

**PVN DC 2I 1O 4MPP SPD1R WM4 11****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

[www.weidmueller.com](http://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 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, 4 MPP's, 2 Inputs / 1 Output per MPP, Surge protection I / II, WM4C
Order No.	<a href="#">2737600000</a>
Type	PVN DC 2I 1O 4MPP SPD1R WM4 11
GTIN (EAN)	4050118824872
Qty.	1 pc(s).
Replacement parts	<a href="#">2530600000</a> <a href="#">2534300000</a>

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

Depth	175 mm	Depth (inches)	6.89 inch
Height	334 mm	Height (inches)	13.15 inch
Width	372 mm	Width (inches)	14.646 inch
Net weight	4,812 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. 30 A

Rated DC current per connection	Current per string, max.	30 A
Rated short-term current resistance	Rated current	37.5 A
Rated DC voltage	1,000 V	

**Enclosure**

Connection type string	Plug WM4C	Enclosure attachment	Via mounting foots
Impact resistance	IK08 in accordance with IEC 62208, IK10 in accordance with IEC 62262	Insulating material	Polyester glass-fibre reinforced, Polycarbonate
Switch disconnector 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	4 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.	4 mm <sup>2</sup>
		Wire cross-section, max.	6 mm <sup>2</sup>
	Cable entry	Number of cable entries	8

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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 2 inputs connected in parallel		
Surge protection auxiliary contact	Cable entry	Cable diameter, min.	5
		Cable diameter, max.	10
		Cable glands	M 16
	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>

**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 1 output

**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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## Long specification

Combiner box for inverters with 4 MPP tracker, suitable for protecting the DC side of a photovoltaic system according to EN 51543-32.

## MPP1:

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

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

MPP2 to 4:  
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: 1.5mm<sup>2</sup>

Connection of the functional earth via cable glands (8-12mmØ) Conductor cross-section: 16-25mm<sup>2</sup>

Protection class: IP65

All built into a glass fibre reinforced polyester housing. Dimensions HxWxD: 334x372x175 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

bdb5698-6a20-4370-8e28-8810d882d01a

**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

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**Technical data**
**Approvals**

Approvals


**Downloads**

Approval/Certificate/Document of Conformity

[EU Declaration of Conformity](#)

Engineering Data

[CAD data – PV Next Schematic Diagram 2in1](#)
[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](#)

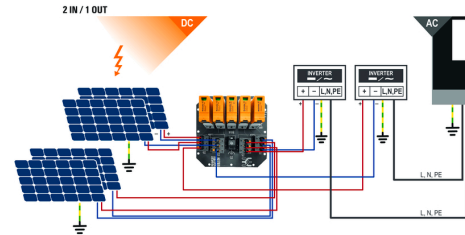
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## Drawings

### PCB design



PVN 1 M2 I6 S0 F3 V1 Q1 TX PX 10									
<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	
VPU = PV Protect		11 = 1.1kV						1 = VMAAC	
		15 = 1.5kV						2 = MCA-5m 2	
<b>Level</b>		<b>Inputs</b>		<b>SPD</b>		<b>Fuses</b>			
1 = DC trunk box (L1)		1..12 inputs		0 = TYP II		x = n/a			
<b>Series</b>				1 = TYP I+II		3 = only fuse holders			
1 = 1 MPPT supported				X = No SPD					
2 = 2 MPPT supported									
3 = 3 MPPT supported									
4 = 4 MPPT supported									
6 = 6 MPPT supported									
<b>Switch</b>									
x = n/a									
0 = manual switch									
1 = remote switch									

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[www.weidmueller.com](http://www.weidmueller.com)**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.	<a href="#">1157820000</a>	Cutting tools, Cutting tool for one-hand operation
GTIN (EAN)	4032248945344	
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****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="#">1303490000</a>	Photovoltaics, Plug-in connector, PUSH IN connection, male
GTIN (EAN)	4050118102529	
Qty.	10 pc(s).	
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).	

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[www.weidmueller.com](http://www.weidmueller.com)

## 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

### 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).	

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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).	

**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	PVHYM-M-XXXX6W+15	Version
Order No.	<a href="#">2877850000</a>	Photovoltaics, Y-Connector Cable, 1x WM4 C Female, 2x MC4 Male,
GTIN (EAN)	4064675666417	6mm², 1500 V
Qty.	1 pc(s).	
Type	PVHYM+M+XXXX6W-15	Version
Order No.	<a href="#">2877860000</a>	Photovoltaics, Y-Connector Cable, 1x WM4 C Male, 2x MC4 Female,
GTIN (EAN)	4064675666424	6mm², 1500 V
Qty.	1 pc(s).	

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[www.weidmueller.com](http://www.weidmueller.com)**Accessories****PV Sun Covers****General ordering data**

Type	PV SUN COVER 37/30/18	Version
Order No.	<a href="#">8000087024</a>	Photovoltaics
GTIN (EAN)	4064675845171	
Qty.	1 pc(s).	

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[www.weidmueller.com](http://www.weidmueller.com)**Replacement parts****Spare Arrester****General ordering data**

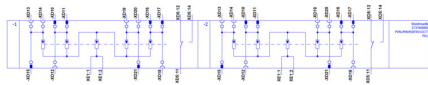
Type	VPU PV I+II OM 1000	Version
Order No.	<a href="#">2534300000</a>	Surge voltage arrester, Low voltage, Surge protection I / II, Spare
GTIN (EAN)	4050118545906	arrester
Qty.	9 pc(s).	
Type	VPU PV I+II O 1000	Version
Order No.	<a href="#">2530600000</a>	Surge voltage arrester, Low voltage, Accessories, Surge protection I /
GTIN (EAN)	4050118540819	II, Spare arrester
Qty.	9 pc(s).	

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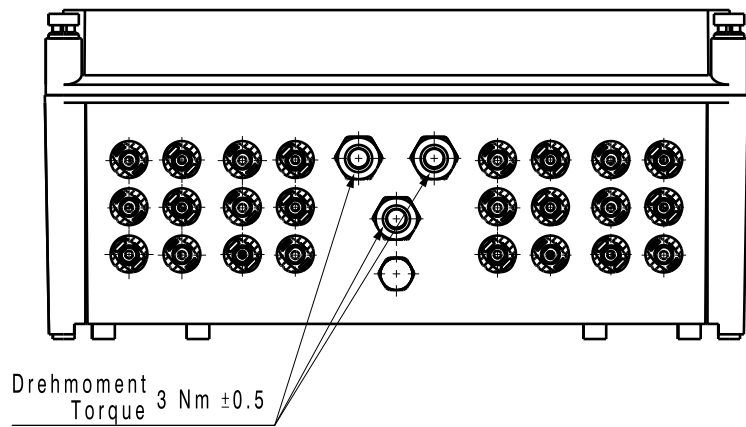
# Drawings



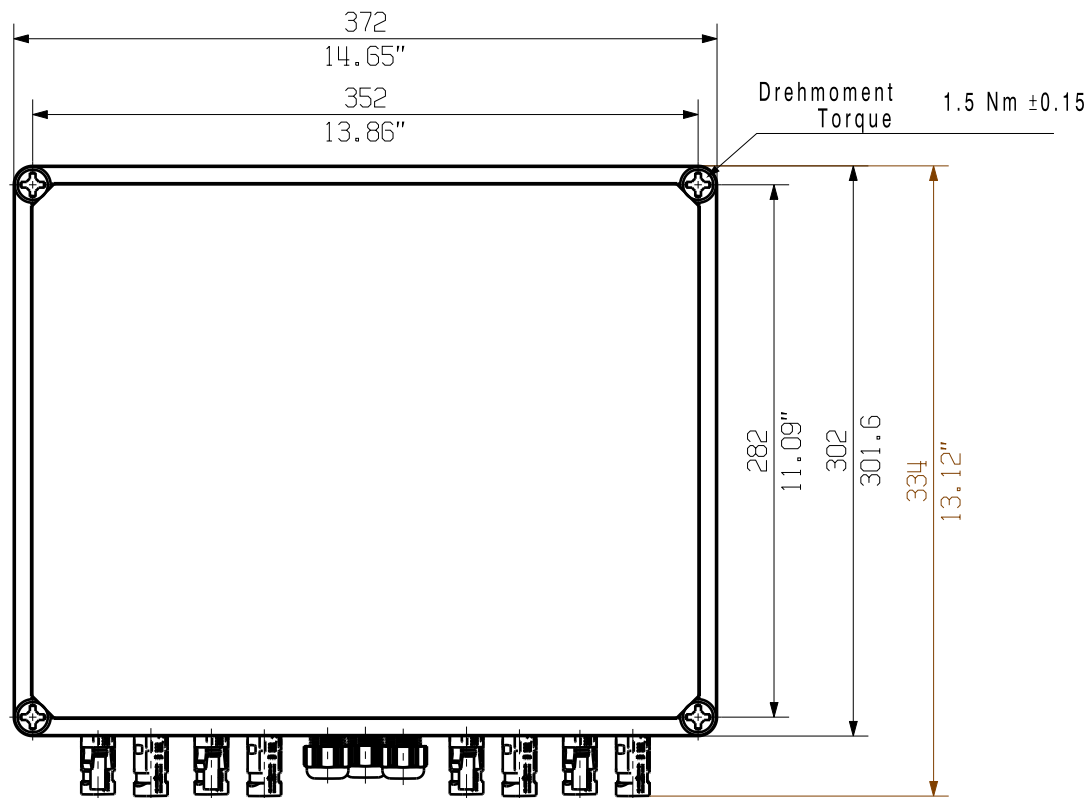
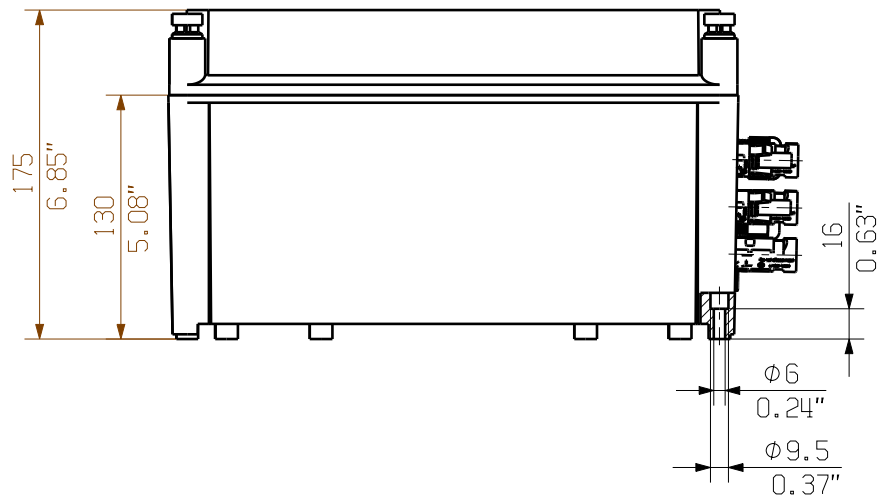
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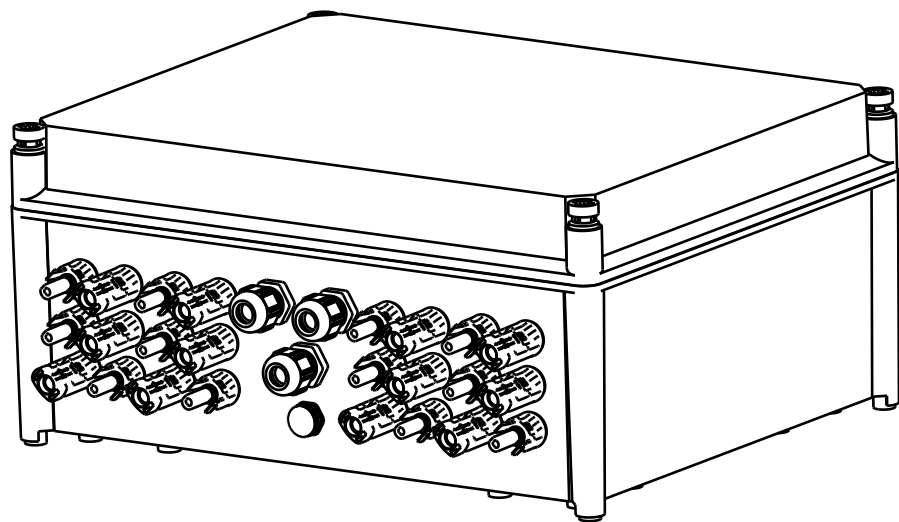
Dimensions without tolerances are no check dimensions



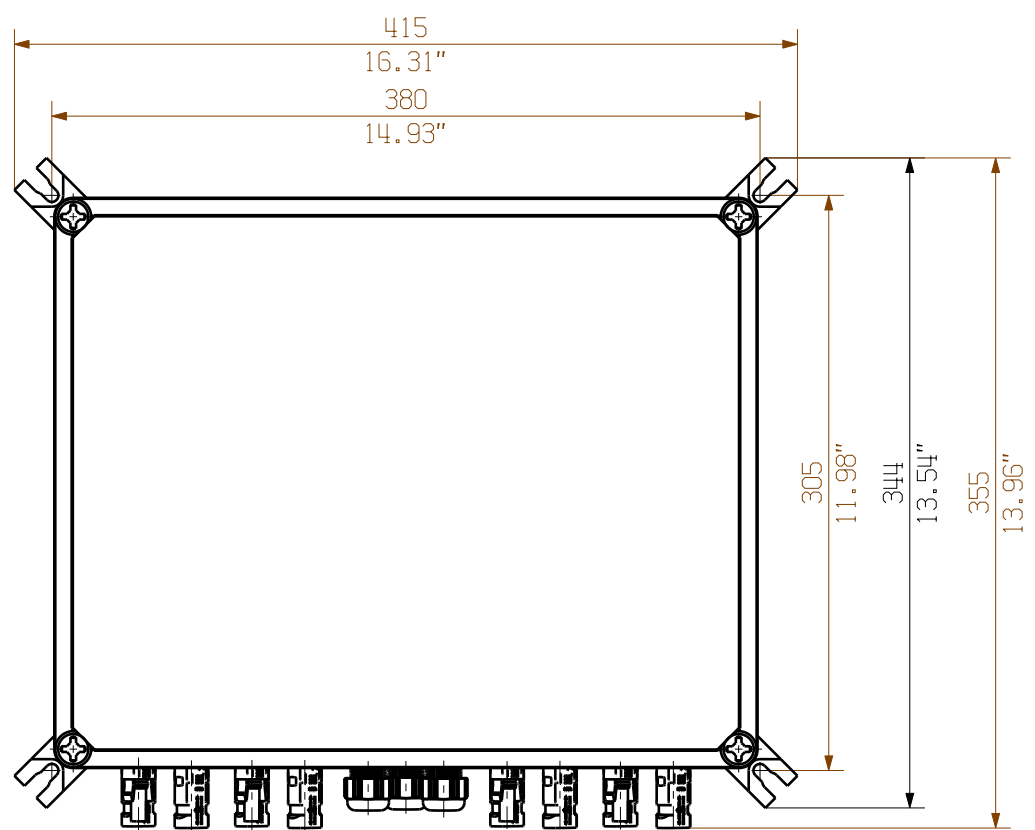
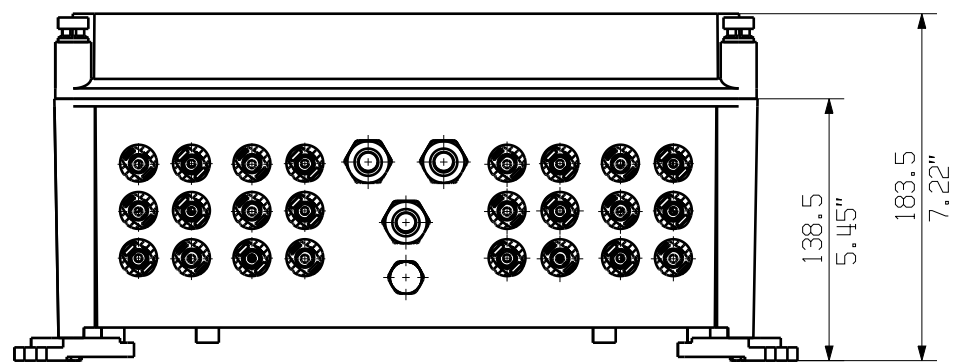
Drehmoment  
Torque 3 Nm ±0.5



Drehmoment  
Torque 1.5 Nm ±0.15



The English version is binding



Darstellung mit Zubehoer  
Shown with accessory 0360800000 MF TBF

Nicht im Lieferumfang enthalten!  
Not included in delivery!

EC00004112	First Issue Date 02.04.2020	Max. nos.	Prim PLM Part No.: 1230340	Prim ERP Part No.: 2737600000
		Modification	<b>Weidmüller</b>	<b>72147</b>
		Drawn 22.10.2020 Brüntrup, Anna		Drawing no. Sheet 03 of 03 sheets
		Responsible 22.10.2020 Püschner, Klau		Issue no. 1
Scale: 1/4	Size: A3	Approved	2737600000 PVN1M4I8SXFV101TXPX10 Combinerbox Residential/Commercial Combinerbox Residential/Commercial	
Drawing customer			Product file:	