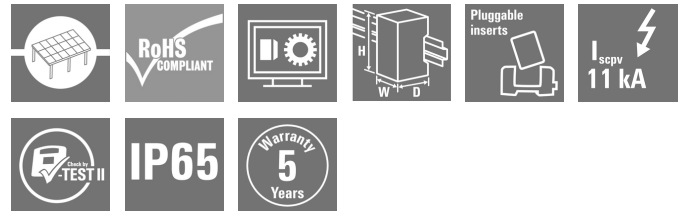


PVN1M3I9S0FXV101TXPX10**Weidmüller Interface GmbH & Co. KG**

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, 1000 V, 3 MPP's, 3 Inputs / 3 Outputs per MPP, Surge protection I / II, Switch disconnecter, WM4C |
| Order No. | 2683220000 |
| Type | PVN1M3I9S0FXV101TXPX10 |
| GTIN (EAN) | 4050118700084 |
| Qty. | 1 pc(s). |
| Delivery status | This article will no longer be available in the future. |
| Available until | 2024-12-31 |
| Replacement parts | 2530600000 2534300000 |

Creation date July 2, 2024 10:42:44 PM CEST

Catalogue status 29.06.2024 / We reserve the right to make technical changes.

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Technical data**Dimensions and weights**

| | | | |
|------------------------------|-------------|----------------|------------|
| Depth | 249 mm | Depth (inches) | 9.803 inch |
| Depth with add-on components | 250 mm | Height | 334 mm |
| Height (inches) | 13.15 inch | Width | 558 mm |
| Width (inches) | 21.968 inch | Net weight | 6,900 g |

Temperatures

| | | | |
|---------------------|-----------------|----------|---------------------------|
| Ambient temperature | -40 °C...+50 °C | Humidity | 5 - 90 %, no condensation |
|---------------------|-----------------|----------|---------------------------|

Approvals and norms

| | |
|-----------|-------------------------|
| Approvals | EN 61439-2, IEC 61439-2 |
|-----------|-------------------------|

Guarantee

| | |
|---------------|---------|
| Time interval | 5 years |
|---------------|---------|

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 | Protection class | II |
| 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 |
|-----------------------|---------------------------------------|-------------------|------|

Inputs

| | | | |
|--------------------------------|-----------------|-------------------------------|------------------------|
| Amount of maximum power points | 3 MPP | | |
| DC Input + & - | Wire connection | Type of connection | WM4C plug-in connector |
| | | Compatible cable crosssection | EN 50618:2015 |
| | | Wire cross-section, min. | 2.5 mm ² |
| | | Wire cross-section, max. | 6 mm ² |

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Technical data

| | | | |
|------------------------------------|--|---|--|
| 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 | | |
| 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 mm |
| | | Cable diameter, max. | 10 mm |
| | | Cable glands | M 16 |

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 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 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_{SCPv} | 11,000 A | Standby power consumption P_c | <0.2 W |
| Total discharge current I_{total} (8/20 μ s) | 50 kA | 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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www.weidmueller.com**Technical data****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

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 glass fibre reinforced polyester housing. Dimensions HxWxD: 334x558x249 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

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](#)[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](#)

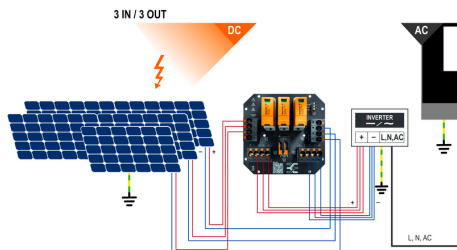
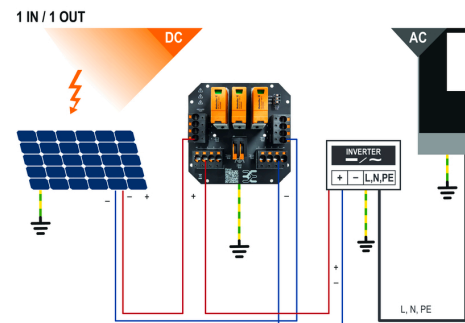
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Drawings

PCB design



| PVN 1 M2 I6 S0 F3 V1 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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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. | 2659350000 | Cable ties, 4,5 x 290 mm, Polyamide 66, 220 N |
| GTIN (EAN) | 4050118682816 | |
| Qty. | 100 pc(s). | |

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). | |

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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). | |

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). | |

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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. | 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 |

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). | |

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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). | |

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. | 2877860000 | Photovoltaics, Y-Connector Cable, 1x WM4 C Male, 2x MC4 Female, 6mm², 1500 V |
| GTIN (EAN) | 4064675666424 | |
| Qty. | 1 pc(s). | |
| Type | PVHYM-M-XXXX6W+15 | Version |
| Order No. | 2877850000 | Photovoltaics, Y-Connector Cable, 1x WM4 C Female, 2x MC4 Male, 6mm², 1500 V |
| GTIN (EAN) | 4064675666417 | |
| Qty. | 1 pc(s). | |

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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 0.6X3.5X100 | Version |
| Order No. | 2749810000 | Screwdriver, Blade width (B): 3.5 mm, Blade length: 100 mm, Blade |
| GTIN (EAN) | 4050118897012 | thickness (A): 0.6 mm |
| 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 |
| GTIN (EAN) | 4050118897050 | thickness (A): 1 mm |
| Qty. | 1 pc(s). | |

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

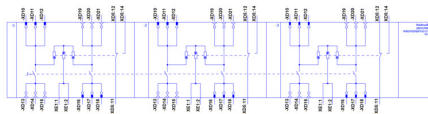
| | | |
|------------|----------------------------|--|
| Type | VPU PV I+II O 1000 | Version |
| Order No. | 2530600000 | Surge voltage arrester, Low voltage, Accessories, Surge protection I / |
| GTIN (EAN) | 4050118540819 | II, Spare arrester |
| Qty. | 9 pc(s). | |
| Type | VPU PV I+II OM 1000 | Version |
| 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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Drawings

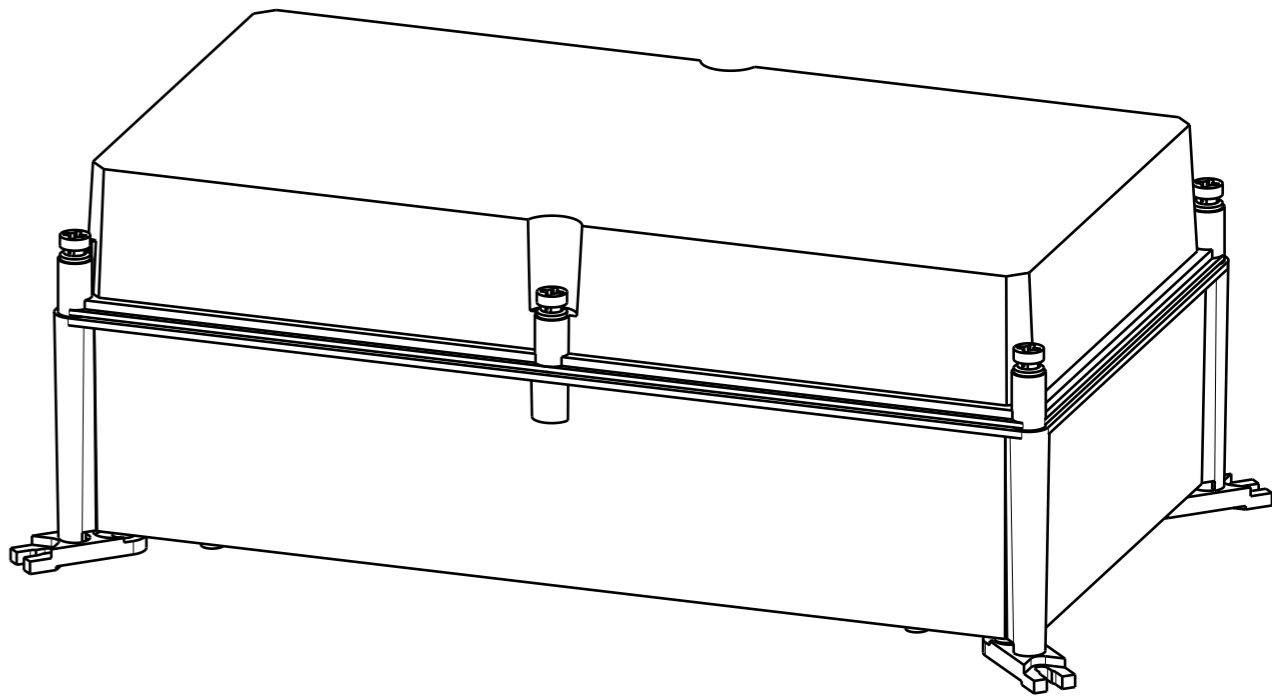
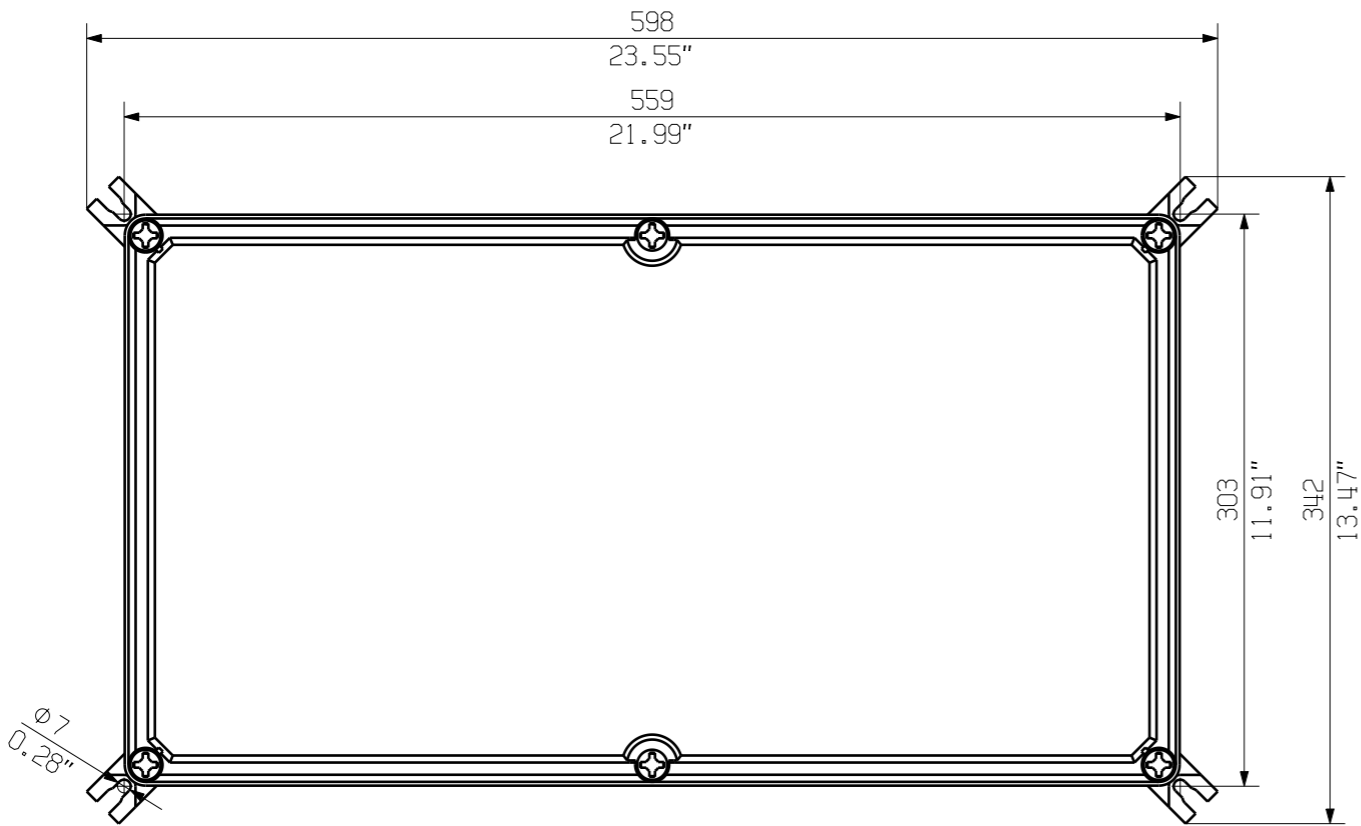
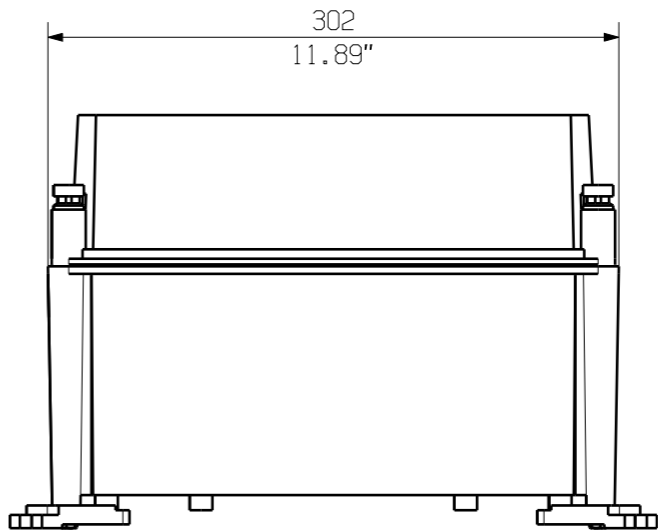
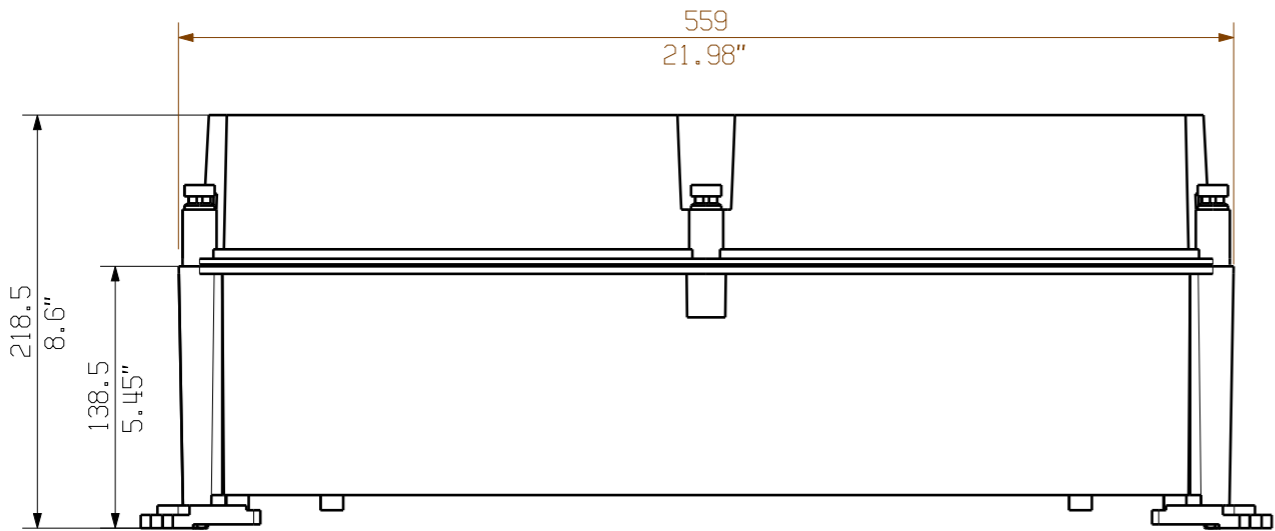


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Dimensions without tolerances are no check dimensions

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. |
| | 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 | Product file: | |
| Drawings Customer | | | | | |