

PVN DC 3IF 30 1MPP SPD1R CG 10

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 5 1643-32. 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, PV Next, 1000 V, 1 MPP, 3 Inputs / 3 Outputs per MPP, With fuse holder, Surge protection I / II, Cable gland |
| Order No. | 2683030000 |
| Type | PVN DC 3IF 30 1MPP SPD1R CG 10 |
| GTIN (EAN) | 4050118699852 |
| Qty. | 1 items |

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Technical data

Approvals

Approvals



ROHS Conform

Dimensions and weights

| | | | |
|------------------------------|-------------|----------------|-------------|
| Depth | 132 mm | Depth (inches) | 5.1968 inch |
| Depth with add-on components | 132 mm | Height | 335 mm |
| Height (inches) | 13.189 inch | Width | 300 mm |
| Width (inches) | 11.811 inch | Net weight | 3000 g |

Temperatures

Ambient temperature -40 °C...45 °C Humidity 5 - 90 %, no condensation

Environmental Product Compliance

| | |
|------------------------|--------------------------------------|
| RoHS Compliance Status | Compliant |
| REACH SVHC | Lead 7439-92-1 |
| SCIP | bdab5698-6a20-4370-8e28-8810d882d01a |

DC string monitoring

Monitoring function Non monitored

Included in delivery

| | | |
|----------------------|----------|---------------|
| Included accessories | Article | Mounting foot |
| | Quantity | 4 |
| | Article | Sealing plug |
| | Quantity | 5 |

Approvals and norms

Approvals EN 61439-2, IEC 61439-2

Guarantee

Time interval 5 years

Electrical characteristics

| | |
|---------------------------------------|----------------------------------|
| Rated DC voltage | 1000 V |
| Rated short-term current resistance | Rated current 56.25 A |
| Current per Maximum Power Point, max. | 45 A |
| Rated DC current per connection | Current per string, max. 45.00 A |

Enclosure

| | | | |
|------------------|-------------------------|---------------------|---|
| Cover | with cover, removeable | Insulating material | Polyester glass-fibre reinforced, Polycarbonate |
| Type of mounting | Wall mounting, 4 screws | Impact resistance | IK08 in accordance with IEC 62208, IK10 |

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| Enclosure attachment | Via mounting feet | Protection class | II |
| Connection type string | Internal terminal (with cable gland feed-through) | | |

in accordance with IEC 62262

General data

| | | | |
|-----------------------|---------------------------------------|-------------------|------|
| Standards | EN 61643-31, IEC 61439-2 ed 3.0 | Protection degree | IP65 |
| Installation location | Protected outdoor area (Land and Sea) | | |

Inputs

| | | | | |
|--------------------------------------|--|-------------------------------|-----------------------|--|
| Cartridge fuse | 10 x 38 mm | | | |
| Fused poles of string | +/- | | | |
| Fuse-link standard | IEC 60269-1, IEC 60269-6, gPV (EN 60269-6) | | | |
| Amount of maximum power points (MPP) | 1 | | | |
| Functional earth connector | Cable entry | Number of cable entries | 1 | |
| | | Cable diameter, min. | 5 mm | |
| | | Cable diameter, max. | 10 mm | |
| | | Cable gland | M 16 | |
| | Wire connection | Type of connection | PUSH IN with actuator | |
| | | Flexible, max. H05(07) V-K | 25 mm ² | |
| | w. wire end ferrule, DIN 46228 pt 1, max. | 16 mm ² | | |
| Number of conduit inlets | 4 | | | |
| DC Input + & - | Wire connection | Type of connection | PUSH IN with actuator | |
| | | Compatible cable crosssection | EN 50618:2015 | |
| | | Wire cross-section, min. | 2.5 mm ² | |
| | | Wire cross-section, max. | 16 mm ² | |
| | Cable entry | Number of cable entries | 3 | |
| | | Cable diameter, min. | 5 mm | |
| | | Cable diameter, max. | 10 mm | |
| | | Cable gland | M 25 | |
| | | | | |
| | | | | |
| Fuse type | Empty fuse holder | | | |
| Fuses | Yes | | | |
| Max. number of DC inputs | per Maximum Power Point 3 inputs connected in parallel | | | |
| Number of string inputs per MPP | ≤ 3 | | | |
| Surge protection auxiliary contact | Cable entry | Number of cable entries | 1 | |
| | | Cable diameter, min. | 5 mm | |
| | | Cable diameter, max. | 10 mm | |
| | | Cable gland | M 16 | |
| | Wire connection | Type of connection | PUSH IN with actuator | |
| | | Flexible, max. H05(07) V-K | 1.5 mm ² | |
| | w. wire end ferrule, DIN 46228 pt 1, max. | 1.5 mm ² | | |
| Number of inputs | 3 | | | |

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Outputs

| | | | |
|---------------------------|---|--------------------------------|---------------------|
| Max. number of DC outputs | per Maximum Power Point 3 outputs connected in parallel | | |
| DC Output + & - | Wire connection | Type of connection | PUSH IN |
| | | Compatible cable cross-section | TÜV 2 Pfg1169/08.07 |
| | | Wire cross-section, min. | 2.5 mm ² |
| | | Wire cross-section, max. | 16 mm ² |

Surge protection DC side

| | | | |
|---|--|---|----------|
| Standards | EN 61643-31, IEC 61439-2 ed 3.0 | Lightning test current Iimp (10/350 µs) | 6.25 kA |
| Discharge current, max. (8/20 µs) | 40 kA | Protection level Up (+/-, -/PE, +/PE) | ≤ 3.8 kV |
| Standby power consumption PC | <0.2 W | Short-circuit current ISCPV | 11000 A |
| Total discharge current Itotal (8/20µs) | 50 kA | Discharge current In (8/20 µs) | 20 kA |
| Requirements class | Type I/II | Total discharge current Itotal (10/350µs) | 12.5 kA |
| Protection level Up (-/PE) | ≤ 3.8 kV | Protection level Up (+/-) | ≤ 3.8 kV |
| Protection level Up (+/PE) | ≤ 3.8 kV | PV system voltage, max. Ucpv | 1000 V |
| Surge protection DC side | 1000 V type I + II with remote contact | Maximum continuous operating voltage DC UCPV mode +/-, -/PE, +/PE | 1100 V |

DC load break switch

| | | | |
|--------------|----|-------------------------------|-----------|
| Voltage type | DC | Switch disconnector execution | no switch |
|--------------|----|-------------------------------|-----------|

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 Fuses are not included

Classifications

| | | | |
|-------------|-------------|-------------|-------------|
| ETIM 8.0 | EC003857 | ETIM 9.0 | EC003857 |
| ETIM 10.0 | EC003857 | ECLASS 14.0 | 22-57-02-92 |
| ECLASS 15.0 | 22-57-02-92 | | |

Tender specification sheets

Long specification: Combiner box for inverters with 1 MPP tracker, suitable for protecting the DC side of a photovoltaic system according to EN 51543-32. MPP 1: 3 inputs, connection via M25 cable gland with 3x7mm Ø cable entry. PUSH IN connection / 2.5 - 6mm² single-wire, multi-wire, with/without ferrule. 3 outputs, connection via M25 cable gland with 3x7mm Ø cable entry. PUSH IN connection / 2.5

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- 6mm² single-wire, multi-wire, with/without ferrule.
Max. string voltage Uoc:
1000V
1 class/type I + II
combined arrester with
signal contact
Fuse holders for inputs and
outputs (fuses 10x38 to be
ordered separately)
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 glas fibre
reinforced polyester
housing. Dimensions
HxWxD: 330x302x175
mm
Approval according to
low voltage switchgear
and controlgear IEC
61439-1:2011 and EN
61439-2:2011

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Drawings

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PCB design

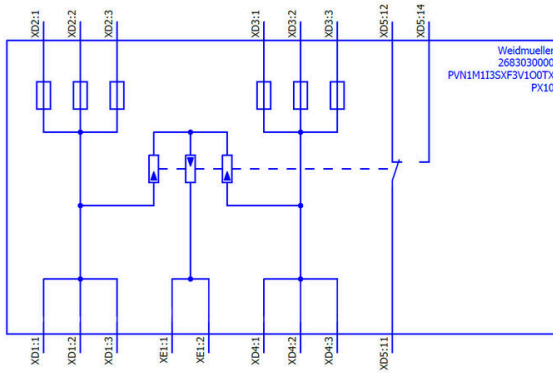


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Accessories

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 ST | | |

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 ST | | |

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

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Accessories

General ordering data

| | | | |
|------------|----------------------------|--|--|
| Type | SDIK PH3 X 150 | Version | |
| Order No. | 2749910000 | Screwdriver, Blade width (B): 3 mm, 150 mm, Blade thickness (A): 3 | |
| GTIN (EAN) | 4050118897210 | | |
| Qty. | 1 ST | | |

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 0.6X3.5X100 | Version | |
| Order No. | 2749810000 | Screwdriver, Blade width (B): 3.5 mm, Blade length: 100 mm, Blade thickness (A): 0.6 mm | |
| GTIN (EAN) | 4050118897012 | | |
| Qty. | 1 ST | | |
| Type | SDIS 1.0X5.5X125 | Version | |
| Order No. | 2749850000 | Screwdriver, Blade width (B): 5.5 mm, Blade length: 125 mm, Blade thickness (A): 1 mm | |
| GTIN (EAN) | 4050118897050 | | |
| Qty. | 1 ST | | |

External fixing lugs



The enclosures of the TBF series are made of extremely tough glass fibre-reinforced polyester. These enclosures are ideal for applications that call for low weight coupled with high shock resistance. The weather-resistant TBF enclosures are designed for a wide range of applications. Together with their comprehensive range of accessories, they provide universal solutions for accommodating built-in items such as regulators, measuring instruments, valves and other equipment.

Features:

- 9 sizes in 2 versions, with grey and transparent lids
- Cover with nylon screws
- Fixing holes outside the sealed area
- Thread for fitting to terminal rails and mounting plates
- Comprehensive accessories
- Weidmüller can manufacture and supply this enclosure to match customer specifications, fitted with all necessary terminals and cable glands.

General ordering data

| | | | |
|------------|----------------------------|---|--|
| Type | MF TBF | Version | |
| Order No. | 0360800000 | TBF (polyester empty enclosure), Mounting foot, Fixing lugs, Height: 72.5 mm, Width: 24 mm, Depth: 12 mm, Basic material: Polyamide, Polyamide 66, Deep black | |
| GTIN (EAN) | 4008190108595 | | |
| Qty. | 1 ST | | |

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Accessories

Sealing sets



General ordering data

| | | | |
|------------|----------------------------|---------------|--|
| Type | SL SET PV NEXT | Version | |
| Order No. | 2729230000 | Photovoltaics | |
| GTIN (EAN) | 4050118804508 | | |
| Qty. | 1 ST | | |

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 ST | | |

10x38 gPV



The gPV cylindrical fuse cartridges are designed to provide compact, safe and economical protection of photovoltaic modules (field protection) with voltages up to 1,500 DC. They provide protection against both overload and short circuit (gPV class according to the requirements of IEC60269-6 and UL248-19 standards). Made of a ceramic tube with high internal pressure and thermal shock resistance, allowing high switching capacity in a small space. The contacts are made of silver-plated copper and the fusible elements of pure silver to avoid ageing and thus keep the electrical characteristics invariable. They are available in the sizes 10x38 mm, 10x85 mm and 22x58 mm.

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Accessories

General ordering data

| | | |
|------------|----------------------------|---|
| Type | FUSE 10X38 10A 1000 VDC... | Version |
| Order No. | 2783230000 | Photovoltaics, Cartridge fuse, 1000 V, 10x38, gPV, 10 A |
| GTIN (EAN) | 4064675059950 | |
| Qty. | 10 ST | |
| Type | FUSE 10X38 12A 1000 VDC... | Version |
| Order No. | 2783240000 | Photovoltaics, Cartridge fuse, 1000 V, 10x38, gPV, 12 A |
| GTIN (EAN) | 4064675059967 | |
| Qty. | 10 ST | |
| Type | FUSE 10X38 15A 1000 VDC... | Version |
| Order No. | 2783250000 | Photovoltaics, Cartridge fuse, 1000 V, 10x38, gPV, 15 A |
| GTIN (EAN) | 4064675059974 | |
| Qty. | 10 ST | |
| Type | FUSE 10X38 16A 1000 VDC... | Version |
| Order No. | 2783260000 | Photovoltaics, Cartridge fuse, 1000 V, 10x38, gPV, 16 A |
| GTIN (EAN) | 4064675059981 | |
| Qty. | 10 ST | |
| Type | FUSE 10X38 1A 1000 VDC ... | Version |
| Order No. | 2783160000 | Photovoltaics, Cartridge fuse, 1000 V, 10x38, gPV, 1 A |
| GTIN (EAN) | 4064675059684 | |
| Qty. | 10 ST | |
| Type | FUSE 10X38 20A 1000 VDC... | Version |
| Order No. | 2783280000 | Photovoltaics, Cartridge fuse, 1000 V, 10x38, gPV, 20 A |
| GTIN (EAN) | 4064675060000 | |
| Qty. | 10 ST | |
| Type | FUSE 10X38 2A 1000 VDC ... | Version |
| Order No. | 2783170000 | Photovoltaics, Cartridge fuse, 1000 V, 10x38, gPV, 2 A |
| GTIN (EAN) | 4064675059691 | |
| Qty. | 10 ST | |
| Type | FUSE 10X38 3A 1000 VDC ... | Version |
| Order No. | 2783180000 | Photovoltaics, Cartridge fuse, 1000 V, 10x38, gPV, 3 A |
| GTIN (EAN) | 4064675059905 | |
| Qty. | 10 ST | |
| Type | FUSE 10X38 4A 1000 VDC ... | Version |
| Order No. | 2783190000 | Photovoltaics, Cartridge fuse, 1000 V, 10x38, gPV, 4 A |
| GTIN (EAN) | 4064675059912 | |
| Qty. | 10 ST | |
| Type | FUSE 10X38 5A 1000 VDC ... | Version |
| Order No. | 2783200000 | Photovoltaics, Cartridge fuse, 1000 V, 10x38, gPV, 5 A |
| GTIN (EAN) | 4064675059929 | |
| Qty. | 10 ST | |
| Type | FUSE 10X38 6A 1000 VDC ... | Version |
| Order No. | 2783210000 | Photovoltaics, Cartridge fuse, 1000 V, 10x38, gPV, 6 A |
| GTIN (EAN) | 4064675059936 | |
| Qty. | 10 ST | |
| Type | FUSE 10X38 8A 1000 VDC ... | Version |
| Order No. | 2783220000 | Photovoltaics, Cartridge fuse, 1000 V, 10x38, gPV, 8 A |
| GTIN (EAN) | 4064675059943 | |
| Qty. | 10 ST | |

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Accessories

PV Weather protection



General ordering data

| | | | |
|------------|----------------------------|---------------|--|
| Type | PV SUN COVER 37/30/18 | Version | |
| Order No. | 8000087024 | Photovoltaics | |
| GTIN (EAN) | 4064675845171 | | |
| Qty. | 1 ST | | |

Sealing sets

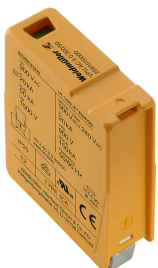


General ordering data

| | | | |
|------------|----------------------------|---------------------------|--|
| Type | BLINDPLUG SET5 7X28MM | Version | |
| Order No. | 3077670000 | Photovoltaics, Blind plug | |
| GTIN (EAN) | 4099987081894 | | |
| Qty. | 1 ST | | |

| | | | |
|------------|----------------------------|---|--|
| Type | BLINDPLUG SET50 7X28MM | Version | |
| Order No. | 3077650000 | Photovoltaics, Blind plug, Accessories, Blind plug, 50 pieces | |
| GTIN (EAN) | 4099987081870 | | |
| Qty. | 1 ST | | |

Spare Arrester



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