

PVN DC 6IF 70 1MPP SW SPD1R WM4 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, WM4C
Order No.	2737480000
Type	PVN DC 6IF 70 1MPP SW SPD1R WM4 10
GTIN (EAN)	4032248395538
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	334 mm	Height (inches)	13.1496 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	8

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. 35.00 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	Plug WM4C

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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 ²
	w. wire end ferrule, DIN 46228 pt 1, max.	16 mm ²	
Number of conduit inlets	6		
DC Input + & -	Wire connection	Type of connection	WM4C plug-in connector
		Compatible cable cross-section	EN 50618:2015
		Wire cross-section, min.	2.5 mm ²
		Wire cross-section, max.	6 mm ²
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 ²
		w. wire end ferrule, DIN 46228 pt 1, max.	1.5 mm ²
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	WM4C plug-in connector
		Compatible cable cross-section	TÜV 2 Pfg1169/08.07
		Wire cross-section, min.	4 mm ²
		Wire cross-section, max.	6 mm ²

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Type of connection	Screw connection
Compatible cable cross-section	TÜV 2 Pfg 1169/08.07
Wire cross-section, min.	2.5 mm ²
Wire cross-section, max.	50 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	1100 V
Maximum continuous operating voltage DC UCPV mode +/-, -/PE, +/-PE	1100 V		

DC load break switch

Rated impulse withstand voltage	8 kV	Switch disconnecter execution	switch in cover
Switching disconnecter 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: 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
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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 WM4 C connector, compatible with cable type TÜV 2 Pfg 1169/08.07 / EN 50618:2063 6 outputs, connection via WM4 C connector, compatible with cable type TÜV 2 Pfg 1169/08.07 / EN 50618:2063
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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:
1.5mm²
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
HxD: 334x488x249
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

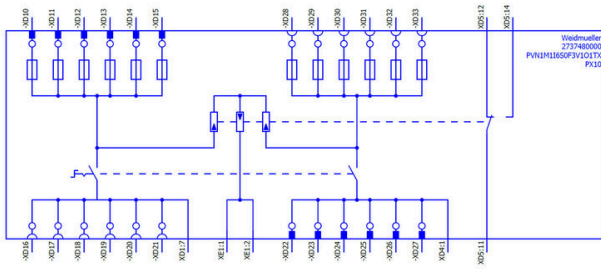


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Accessories

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		

PV-Stick field connectors



Faster is better. This also applies to the cabling of solar systems. Our handy connectors stay firmly in your grip even in frosty temperatures and can be installed very quickly and easily without a crimping tool.

You don't need crimp contacts and crimping tools and you avoid assembly errors. This saves up to 50% installation time – without affecting quality. The new photovoltaic connectors are TÜV-approved and comply with IEC 62852.

Our "SNAP IN" technology enables safe connections with minimal effort – insert, turn: current!

- 1,500 V DC (DE) / 1,500 V DC (EN)
- SNAP IN technology
- Standard-compliant quality in accordance with IEC 62852
- Ergonomic, prize-winning design
- Fastest PV connector currently available
- Reliable latching

General ordering data

Type	PV-STICK+ VPE10	Version	
Order No.	1303450000	Photovoltaics, Plug-in connector, DC version	
GTIN (EAN)	4050118102468		
Qty.	10 ST		

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Accessories

Type	PV-STICK- VPE10	Version	
Order No.	1303490000	Photovoltaics, Plug-in connector, DC version	
GTIN (EAN)	4050118102529		
Qty.	10 ST		

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 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

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.

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		

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Accessories

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	

PV Weather protection



General ordering data

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

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Accessories

Y-Connector Cables



The Y cable is used for the parallel connection of several strings in a PV system, e.g. for splitting a line in front of an inverter.
 The cables are available in different connection variants.

General ordering data

Type	PVHYW-XXW+XX06W+15	Version	
Order No.	2814180000	Photovoltaics, Y-Connector Cable, 1x WM4 C Male, 2x WM4 C	
GTIN (EAN)	4064675298861	Female, 6mm ² , 1500 V	
Qty.	1 ST		
Type	PVHYW+XXW-XX06W-15	Version	
Order No.	2814190000	Photovoltaics, Y-Connector Cable, 1x WM4 C Female, 2x WM4 C	
GTIN (EAN)	4064675298878	Male, 6mm ² , 1500 V	
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		

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Accessories

Spare Arrester



General ordering data

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		

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Counterpart

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Type	PV-STICK SET	Version
Order No.	1422030000	Photovoltaics, Plug-in connector, DC version
GTIN (EAN)	4050118225723	
Qty.	1 ST	
Type	PV-STICK+ VPE10	Version
Order No.	1303450000	Photovoltaics, Plug-in connector, DC version
GTIN (EAN)	4050118102468	
Qty.	10 ST	
Type	PV-STICK+ VPE200	Version
Order No.	1303470000	Photovoltaics, Plug-in connector, DC version
GTIN (EAN)	4050118102543	
Qty.	200 ST	
Type	PV-STICK+ VPE50	Version
Order No.	1303460000	Photovoltaics, Plug-in connector, DC version
GTIN (EAN)	4050118102383	
Qty.	50 ST	
Type	PV-STICK- VPE10	Version
Order No.	1303490000	Photovoltaics, Plug-in connector, DC version
GTIN (EAN)	4050118102529	
Qty.	10 ST	
Type	PV-STICK- VPE200	Version
Order No.	1303510000	Photovoltaics, Plug-in connector, DC version
GTIN (EAN)	4050118102390	
Qty.	200 ST	
Type	PV-STICK- VPE50	Version
Order No.	1303500000	Photovoltaics, Plug-in connector, DC version
GTIN (EAN)	4050118102536	
Qty.	50 ST	