and weights

|            |         |                 |            |
|------------|---------|-----------------|------------|
| Depth      | 132 mm  | Depth (inches)  | 5.197 inch |
| Height     | 236 mm  | Height (inches) | 9.291 inch |
| Width      | 200 mm  | Width (inches)  | 7.874 inch |
| Net weight | 2,100 g |                 |            |

### Temperatures

|                     |                 |          |                           |
|---------------------|-----------------|----------|---------------------------|
| Ambient temperature | -40 °C...+50 °C | Humidity | 5...95 %, no condensation |
|---------------------|-----------------|----------|---------------------------|

### Approvals and norms

|           |                         |
|-----------|-------------------------|
| Approvals | EN 61439-2, IEC 61439-2 |
|-----------|-------------------------|

### Guarantee

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

### Electrical characteristics

Current per Maximum Power Point, max. 45 A

|                                     |                          |      |
|-------------------------------------|--------------------------|------|
| Rated DC current per connection     | Current per string, max. | 45 A |
| Rated short-term current resistance | Rated current            | 67 A |
| Rated DC voltage                    | 1,100 V                  |      |

### Enclosure

|                        |  |                      |   |
|------------------------|--|----------------------|---|
| Connection type string | Plug MC4-Evo 2   | Enclosure attachment | Via mounting feet                               |
| Impact resistance      | IK08 in accordance with IEC 62208, IK10 in accordance with IEC 62262 | Insulating material  | Polyester glass-fibre reinforced, Polycarbonate |
| Protection class       | II   | Type of mounting     | 4 screws, Wall mounting                         |

### General data

|                       |                                       |                   |      |
|-----------------------|---------------------------------------|-------------------|------|
| Installation location | Protected outdoor area (Land and Sea) | Protection degree | IP65 |
|-----------------------|---------------------------------------|-------------------|------|

### Inputs

|                                |                                   |   |                             |
|--------------------------------|-----------------------------------|---|-----------------------------|
| Amount of maximum power points | 2 MPP                             |   |                             |
| DC Input + & -                 | Wire connection                   | Type of connection                        | Stäubli MC4-Evo 2 connector |
|                                |                                   | Wire cross-section, min.                  | 2.5 mm <sup>2</sup>         |
|                                |                                   | Wire cross-section, max.                  | 6 mm <sup>2</sup>           |
|                                | Cable entry                       | Number of cable entries                   | 4                           |
| Functional earth connector     | Cable entry                       | Number of cable entries                   | 1                           |
|                                |                                   | Type of connection                        | Screw connection            |
|                                | Wire connection                   | Flexible, max. H05(07) V-K                | 25 mm <sup>2</sup>          |
|                                |                                   | w. wire end ferrule, DIN 46228 pt 1, max. | 16 mm <sup>2</sup>          |
| Fuse type                      | Neither fuse cartridge nor holder |   |                             |

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## Technical data

|                                    |  |   |  |
|------------------------------------|--|---|--|
| Max. number of DC inputs           | per Maximum Power Point 2 inputs connected in parallel |   |  |
| Surge protection auxiliary contact | Wire connection  | Type of connection                        | Tension clamp connection with actuator |
|                                    |  | Flexible, max. H05(07) V-K                | 1.5 mm <sup>2</sup>                    |
|                                    |  | w. wire end ferrule, DIN 46228 pt 1, max. | 1.5 mm <sup>2</sup>                    |
|                                    | Cable entry  | Number of cable entries                   | 1                                      |

## Outputs

|                 |                 |                                |                             |
|-----------------|-----------------|--------------------------------|-----------------------------|
| DC Output + & - | Wire connection | Type of connection             | Stäubli MC4-Evo 2 connector |
|                 |                 | Compatible cable cross-section | TÜV 2 Pfg 1169/08.07        |
|                 |                 | Wire cross-section, min.       | 2.5 mm <sup>2</sup>         |
|                 |                 | Wire cross-section, max.       | 6 mm <sup>2</sup>           |

Max. number of DC outputs per Maximum Power Point 1 output

## Surge protection DC side

|  |               |  |               |
|--|---------------|--|---------------|
| Discharge current $I_n$ (8/20 $\mu$ s)             | 20 kA         | Discharge current, max. (8/20 $\mu$ s)                             | 40 kA         |
| Lightning test current $I_{imp}$ (10/350 $\mu$ s)  | 6.25 kA       | Maximum continuous operating voltage DC UCPV mode +/-, -/PE, +/-PE | 1,100 V       |
| PV system voltage, max. $U_{cpv}$                  | 1,100 V       | Protection level $U_p$ (+/-, -/PE, +/-PE)                          | $\leq 3.8$ kV |
| Protection level $U_p$ (+/-)                       | $\leq 3.8$ kV | Protection level $U_p$ (+/PE)                                      | $\leq 3.8$ kV |
| Protection level $U_p$ (-/PE)                      | $\leq 3.8$ kV | Requirements class   | Type I/II     |
| Short-circuit current $I_{SCP}$                    | 11,000 A      | Standby power consumption $P_C$                                    | <0.2 W        |
| Total discharge current $I_{total}$ (8/20 $\mu$ s) | 50 kA         | Total discharge current $I_{total}$ (10/350 $\mu$ s)               | 12.5 kA       |

## Classifications

|             |             |             |             |
|-------------|-------------|-------------|-------------|
| ETIM 6.0    | EC002928    | ETIM 7.0    | EC002928    |
| ETIM 8.0    | EC003857    | ETIM 9.0    | EC003857    |
| ECLASS 9.0  | 22-57-92-03 | ECLASS 9.1  | 22-57-02-90 |
| ECLASS 10.0 | 22-57-02-90 | ECLASS 11.0 | 22-57-02-92 |
| ECLASS 12.0 | 22-57-02-92 | ECLASS 13.0 | 22-57-02-92 |
| ECLASS 14.0 | 22-57-02-92 |             |             |

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[www.weidmueller.com](http://www.weidmueller.com)**Technical data****Tender specification sheets**

## Long specification

Combiner box for inverters with 2 MPP tracker, suitable for protecting the DC side of a photovoltaic system according to EN 51543-32.

**MPP1:**

2 inputs, connection via MC4-Evo 2 connector, compatible with cable type TÜV 2 Pfg1 169/08.07 / EN 50618:2063

1 output, connection via MC4-Evo 2 connector, compatible with cable type TÜV 2 Pfg1 169/08.07 / EN 50618:2063

**MPP2:**

identical to MPP1

Max. string voltage  $U_{oc}$ :  
1100V

1 class/type I + II combined arrester with signal contact

Connection of the signal contact via cable glands (8-12mmØ) max. conductor cross-section: 1.5mm<sup>2</sup>

Connection of the functional earth via cable glands (8-12mmØ) Conductor cross-section: 16-25mm<sup>2</sup>

Protection class: IP65

All built into a glass fibre reinforced polyester housing. Dimensions HxWxD: 236x200x132 mm

Approval according to low voltage switchgear and controlgear IEC 61439-1:2011 and EN 61439-2:2011

**Environmental Product Compliance**

|                                      |                                      |
|--------------------------------------|--------------------------------------|
| REACH SVHC                           | Lead 7439-92-1                       |
| SCIP                                 | bdab5698-6a20-4370-8e28-8810d882d01a |
| RoHS Compliance Status               | Compliant with exemption             |
| RoHS Exemption (if applicable/known) | 6c                                   |

**Important note**

|                     |   |
|---------------------|---|
| Product information | <p>The SCIP number was assigned due to a lead content of more than 0.1 % of the net weight.</p> <p>Safe use instruction according to ECHA:</p> <p>The identification of the hazardous substance is sufficient to allow safe use of the article throughout its life cycle, including the service life, disassembly and waste/recycling phase</p> |
|---------------------|---|

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## Technical data

## Approvals

Approvals



ROHS

Conform

## Downloads

Approval/Certificate/Document of Conformity

[Declaration of Conformity for PV Next Mini 2](#)

Engineering Data

[CAD data – STEP](#)

Technical Documentation

[Customer drawing](#)[CAD data – Schematic Diagram for PV Next 2x 2In 1Out Boxes](#)[2932700000\\_00\\_03-2023\\_DRILL-TEMP\\_PV-Next\\_20-20](#)

User Documentation

[Manual PV Next String Combiner Box](#)[MANUAL PV NEXT IT/ES/FR](#)[Instruction leaflet PV NEXT MINI](#)[Manual PV Next Mini](#)

White paper

[Fact Sheet DE PV CB Wie man Gebäude gegen Blitzeinschläge schützt](#)[Fact Sheet DE PV Wie man die Lebensdauer eines GAK verlängert](#)[Fact Sheet DE PV CB Wann Sicherungen zu installieren sind](#)[Fact Sheet DE CB PV NEXT](#)[Fact Sheet EN PV CB When DC fuses are mandatory to install](#)[Fact Sheet EN CB PV NEXT](#)[Fact Sheet EN PV How to protect buildings against lightning strikes](#)[Fact Sheet EN PV How to extend the life time of a Combiner Box](#)[Fact Sheet DE CB PV Strings kombinieren](#)[Fact Sheet EN CB Combining PV strings](#)[Fact Sheet EN PV Combiner Box earthing](#)[Fact Sheet DE PV Combiner Box Erdung](#)

Catalogues

[Catalogues in PDF-format](#)

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## Drawings

### PCB design



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**Replacement parts****Spare Arrester****General ordering data**

|            |                            |  |
|------------|----------------------------|--|
| Type       | VPU PV I+II OM 1000        | Version  |
| Order No.  | <a href="#">2534300000</a> | Surge voltage arrester, Low voltage, Surge protection I / II, Spare    |
| GTIN (EAN) | 4050118545906              | arrester   |
| Qty.       | 9 pc(s).                   |  |
| Type       | VPU PV I+II O 1000         | Version  |
| Order No.  | <a href="#">2530600000</a> | Surge voltage arrester, Low voltage, Accessories, Surge protection I / |
| GTIN (EAN) | 4050118540819              | II, Spare arrester   |
| Qty.       | 9 pc(s).                   |  |

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## Accessories

### UV-resistant cable ties



UV-resistant polyamide 6.6 ensures long durability of our special cable ties even with strong UV radiation. Ideal for continuous outdoor use.

### General ordering data

|            |                            |   |
|------------|----------------------------|---|
| Type       | CB-UVR 290/4,5 BK          | Version                                       |
| Order No.  | <a href="#">2659350000</a> | Cable ties, 4.5 x 290 mm, Polyamide 66, 220 N |
| GTIN (EAN) | 4050118682816              |   |
| Qty.       | 100 pc(s).                 |   |

### Tools



- For flexible and solid conductors with special insulating materials
- High-quality stripping for industrial applications (complies with aircraft industry requirements)
- Specially shaped blades enable stripping of special types of insulation and conductor configurations
- Stripping length adjustable via end stop
- Very versatile thanks to interchangeable stripping units
- Stripping results reproduced accurately over and over again
- No damage to the conductor
- A long-lasting, reliable tool thanks to its sturdy design
- Integrated cutting function

### General ordering data

|            |                            |                                  |
|------------|----------------------------|----------------------------------|
| Type       | MULTI-STRIPAX PV           | Version                          |
| Order No.  | <a href="#">1190490000</a> | Photovoltaics, Plug-in connector |
| GTIN (EAN) | 4032248973262              |                                  |
| Qty.       | 1 pc(s).                   |                                  |



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[www.weidmueller.com](http://www.weidmueller.com)**Accessories****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).                   |   |
| Type       | SDIS 0.6X3.5X100           | Version   |
| Order No.  | <a href="#">2749810000</a> | Screwdriver, Blade width (B): 3.5 mm, Blade length: 100 mm, Blade |
| GTIN (EAN) | 4050118897012              | thickness (A): 0.6 mm   |
| Qty.       | 1 pc(s).                   |   |

**External fixing lugs**

External attachment lugs 4-part set

**General ordering data**

|            |                            |   |
|------------|----------------------------|---|
| Type       | MF FPC                     | Version   |
| Order No.  | <a href="#">9536040000</a> | FPC (polycarbonate empty enclosure), Mounting foot, Fixing lugs,  |
| GTIN (EAN) | 4032248009442              | Height: 40 mm, Width: 19 mm, Depth: 35.5 mm, Material: Polyamide, |
| Qty.       | 1 pc(s).                   | Light Grey  |

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

Cutting tools for conductors up to 8 mm, 12 mm, 14 mm and 22 mm outside diameter. The special blade geometry allows pinch-free cutting of copper and aluminium conductors with minimum physical effort. The cutting tools (KT 8 to KT 22) also come with VDE and GS-tested protective insulation up to 1,000 V in accordance with EN/IEC 60900.

**General ordering data**

|            |                            |  |
|------------|----------------------------|--|
| Type       | KT 14                      | Version  |
| Order No.  | <a href="#">1157820000</a> | Cutting tools, Cutting tool for one-hand operation |
| GTIN (EAN) | 4032248945344              |  |
| Qty.       | 1 pc(s).                   |  |

**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 PH3 X 150             | Version  |
| Order No.  | <a href="#">2749910000</a> | Screwdriver, Blade width (B): 3 mm, 150 mm, Blade thickness (A): 3 |
| GTIN (EAN) | 4050118897210              |  |
| Qty.       | 1 pc(s).                   |  |

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## Accessories

### Y-Connector Cables



The Y or X cable is used to connect three or four elements of a PV system, such as the connection between PV panels, inverters and surge protection boxes. The cables are available in different connection variants.

#### General ordering data

|            |                            |   |
|------------|----------------------------|---|
| Type       | PVHYM+M+XXXX6W-15          | Version   |
| Order No.  | <a href="#">2877860000</a> | Photovoltaics, Y-Connector Cable, 1x WM4 C Male, 2x MC4 Female, |
| GTIN (EAN) | 4064675666424              | 6mm², 1500 V  |
| Qty.       | 1 pc(s).                   |   |
| Type       | PVHYM-M-XXXX6W+15          | Version   |
| Order No.  | <a href="#">2877850000</a> | Photovoltaics, Y-Connector Cable, 1x WM4 C Female, 2x MC4 Male, |
| GTIN (EAN) | 4064675666417              | 6mm², 1500 V  |
| Qty.       | 1 pc(s).                   |   |

### PV Sun Covers



#### General ordering data

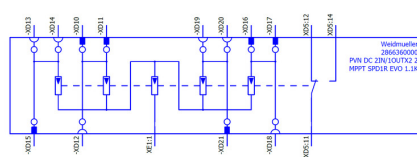
|            |                            |               |
|------------|----------------------------|---------------|
| Type       | PV SUN COVER 30/19/18      | Version       |
| Order No.  | <a href="#">8000086576</a> | Photovoltaics |
| GTIN (EAN) | 4064675845164              |               |
| Qty.       | 1 pc(s).                   |               |

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# Drawings



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