

PVN1M3I9SXFV101TXPX10**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 CLC/TS 51643-32. 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, 3 MPP's, 3 Inputs / 3 Outputs per MPP, Surge protection I / II, WM4C
Order No.	2683190000
Type	PVN1M3I9SXFV101TXPX10
GTIN (EAN)	4050118700220
Qty.	1 pc(s).
Delivery status	This article will no longer be available in the future.
Available until	2025-12-31
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	8,480 g		

Temperatures

Ambient temperature	-40 °C...50 °C	Humidity	5 - 90 %, no condensation
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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 voltage	1,000 V
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Rated short-term current resistance	Rated current	56.25 A
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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 foots		
Insulating material	Polyester glass-fibre reinforced, Polycarbonate	Protection class	II
Type of mounting	Wall mounting, 4 screws		

General data

Installation location	Protected outdoor area (Land and Sea)	Protection degree	IP65
Standards	EN 61643-31		

Inputs

Amount of maximum power points (MPP)	3		
DC Input + & -	Wire connection	Type of connection	WM4C plug-in connector
		Compatible cable crossection	EN 50618:2015
		Wire cross-section, min.	2.5 mm²
		Wire cross-section, max.	6 mm²

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Functional earth connector	Cable entry	Number of cable entries	2
		Cable diameter, min.	5 mm
		Cable diameter, max.	10 mm
		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	Neither fuse cartridge nor holder		
Fuses	No		
Max. number of DC inputs	per Maximum Power Point 3 inputs connected in parallel		
Number of conduit inlets	9		
Number of string inputs per MPP	≤ 3		
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
	Cable entry	Number of cable entries	2
		Cable diameter, min.	5 mm
		Cable diameter, max.	10 mm
		Cable glands	M 16
Number of inputs	9		

Outputs

DC Output + & -	Wire connection	Type of connection	WM4C plug-in connector
		Compatible cable cross-section	TÜV 2 Pfg 1169/08.07
		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 µs)	20 kA	Discharge current, max. (8/20 µs)	40 kA
Lightning test current I_{imp} (10/350 µs)	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_{SCP}	11,000 A	Standards	EN 61643-31
Standby power consumption P_C	<0.2 W	Total discharge current I_{total} (8/20µs)	50 kA
Total discharge current I_{total} (10/350µs)	12.5 kA		

DC load break switch

Switch disconnect execution	no switch
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Classifications

ETIM 6.0	EC002928	ETIM 7.0	EC002928
ETIM 8.0	EC003857	ETIM 9.0	EC003857
ETIM 10.0	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	ECLASS 14.0	22-57-02-92
ECLASS 15.0	22-57-02-92		

Tender specification sheets

Long specification

Combiner box for inverters with 3 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 to 3:
identical to MPP1

Max. string voltage Uoc:
1000V

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

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: 334x558x210 mm

Approval according to low voltage switchgear and controlgear IEC 61439-1:2011 and EN 61439-2:2011

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Technical data

Approvals

Approvals



Approvals MAMID	https://mdcop.weidmueller.com/mediadelivery/rendition/900_319222/-T1z1mm-S800/
ROHS	Conform

Environmental Product Compliance

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

Important note

Product information	<p>The SCIP number was assigned due to a lead content of more than 0.1 % of the net weight.</p> <p>Safe use instruction according to ECHA:</p> <p>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</p>
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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 EN CB Combining PV strings Fact Sheet EN PV Combiner Box earthing Fact Sheet DE PV Combiner Box Erdung
Catalogues	Catalogues in PDF-format

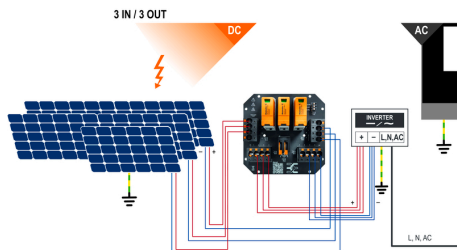
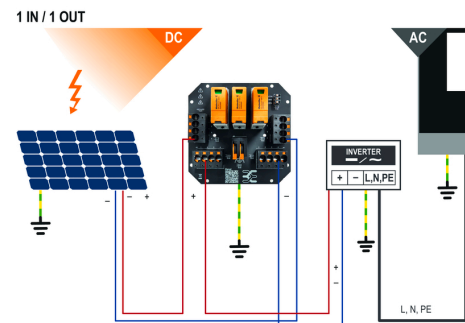
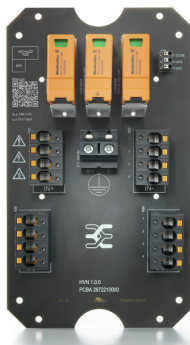
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Drawings

PCB design



PVN 1 M2 I6 S0 F3 V1 Q1 TX PX 10									
Series PVN = PV Next VPV = PV Protect								Voltage 10 = 1kV 11 = 1.1kV 15 = 1.5kV	
Level 1 = DC trunk box (L1)								Powersupply x = n/a	
Series 1 = 1 MPPT supported 2 = 2 MPPT supported 3 = 3 MPPT supported 4 = 4 MPPT supported 6 = 6 MPPT supported								Monitoring x = n/a	
Inputs 1...12 inputs								Output Type 0 = CS 1 = VMAC 2 = MC4-Evo 2	
Switch x = n/a 0 = manual switch 1 = remote switch								SPD 0 = TYP II 1 = TYP I+II X = No SPD	
								Fuses x = n/a 3 = only fuse holders	

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www.weidmueller.com**Replacement parts****Spare Arrester****General ordering data**

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).	
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).	

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

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).	

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).	

Sealing sets

General ordering data

Type	BLINDPLUG SET50 7X28MM	Version
Order No.	3077650000	Photovoltaics, Blind plug, Accessories, Blind plug, 50 pieces
GTIN (EAN)	4099987081870	
Qty.	1 pc(s).	
Type	BLINDPLUG SET5 7X28MM	Version
Order No.	3077670000	Photovoltaics, Blind plug
GTIN (EAN)	4099987081894	
Qty.	1 pc(s).	

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

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 pc(s).	
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).	

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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).	

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	PVHYM-M-XXXX6W+11	Version
Order No.	2877850000	Photovoltaics, Y-Connector Cable, 1x WM4 C Female, 2x MC4 Male,
GTIN (EAN)	4064675666417	6mm², 1100 V
Qty.	1 pc(s).	
Type	PVHYM+M-XXXX6W-11	Version
Order No.	2877860000	Photovoltaics, Y-Connector Cable, 1x WM4 C Male, 2x MC4 Female,
GTIN (EAN)	4064675666424	6mm², 1100 V
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

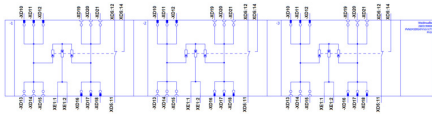
Type	MULTI-STRIPAX PV	Version
Order No.	1190490000	Photovoltaics, Plug-in connector
GTIN (EAN)	4032248973262	
Qty.	1 pc(s).	

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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 Drawing no. Issue no. 0
	Modification				
		Date	Name	PVN TBF 563021 COMBINERBOX RESIDENTIAL/COMMERCIAL COMBINERBOX RESIDENTIAL/COMMERCIAL	
	Drawn	28.01.2020	Brüntrup, Anna		
	Responsible		Wohlgemuth, KI		
Scale: 1/4 Size: A3	Approved	31.01.2020	Püschner, Klau		
Drawings Customer			Product file:		