

PVN DC 3I 3O 2MPP SW 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 EN 51543-32. 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, 3 Inputs / 3 Outputs per MPP, Surge protection I / II, Switch disconnecter, MC4-Evo 2 |
| Order No. | 2890360000 |
| Type | PVN DC 3I 3O 2MPP SW SPD1R EVO 11 |
| GTIN (EAN) | 4064675878209 |
| Qty. | 1 pc(s). |

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Technical data
Dimensions and weights

| | | | |
|------------|---------|-----------------|-------------|
| Depth | 172 mm | Depth (inches) | 6.772 inch |
| Height | 240 mm | Height (inches) | 9.449 inch |
| Width | 400 mm | Width (inches) | 15.748 inch |
| Net weight | 4,170 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. 37.5 A

| | | |
|-------------------------------------|--------------------------|--------|
| Rated DC current per connection | Current per string, max. | 37.5 A |
| Rated short-term current resistance | Rated current | 50 A |
| Rated DC voltage | 1,100 V | |
| Switching disconnecter capacity | DC-PV1, IEC 60947-3 | |

Enclosure

| | | | |
|------------------------|--|-------------------------------|--|
| Connection type string | Plug MC4-Evo 2 | Enclosure attachment | Via mounting foots |
| Impact resistance | IK08 in accordance with IEC 62208, IK10 in accordance with IEC 62262 | Insulating material | Polyester glass-fibre reinforced, Polycarbonate, Polycarbonate |
| Protection class | II | Switch disconnecter execution | switch in cover |
| Type of mounting | 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 | Wire cross-section, min. | 2.5 mm ² |
| | | Wire cross-section, max. | 6 mm ² |
| Functional earth connector | Cable entry | Number of cable entries | 2 |
| | | Type of connection | Screw connection |
| | Wire connection | Flexible, max. H05(07) V-K | 25 mm ² |
| | | w. wire end ferrule, DIN 46228 pt 1, max. | 16 mm ² |
| Fuse type | Neither fuse cartridge nor holder | | |
| Max. number of DC inputs | per Maximum Power Point 3 inputs connected in parallel | | |

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| Surge protection auxiliary contact | Wire connection | Type of connection | Tension clamp connection with actuator |
| | | Flexible, max. H05(07) V-K | 1.5 mm ² |
| | Cable entry | w. wire end ferrule, DIN 46228 pt 1, max. | 1.5 mm ² |
| | | Number of cable entries | 2 |

Outputs

| | | | |
|-----------------|-----------------|--------------------------|-----------------------------|
| DC Output + & - | Wire connection | Type of connection | Stäubli MC4-Evo 2 connector |
| | | Wire cross-section, min. | 2.5 mm ² |
| | | Wire cross-section, max. | 6 mm ² |

Max. number of DC outputs per Maximum Power Point 3 outputs connected in parallel

Surge protection DC side

| | | | |
|--|--------------------|--|---------------|
| Discharge current I_n (8/20 μ s) | 20 kA | Discharge current, max. (8/20 μ s) | 40 kA |
| Lightning test current I_{imp} (10/350 μ 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) | ≤ 3.8 kV |
| Protection level U_p (+/-) | ≤ 3.8 kV | Protection level U_p (+/PE) | ≤ 3.8 kV |
| Protection level U_p (-/PE) | ≤ 3.8 kV | Requirements class | Type I/II |
| Short-circuit current I_{SCPv} | 11,000 A | Standby power consumption P_C | <0.2 W |
| Surge protection DC side | 1000 V type I + II | Total discharge current I_{total} (8/20 μ s) | 50 kA |
| Total discharge current I_{total} (10/350 μ 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 |

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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:

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

3 outputs, 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 Uoc:
1100V

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

With load break switch for safe separation of the string lines

Connection of the signal contact via cable glands (8-12mmØ) max. conductor cross-section: 1.5mm²

Connection of the functional earth via cable glands (8-12mmØ) Conductor cross-section: 16-25mm²

Protection class: IP65

All built into a glass fibre reinforced polyester housing. Dimensions HxWxD: 240x200x172 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

Important note

Product information

The SCIP number was assigned due to a lead content of more than 0.1 % of the net weight.

Safe use instruction according to ECHA:

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

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www.weidmueller.com**Technical data****Approvals**

Approvals

**Downloads**

| | |
|-------------------------|---|
| Engineering Data | CAD data – PV Next Schematic Diagram CAD data – STEP |
| Technical Documentation | 2932710000_00_03-2023_DRILL-TEMP_PV-Next_20-40 |
| User Documentation | Manual PV Next String Combiner Box MANUAL PV NEXT IT/ES/FR Instruction leaflet 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 PV CB Lastentrennschalter Fact Sheet DE CB PV Strings kombinieren Fact Sheet DE PV CB Richtig verbinden Fact Sheet EN PV CB Load break switch Fact Sheet EN CB Combining PV strings Fact Sheet EN PV CB connection Fact Sheet EN PV Combiner Box earthing Fact Sheet DE PV Combiner Box Erdung |
| Catalogues | Catalogues in PDF-format |

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Drawings



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www.weidmueller.com**Accessories****Slotted screwdriver**

Slotted screwdriver with rounded blade SD DIN 5265,
ISO 2380/2, output to DIN 5264, ISO 2380/1.
ChromTop tip, SoftFinish grip

General ordering data

| | | |
|------------|----------------------------|--------------------------|
| Type | SDS 1.0X5.5X150 | Version |
| Order No. | 9008350000 | Screwdriver, Screwdriver |
| GTIN (EAN) | 4032248056316 | |
| Qty. | 1 pc(s). | |
| Type | SDS 0.6X3.5X100 | Version |
| Order No. | 9008330000 | Screwdriver, Screwdriver |
| GTIN (EAN) | 4032248056286 | |
| Qty. | 1 pc(s). | |

Spare Arrester**General ordering data**

| | | |
|------------|----------------------------|--|
| Type | VPU PV I+II 0 1000 | Version |
| Order No. | 2530600000 | Surge voltage arrester, Low voltage, Accessories, Surge protection I / |
| GTIN (EAN) | 4050118540819 | II, Spare arrester |
| Qty. | 9 pc(s). | |
| Type | VPU PV I+II 0M 1000 | Version |
| Order No. | 2534300000 | Surge voltage arrester, Low voltage, Surge protection I / II, Spare |
| GTIN (EAN) | 4050118545906 | arrester |
| Qty. | 9 pc(s). | |

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www.weidmueller.com**Accessories****Accessories**

The dust protection cap "Dustcap VSSO" protects the Weidmüller and type 4 solar connectors against dust and dirt.

The "SafetyClip" protects the Weidmüller solar connectors against unintentional opening and can only be released using the special multi-tool.

General ordering data

| | | |
|------------|----------------------------|----------------------------|
| Type | VSSO WM4 C | Version |
| Order No. | 1254870000 | Photovoltaics, Flat design |
| GTIN (EAN) | 4050118047479 | |
| Qty. | 100 pc(s). | |

PV Sun Covers**General ordering data**

| | | |
|------------|----------------------------|---------------|
| Type | PV SUN COVER 56/30/21 | Version |
| Order No. | 8000087025 | Photovoltaics |
| GTIN (EAN) | 4064675845188 | |
| Qty. | 1 pc(s). | |

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www.weidmueller.com**Accessories****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. | 1190490000 | Photovoltaics, Plug-in connector |
| GTIN (EAN) | 4032248973262 | |
| Qty. | 1 pc(s). | |

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. | 2659350000 | Cable ties, 4.5 x 290 mm, Polyamide 66, 220 N |
| GTIN (EAN) | 4050118682816 | |
| Qty. | 100 pc(s). | |

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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. | 1157820000 | Cutting tools, Cutting tool for one-hand operation |
| GTIN (EAN) | 4032248945344 | |
| Qty. | 1 pc(s). | |

Crosshead screwdriver Phillips

Crosshead screwdriver, Phillips, SDK PH DIN 5262, ISO 8764/2-PH, output to ISO 8764-PH, ChromTop tip, SoftFinish grip

General ordering data

| | | |
|------------|----------------------------|--------------------------|
| Type | SDK PH3 | Version |
| Order No. | 9008500000 | Screwdriver, Screwdriver |
| GTIN (EAN) | 4032248056491 | |
| Qty. | 1 pc(s). | |

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Accessories

External fixing lugs

External attachment lugs 4-part set



General ordering data

| | | |
|------------|----------------------------|---|
| Type | MF FPC | Version |
| Order No. | 9536040000 | 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 |

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

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Drawings

