

## PVN DC 6IF 70 1MPP SW SPD1R CG 10

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

www.weidmuller.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, 6 Inputs / 6 Outputs per MPP, With fuse holder, Surge protection I / II, Switch disconnecter, Cable gland |
| Order No.  | <a href="#">2737530000</a>   |
| Type       | PVN DC 6IF 70 1MPP SW SPD1R CG 10  |
| GTIN (EAN) | 4032248395552  |
| Qty.       | 1 items  |

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**Technical data**

**Approvals**

Approvals



ROHS Conform

**Dimensions and weights**

|            |        |                 |              |
|------------|--------|-----------------|--------------|
| Depth      | 249 mm | Depth (inches)  | 9.8031 inch  |
| Height     | 330 mm | Height (inches) | 12.9921 inch |
| Width      | 488 mm | Width (inches)  | 19.2126 inch |
| Net weight | 6453 g |                 |              |

**Temperatures**

Ambient temperature 25 °C...40 °C Humidity 5 - 90 %, no condensation

**Environmental Product Compliance**

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

**Included in delivery**

|                      |          |              |
|----------------------|----------|--------------|
| Included accessories | Article  | Sealing plug |
|                      | Quantity | 16           |

**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            | 112.5 A |
| Current per Maximum Power Point, max. 90 A |                          |         |
| Rated DC current per connection            | Current per string, max. | 76.00 A |
|  | Current per string, max. | 90.00 A |

**Enclosure**

|                     |  |                        |   |
|---------------------|--|------------------------|---|
| Insulating material | Polyester glass-fibre reinforced, Polycarbonate                      | Type of mounting       | Wall mounting, 4 screws                           |
| Impact resistance   | IK08 in accordance with IEC 62208, IK10 in accordance with IEC 62262 | Enclosure attachment   | Via mounting feet                                 |
| Protection class    | II   | Connection type string | Internal terminal (with cable gland feed-through) |

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## Technical data

### 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                        | Screw 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>                        |  |
| Number of conduit inlets             | 2  |   |  |
| DC Input + & -                       | Wire connection  | Type of connection                        | PUSH IN                                |
|                                      |  | Compatible cable cross-section            | EN 50618:2015                          |
|                                      |  | Wire cross-section, min.                  | 2.5 mm <sup>2</sup>                    |
|                                      |  | Wire cross-section, max.                  | 16 mm <sup>2</sup>                     |
| Fuse type                            | Empty fuse holder                                      |   |  |
| Fuses                                | Yes  |   |  |
| Max. number of DC inputs             | per Maximum Power Point 6 inputs connected in parallel |   |  |
| Number of string inputs per MPP      | ≥ 4...≤ 6  |   |  |
| Surge protection auxiliary contact   | Cable entry  | Cable diameter, min.                      | 5 mm                                   |
|                                      |  | Cable diameter, max.                      | 10 mm                                  |
|                                      |  | Cable gland                               | M 16                                   |
|                                      | 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>                    |
| Number of inputs                     | 6  |   |  |

### Outputs

|                           |   |                                |                     |
|---------------------------|---|--------------------------------|---------------------|
| Max. number of DC outputs | per Maximum Power Point 7 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 <sup>2</sup> |
|                           |   | Wire cross-section, max.       | 16 mm <sup>2</sup>  |
|                           |   | Type of connection             | Screw connection    |

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|                                |                     |
|--------------------------------|---------------------|
| Compatible cable cross-section | TÜV 2 Pfg1169/08.07 |
| Wire cross-section, min.       | 2.5 mm <sup>2</sup> |
| Wire cross-section, max.       | 50 mm <sup>2</sup>  |

### 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 I <sub>total</sub> (8/20µs)                | 50 kA                           | Discharge current I <sub>n</sub> (8/20 µs)            | 20 kA    |
| Requirements class   | Type I/II                       | Total discharge current I <sub>total</sub> (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. U <sub>cpv</sub>              | 1100 V   |
| Maximum continuous operating voltage DC UCPV mode +/-, -/PE, +/-PE | 1100 V                          |   |          |

### DC load break switch

|                                    |                     |  |                 |
|------------------------------------|---------------------|--|-----------------|
| Rated impulse withstand voltage    | 8 kV                | Switch disconnector execution                        | switch in cover |
| Switching disconnector capacity    | DC-PV1, IEC 60947-3 | Motor drive available                                | No              |
| Rated short-circuit making current | 1.4 A               | Number of breaking operation cycles at rated current | 300             |
| Number of operating cycles         | 10000               |  |                 |

### 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:<br>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. MPP1: 6 inputs, connection via M25 cable gland with 3x7mm Ø cable entry. PUSH IN connection / 2.5 - 6mm <sup>2</sup> single-wire, multi-wire, with/without ferrule. 6 outputs, connection via M25 cable gland with 3x7mm Ø cable entry. PUSH IN connection / 2.5 |
|--------------------|--|

## Technical data

- 6mm<sup>2</sup> 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)  
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:  
1.5mm<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 glas fibre  
reinforced polyester  
housing. Dimensions  
HxWxD: 330x488x249  
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**

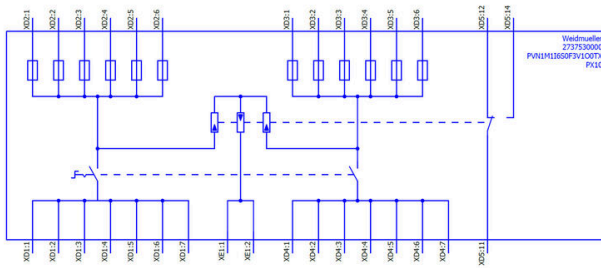


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## Accessories

### 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.  | <a href="#">1157820000</a> | 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.  | <a href="#">1190490000</a> | 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.  | <a href="#">2749910000</a> | 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.  | <a href="#">2749810000</a> | 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.  | <a href="#">2749850000</a> | 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.  | <a href="#">0360800000</a> | 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.  | <a href="#">2729230000</a> | 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.  | <a href="#">2659335000</a> | 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**

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**General ordering data**

|            |                            |   |
|------------|----------------------------|---|
| Type       | FUSE 10X38 10A 1000 VDC... | Version   |
| Order No.  | <a href="#">2783230000</a> | Photovoltaics, Cartridge fuse, 1000 V, 10x38, gPV, 10 A |
| GTIN (EAN) | 4064675059950              |   |
| Qty.       | 10 ST                      |   |
| Type       | FUSE 10X38 12A 1000 VDC... | Version   |
| Order No.  | <a href="#">2783240000</a> | Photovoltaics, Cartridge fuse, 1000 V, 10x38, gPV, 12 A |
| GTIN (EAN) | 4064675059967              |   |
| Qty.       | 10 ST                      |   |
| Type       | FUSE 10X38 15A 1000 VDC... | Version   |
| Order No.  | <a href="#">2783250000</a> | Photovoltaics, Cartridge fuse, 1000 V, 10x38, gPV, 15 A |
| GTIN (EAN) | 4064675059974              |   |
| Qty.       | 10 ST                      |   |
| Type       | FUSE 10X38 16A 1000 VDC... | Version   |
| Order No.  | <a href="#">2783260000</a> | Photovoltaics, Cartridge fuse, 1000 V, 10x38, gPV, 16 A |
| GTIN (EAN) | 4064675059981              |   |
| Qty.       | 10 ST                      |   |
| Type       | FUSE 10X38 1A 1000 VDC ... | Version   |
| Order No.  | <a href="#">2783160000</a> | Photovoltaics, Cartridge fuse, 1000 V, 10x38, gPV, 1 A  |
| GTIN (EAN) | 4064675059684              |   |
| Qty.       | 10 ST                      |   |
| Type       | FUSE 10X38 20A 1000 VDC... | Version   |
| Order No.  | <a href="#">2783280000</a> | Photovoltaics, Cartridge fuse, 1000 V, 10x38, gPV, 20 A |
| GTIN (EAN) | 4064675060000              |   |
| Qty.       | 10 ST                      |   |
| Type       | FUSE 10X38 2A 1000 VDC ... | Version   |
| Order No.  | <a href="#">2783170000</a> | Photovoltaics, Cartridge fuse, 1000 V, 10x38, gPV, 2 A  |
| GTIN (EAN) | 4064675059691              |   |
| Qty.       | 10 ST                      |   |
| Type       | FUSE 10X38 3A 1000 VDC ... | Version   |
| Order No.  | <a href="#">2783180000</a> | Photovoltaics, Cartridge fuse, 1000 V, 10x38, gPV, 3 A  |
| GTIN (EAN) | 4064675059905              |   |
| Qty.       | 10 ST                      |   |
| Type       | FUSE 10X38 4A 1000 VDC ... | Version   |
| Order No.  | <a href="#">2783190000</a> | Photovoltaics, Cartridge fuse, 1000 V, 10x38, gPV, 4 A  |
| GTIN (EAN) | 4064675059912              |   |
| Qty.       | 10 ST                      |   |
| Type       | FUSE 10X38 5A 1000 VDC ... | Version   |
| Order No.  | <a href="#">2783200000</a> | Photovoltaics, Cartridge fuse, 1000 V, 10x38, gPV, 5 A  |
| GTIN (EAN) | 4064675059929              |   |
| Qty.       | 10 ST                      |   |
| Type       | FUSE 10X38 6A 1000 VDC ... | Version   |
| Order No.  | <a href="#">2783210000</a> | Photovoltaics, Cartridge fuse, 1000 V, 10x38, gPV, 6 A  |
| GTIN (EAN) | 4064675059936              |   |
| Qty.       | 10 ST                      |   |
| Type       | FUSE 10X38 8A 1000 VDC ... | Version   |
| Order No.  | <a href="#">2783220000</a> | 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 56/30/21      | Version       |  |
| Order No.  | <a href="#">8000087025</a> | Photovoltaics |  |
| GTIN (EAN) | 4064675845188              |               |  |
| Qty.       | 1 ST                       |               |  |

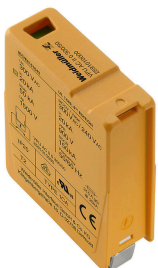
### Sealing sets



#### General ordering data

|            |                            |   |  |
|------------|----------------------------|---|--|
| Type       | BLINDPLUG SET5 7X28MM      | Version   |  |
| Order No.  | <a href="#">3077670000</a> | Photovoltaics, Blind plug                                     |  |
| GTIN (EAN) | 4099987081894              |   |  |
| Qty.       | 1 ST                       |   |  |
| Type       | BLINDPLUG SET50 7X28MM     | Version   |  |
| Order No.  | <a href="#">3077650000</a> | Photovoltaics, Blind plug, Accessories, Blind plug, 50 pieces |  |
| GTIN (EAN) | 4099987081870              |   |  |
| Qty.       | 1 ST                       |   |  |

### Spare Arrester



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## Accessories

### General ordering data

|            |                            |  |  |
|------------|----------------------------|--|--|
| 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 ST                       |  |  |
| 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 ST                       |  |  |