

PVN DC 3IF 30 1MPP SW 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 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, 1 MPP, 3 Inputs / 3 Outputs per MPP, With fuse holder, Surge protection I / II, Switch disconnecter, Cable gland
Order No.	2683050000
Type	PVN DC 3IF 30 1MPP SW SPD1R CG 10
GTIN (EAN)	4050118699869
Qty.	1 items

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Technical data

Approvals

Approvals



ROHS Conform

Dimensions and weights

Depth	172 mm	Depth (inches)	6.7716 inch
Depth with add-on components	215 mm	Height	335 mm
Height (inches)	13.189 inch	Width	300 mm
Width (inches)	11.811 inch	Net weight	4130.72 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	

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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in accordance with IEC
62262

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

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 cross-section	TÜV 2 Pfg 1169/08.07
		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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Technical data
Outputs

Max. number of DC outputs	per Maximum Power Point 3 outputs connected in parallel		
DC Output + & -	Wire connection	Type of connection	PUSH IN with actuator
		Compatible cable cross-section	TÜV 2 Pfg 1169/08.07
		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 ISCP	11000 A
Total discharge current I _{total} (8/20 µs)	50 kA	Discharge current I _n (8/20 µs)	20 kA
Requirements class	Type I/II	Total discharge current I _{total} (10/350 µs)	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 _{cpv}	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	Rated impulse withstand voltage	8 kV
Nominal voltage	1000 V	Nominal current	45 A
Number of contacts as NC contact	0	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	Number of contacts as NO contact	4

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 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 1 MPP tracker, suitable for protecting the DC side of a photovoltaic
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Technical data

system according to EN
51543-32. MPP1:
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
- 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)
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
HxWxD: 330x302x214
mm
Approval according to
low voltage switchgear
and controlgear IEC
61439-1:2011 and EN
61439-2:2011

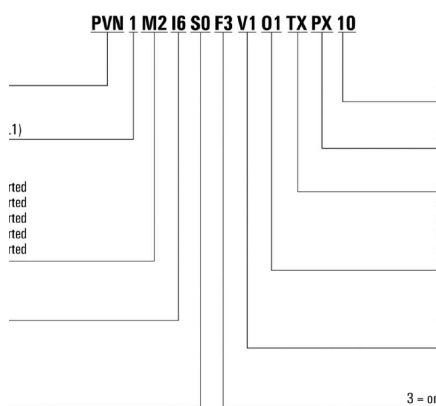
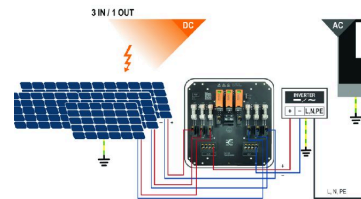
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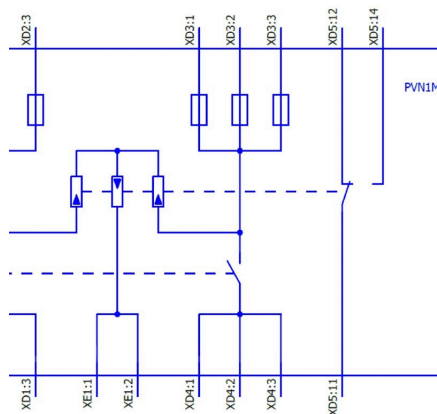
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Drawings

PCB design



Drawings



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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 Sun Covers

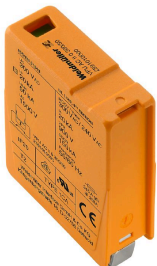
General ordering data

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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Accessories**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	