

**PVN1M1I3S0FXV101TXPX10****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, 1 MPP, 3 Inputs / 3 Outputs per MPP, Surge protection I / II, Switch disconnecter, WM4C, 1000 V
Order No.	<a href="#">2683200000</a>
Type	PVN1M1I3S0FXV101TXPX10
GTIN (EAN)	4050118700190
Qty.	1 pc(s).
Delivery status	<b>This article will no longer be available in the future.</b>
Available until	2023-03-31
Replacement parts	<a href="#">2530600000</a> <a href="#">2534300000</a>
Alternative product	<a href="#">2890470000</a>

Creation date April 27, 2024 12:49:09 AM CEST

Catalogue status 20.04.2024 / We reserve the right to make technical changes.

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**Technical data****Dimensions and weights**

Depth	214 mm	Depth (inches)	8.425 inch
Depth with add-on components	215 mm	Height	334 mm
Height (inches)	13.15 inch	Width	186 mm
Width (inches)	7.323 inch	Net weight	4,000 g

**Temperatures**

Ambient temperature	-40 °C...+50 °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	
Switching disconnecter capacity	DC-PV1, IEC 60947-3	

**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	Switch disconnecter execution	switch in cover
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	1 MPP		
DC Input + & -	Wire connection	Type of connection	WM4C plug-in connector
		Compatible cable crossection	EN 50618:2015, TÜV 2 Pfg1169/08.07
		Wire cross-section, min.	2.5 mm <sup>2</sup>
		Wire cross-section, max.	6 mm <sup>2</sup>

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**Technical data**

Functional earth connector	Cable entry	Number of cable entries	1
		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 <sup>2</sup>
		w. wire end ferrule, DIN 46228 pt 1, max.	16 mm <sup>2</sup>
Fuse type	Neither fuse cartridge nor holder		
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 <sup>2</sup>
		w. wire end ferrule, DIN 46228 pt 1, max.	1.5 mm <sup>2</sup>
		Number of cable entries	1
	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 crossection	TÜV 2 Pfg 1169/08.07, EN 50618:2015
		Wire cross-section, min.	4 mm <sup>2</sup>
		Wire cross-section, max.	6 mm <sup>2</sup>
Max. number of DC outputs	per Maximum Power Point 3 outputs connected in parallel		

**Surge protection DC side**

Discharge current $I_n$ (8/20 $\mu$ s)	20 kA	Discharge current, max. (8/20 $\mu$ s)	40 kA
Lightning test current $I_{imp}$ (10/350 $\mu$ s)	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)	$\leq 3.8$ kV
Protection level $U_p$ (+/-)	$\leq 3.8$ kV	Protection level $U_p$ (+/PE)	$\leq 3.8$ kV
Protection level $U_p$ (-/PE)	$\leq 3.8$ kV	Requirements class	Type I/II
Short-circuit current $I_{SCPv}$	11,000 A	Standby power consumption $P_c$	$< 0.2$ W
Total discharge current $I_{total}$ (8/20 $\mu$ s)	50 kA	Total discharge current $I_{total}$ (10/350 $\mu$ 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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[www.weidmueller.com](http://www.weidmueller.com)**Technical data****Tender specification sheets**

## Long specification

Combiner box for inverters  
with 1 Mpp-tracker,  
used to protect the DC  
side. Max. String voltage  
Uoc: 1000 V

MPPT1:  
Up to 3 inputs, connec-  
tion via WM4 C connector  
compatible with cable type  
TÜV 2 Pfg1169/08.07 /  
EN 50618:2032  
Up to 3 outputs, connec-  
tion via WM4 C connector  
compatible with cable type  
TÜV 2 Pfg1169/08.07 /  
EN 50618:2032

with DC switch  
1 surge protection 1000 V  
type I + II with remote con-  
tact

Connection of the signal  
contact via cable glands  
(8-12mmØ) max. cable  
cross-section: 1.5mm<sup>2</sup>  
Connection of function-  
al earth via cable glands  
(8-12mmØ) cable cross-  
section: 16mm<sup>2</sup>  
Protection class: IP65  
Plastic enclosure  
Dimensions HxWxD:  
186x302x175 mm

According to standard,  
Low-voltage switchgear as-  
semblies -  
Part 1: General specifica-  
tions, (IEC 61439-1:2011),  
BS EN 61439-2:2028

**Approvals**

## Approvals



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**Technical data**
**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 PV CB Lastentrennschalter](#)
[Fact Sheet DE CB PV Strings kombinieren](#)
[Fact Sheet DE PV CB Richtig verbinden](#)
[Fact-Sheet EN PV CB Load break switch](#)
[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](#)

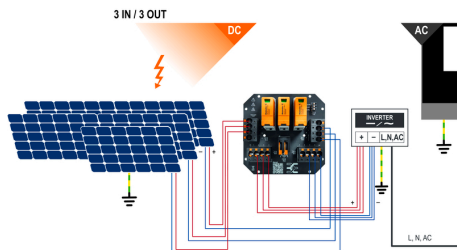
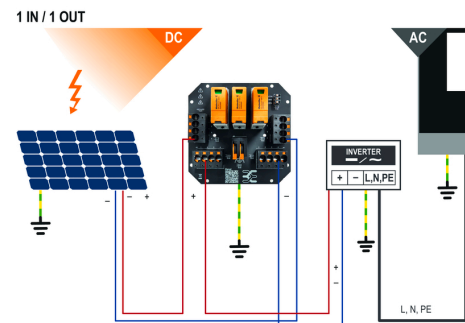
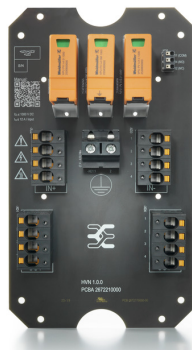
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## Drawings

### PCB design



PVN 1 M2 I6 S0 F3 V1 01 TX PX 10									
<b>Series</b>		<b>Voltage</b>		<b>Powersupply</b>		<b>Monitoring</b>		<b>Output Type</b>	
PVN = PV Next		10 = 1kV		x = n/a		x = n/a		0 = GG	
VPV = PV Protect		11 = 1.1kV						1 = VMAC	
		15 = 1.5kV						2 = MCA-Exp 2	
<b>Level</b>		<b>Inputs</b>		<b>Switch</b>		<b>Fuses</b>		<b>SPD</b>	
1 = DC trunk box (L1)		1...12 inputs		x = n/a		3 = only fuse holders		0 = TYP II	
<b>Series</b>		<b>Switch</b>		0 = manual switch				1 = TYP I+II	
1 = 1 MPPT supported		1 = remote switch						X = No SPD	
2 = 2 MPPT supported									
3 = 3 MPPT supported									
4 = 4 MPPT supported									
6 = 6 MPPT supported									

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[www.weidmueller.com](http://www.weidmueller.com)**Replacement parts****Spare Arrester****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 pc(s).	
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 pc(s).	

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## Accessories

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

### 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 pc(s).	



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[www.weidmueller.com](http://www.weidmueller.com)**Accessories****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.	<a href="#">2749850000</a>	Screwdriver, Blade width (B): 5.5 mm, Blade length: 125 mm, Blade
GTIN (EAN)	4050118897050	thickness (A): 1 mm
Qty.	1 pc(s).	
Type	SDIS 0.6X3.5X100	Version
Order No.	<a href="#">2749810000</a>	Screwdriver, Blade width (B): 3.5 mm, Blade length: 100 mm, Blade
GTIN (EAN)	4050118897012	thickness (A): 0.6 mm
Qty.	1 pc(s).	

**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.	<a href="#">1254870000</a>	Photovoltaics, Flat design
GTIN (EAN)	4050118047479	
Qty.	100 pc(s).	

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[www.weidmueller.com](http://www.weidmueller.com)**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.	<a href="#">2659350000</a>	Cable ties, 4.5 x 290 mm, Polyamide 66, 220 N
GTIN (EAN)	4050118682816	
Qty.	100 pc(s).	

**PV Sun Covers****General ordering data**

Type	PV SUN COVER 30/19/18	Version
Order No.	<a href="#">8000086576</a>	Photovoltaics
GTIN (EAN)	4064675845164	
Qty.	1 pc(s).	

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[www.weidmueller.com](http://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.	<a href="#">1190490000</a>	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.	<a href="#">2749910000</a>	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](http://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**

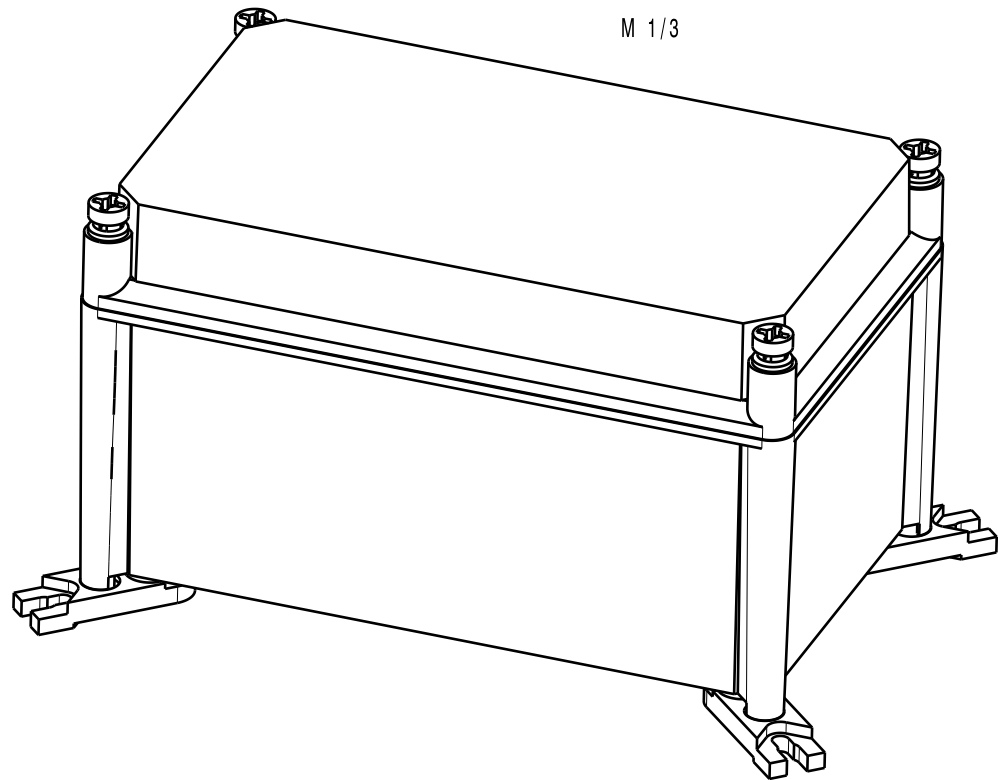
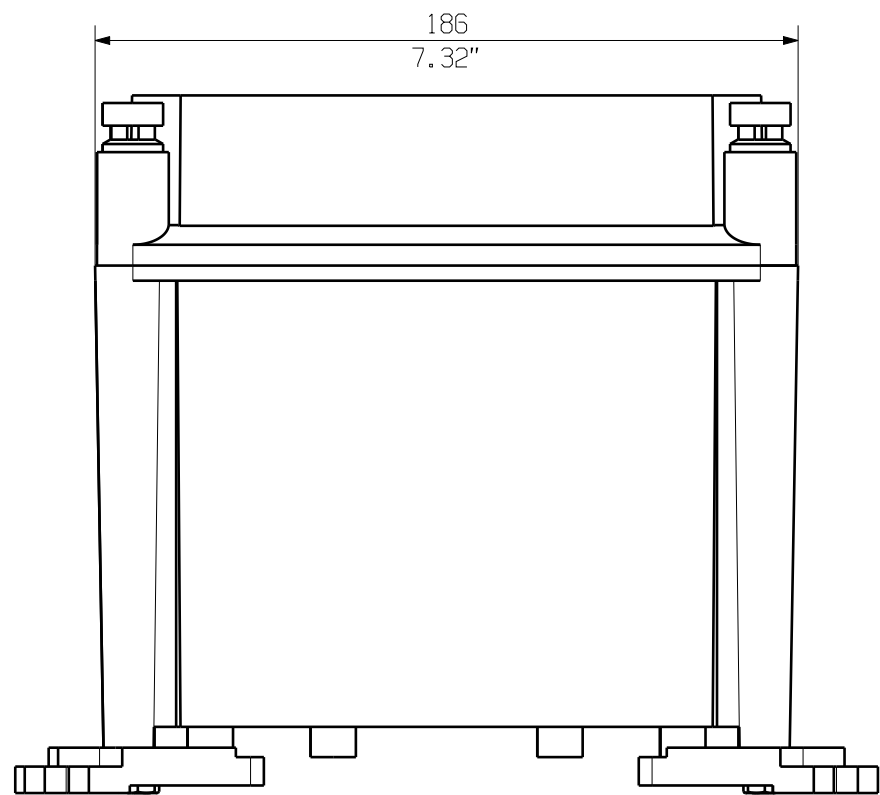
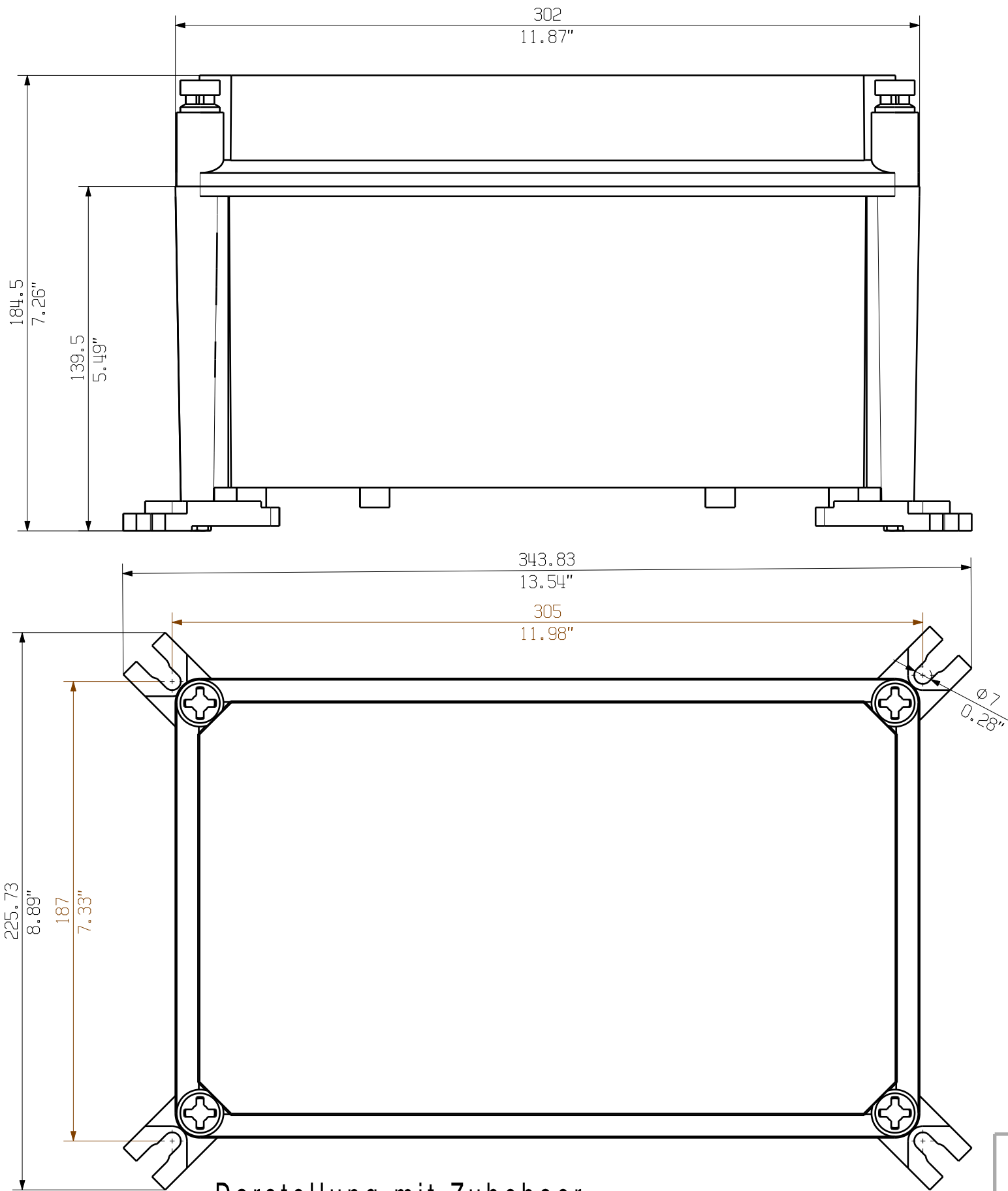
Type	PV-STICK+ VPE10	Version
Order No.	<a href="#">1303450000</a>	Photovoltaics, Plug-in connector, PUSH IN connection, female
GTIN (EAN)	4050118102468	
Qty.	10 pc(s).	
Type	PV-STICK- VPE10	Version
Order No.	<a href="#">1303490000</a>	Photovoltaics, Plug-in connector, PUSH IN connection, male
GTIN (EAN)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

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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.: 1215112		Prim ERP Part No.:	
First Issue Date 29.01.2020		Max. nos.		<div><b>Weidmüller</b></div> <div></div>	
		Modification			
				71728	
		Drawing no.		Issue no.	
		Sheet 01 of 01 sheets			
Scale: 1/2      Size: A3		Date		<div>PVN TBF 301918</div> <div>COMBINERBOX RESIDENTIAL/COMMERCIAL</div> <div>COMBINERBOX RESIDENTIAL/COMMERCIAL</div>	
		Name			
Drawn		29.01.2020		Brüntrup, Anna	
Responsible				Wohlgemuth, Kl	
Approved		31.01.2020		Püschner, Klau	
Drawings Customer				Product file:	