

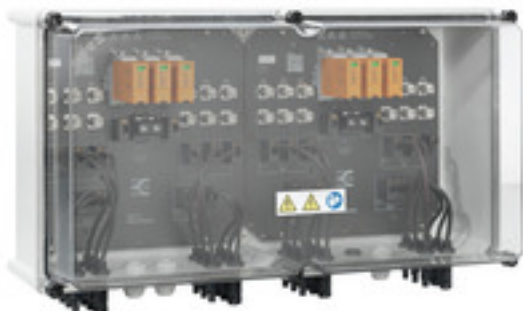
PVN DC 3IF 3O 2MPP SPD1R WM4 10**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Product image

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, 1000 V, 2 MPP's, 3 Inputs / 3 Outputs per MPP, With fuse holder, Surge protection I / II, WM4C
Order No.	2683080000
Type	PVN DC 3IF 3O 2MPP SPD1R WM4 10
GTIN (EAN)	4050118699913
Qty.	1 pc(s).
Replacement parts	2530600000 2534300000

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Technical data
Dimensions and weights

Depth	210 mm	Depth (inches)	8.268 inch
Height	334 mm	Height (inches)	13.15 inch
Width	558 mm	Width (inches)	21.968 inch
Net weight	6,881 g		

Temperatures

Ambient temperature	-40 °C...+45 °C	Humidity	5 - 90 %, no condensation
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DC string monitoring

Monitoring function	Non monitored
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Approvals and norms

Approvals	EN 61439-2, IEC 61439-2
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Guarantee

Time interval	5 years
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Electrical characteristics

Current per Maximum Power Point, max. 45 A

Rated DC current per connection	Current per string, max.	35 A
Rated short-term current resistance	Rated current	56.25 A
Rated DC voltage	1,000 V	

Enclosure

Connection type string	Plug WM4C	Cover	with cover, removeable
Enclosure attachment		Impact resistance	IK08 in accordance with IEC 62208, IK10 in accordance with IEC 62262
	Via mounting feet		
Insulating material	Polyester glass-fibre reinforced, Polycarbonate	Switch disconnecter execution	no switch
Type of mounting	Wall mounting, 4 screws		

General data

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

Amount of maximum power points	2 MPP		
DC Input + & -	Wire connection	Type of connection	WM4C plug-in connector
		Compatible cable crossection	EN 50618:2015, TÜV 2 Pfg 1169/08.07
		Wire cross-section, min.	2.5 mm ²
		Wire cross-section, max.	6 mm ²

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Functional earth connector	Cable entry	Number of cable entries	2
		Cable diameter, min.	5
		Cable diameter, max.	10
		Cable glands	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
Fuse type	Empty fuse holder		
Fuse-link standard	IEC 60269-1, IEC 60269-6, gPV (EN 60269-6)		
Max. number of DC inputs	per Maximum Power Point 3 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 ²
		w. wire end ferrule, DIN 46228 pt 1, max.	1.5 mm ²
		Number of cable entries	2
	Cable entry	Cable diameter, min.	5
		Cable diameter, max.	10
		Cable glands	M 16

Outputs

DC Output + & -	Wire connection	Type of connection	WM4C plug-in connector
		Compatible cable cross-section	TÜV 2 Pfg1169/08.07, EN 50618:2015
		Wire cross-section, min.	4 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	
PV system voltage, max. U_{cpv}	1,100 V	DC UCPV mode +/-, -/PE, +/-PE	1,100 V
Protection level U_p (+/-)	≤ 3.8 kV	Protection level U_p (+/-, -/PE, +/-PE)	≤ 3.8 kV
Protection level U_p (-/PE)	≤ 3.8 kV	Protection level U_p (+/PE)	≤ 3.8 kV
Short-circuit current I_{SCP}	11,000 A	Requirements class	Type I/II
Total discharge current I_{total} (8/20 μ s)	50 kA	Standby power consumption P_C	< 0.2 W
		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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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 WM4 C connector, compatible with cable type TÜV 2 Pfg1 169/08.07 / EN 50618:2063

3 outputs, connection via WM4 C connector, compatible with cable type TÜV 2 Pfg1 169/08.07 / EN 50618:2063

MPP2:

identical to MPP1

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: 334x558x210 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

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Technical data

Important note

Product information

Fuses are not included 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

Approvals

Approvals



Downloads

Approval/Certificate/Document of Conformity

[EU Declaration of Conformity](#)

Engineering Data

[CAD data – PV Next Schematic Diagram](#)

[CAD data – STEP](#)

Technical Documentation

[customer drawing](#)

User Documentation

[Manual PV Next String Combiner Box](#)

[MANUAL PV NEXT IT/ES/FR](#)

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 DE PV CB Richtig verbinden](#)

[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

PCB design



PVN 1 M2 I6 S0 F3 V1 Q1 TX PX 10									
Series		Voltage		Power supply		Monitoring		Output Type	
PVN = PV Next		10 ~ 1kV		x = n/a		x = n/a		0 = DG	
VPU = PV Protect		11 ~ 1.1kV						1 = VMAC	
		15 ~ 1.5kV						2 = MCA-Exp 2	
Level		Inputs		SPD		Fuses			
1 = DC trunk box (L1)		1...12 inputs		0 = TYP II		x = n/a			
Series				1 = TYP I-II		3 = only fuse holders			
1 = 1 MPP supported				X = No SPD					
2 = 2 MPP supported									
3 = 3 MPP supported									
4 = 4 MPP supported									
6 = 6 MPP supported									
Switch									
x = n/a									
0 = manual switch									
1 = remote switch									

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Replacement parts

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 pc(s).	
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 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	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 pc(s).	
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 pc(s).	

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:
GTIN (EAN)	4008190108595	72.5 mm, Width: 24 mm, Depth: 12 mm, Material: Polyamide, Deep
Qty.	1 pc(s).	black

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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 pc(s).	

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.	2749850000	Screwdriver, Blade width (B): 5.5 mm, Blade length: 125 mm, Blade thickness (A): 1 mm
GTIN (EAN)	4050118897050	
Qty.	1 pc(s).	
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 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).	

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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Accessories

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).	

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 pc(s).	
Type	FUSE 10X38 4A 1000 VDC ...	Version
Order No.	2783190000	Photovoltaics, Cartridge fuse, 1000 V, 10x38, gPV, 4 A
GTIN (EAN)	4064675059912	
Qty.	10 pc(s).	
Type	FUSE 10X38 6A 1000 VDC ...	Version
Order No.	2783210000	Photovoltaics, Cartridge fuse, 1000 V, 10x38, gPV, 6 A
GTIN (EAN)	4064675059936	
Qty.	10 pc(s).	
Type	FUSE 10X38 8A 1000 VDC ...	Version
Order No.	2783220000	Photovoltaics, Cartridge fuse, 1000 V, 10x38, gPV, 8 A
GTIN (EAN)	4064675059943	
Qty.	10 pc(s).	

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Accessories

Type	FUSE 10X38 16A 1000 VDC ...	Version
Order No.	2783260000	Photovoltaics, Cartridge fuse, 1000 V, 10x38, gPV, 16 A
GTIN (EAN)	4064675059981	
Qty.	10 pc(s).	
Type	FUSE 10X38 5A 1000 VDC ...	Version
Order No.	2783200000	Photovoltaics, Cartridge fuse, 1000 V, 10x38, gPV, 5 A
GTIN (EAN)	4064675059929	
Qty.	10 pc(s).	
Type	FUSE 10X38 15A 1000 VDC ...	Version
Order No.	2783250000	Photovoltaics, Cartridge fuse, 1000 V, 10x38, gPV, 15 A
GTIN (EAN)	4064675059974	
Qty.	10 pc(s).	
Type	FUSE 10X38 1A 1000 VDC ...	Version
Order No.	2783160000	Photovoltaics, Cartridge fuse, 1000 V, 10x38, gPV, 1 A
GTIN (EAN)	4064675059684	
Qty.	10 pc(s).	
Type	FUSE 10X38 20A 1000 VDC ...	Version
Order No.	2783280000	Photovoltaics, Cartridge fuse, 1000 V, 10x38, gPV, 20 A
GTIN (EAN)	4064675060000	
Qty.	10 pc(s).	
Type	FUSE 10X38 2A 1000 VDC ...	Version
Order No.	2783170000	Photovoltaics, Cartridge fuse, 1000 V, 10x38, gPV, 2 A
GTIN (EAN)	4064675059691	
Qty.	10 pc(s).	
Type	FUSE 10X38 3A 1000 VDC ...	Version
Order No.	2783180000	Photovoltaics, Cartridge fuse, 1000 V, 10x38, gPV, 3 A
GTIN (EAN)	4064675059905	
Qty.	10 pc(s).	
Type	FUSE 10X38 12A 1000 VDC ...	Version
Order No.	2783240000	Photovoltaics, Cartridge fuse, 1000 V, 10x38, gPV, 12 A
GTIN (EAN)	4064675059967	
Qty.	10 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).	

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.	2749910000	Screwdriver, Blade width (B): 3 mm, 150 mm, Blade thickness (A): 3
GTIN (EAN)	4050118897210	
Qty.	1 pc(s).	

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www.weidmueller.com**Accessories****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 "PUSH IN" technology enables safe connections with minimal effort – insert, turn: current!

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

General ordering data

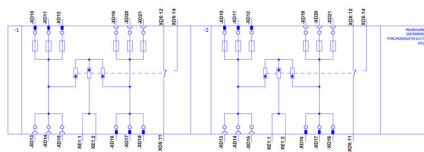
Type	PV-STICK+ VPE10	Version
Order No.	1303450000	Photovoltaics, Plug-in connector, PUSH IN connection, female
GTIN (EAN)	4050118102468	
Qty.	10 pc(s).	
Type	PV-STICK- VPE10	Version
Order No.	1303490000	Photovoltaics, Plug-in connector, PUSH IN connection, male
GTIN (EAN)	4050118102529	
Qty.	10 pc(s).	

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Drawings



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Dimensions without tolerances are no check dimensions

The English version is binding



Darstellung mit Zubehoer
Shown with accessory 0360800000 MF TBF

Nicht im Lieferumfang enthalten!
Not included in delivery!

		Prim PLM Part No.: 1214838		Prim ERP Part No.:		
First Issue Date 28.01.2020	Max. nos.		Weidmüller 		71727	
	Modification					
					Drawing no.	Issue no.
					Sheet 01	of 01 sheets
Scale: 1/4 Size: A3		Drawn	28.01.2020	Brüntrup, Anna	PVN TBF 563021 COMBINERBOX RESIDENTIAL/COMMERCIAL COMBINERBOX RESIDENTIAL/COMMERCIAL	
		Responsible		Wohlgemuth, KI		
		Approved	31.01.2020	Püschner, Klau		
Drawings Customer				Product file:		