Assembly Instructions
Contec.greenlight on top 10° - 20°

19 / 11 / 2026



Technical Data

Contec.greenlight on top	For one unit - L = ~ 1.5 m base rail (landscape) ~ 2.1 m base rail (portrait)
Weight per unit	9.3 kg, weight without ballast, without PV module
Material	Magnelis, aluminium, stainless steel, galvanized steel
Standard module inclination	10°, 15° or 20° standard (freely adjustable)
Roof connection	No constructive roof connection necessary, system is placed on the green roof/gravel roof.
Ballasting	Ballast load and distance between substructure components (spacing of the Knickfix base profile) must be calculated by Contec AG according to the wind zone plan.
Roof pitch	Inclination up to 5° approved. From 5°: Approval only with technical clarification from Contec AG.
Unit consists of	Landscape: 1 x ~1.5 m base rail 1 x ~3.5 m profile rail Portrait: 1 x ~2.1 m base rail 1 x ~2.2 m profile rail Universell: 1 x Knickfix 1 x Fixed strut Small items (screws, L-shaped profile connectors, base rail connectors, module clamps)
Ballast unit	Paving slabs 50 cm x 50 cm (not included in the delivery)
Warranty	10-year system warranty on Contec.greenlight on top substructure ex works, valid from date of delivery.

Preparation

- The existing roof surface or substructure must be thoroughly checked for damage, stability and load-bearing capacity beforehand.
- Check the roof surface (substrate with greenery or gravel surface) for evenness before installation. Repair uneven roof surfaces, refill or remove substrate/gravel and remove strong plant growth.
- A detailed design of the substructure can be obtained from the plant designer.

Required Tools



Cordless screwdriver



Allen insert size: 5 mm
(S:Flex module clamps)



Torx insert size: TX 40
(Schletter module clamps)



Hexagonal insert size: SW 13 mm

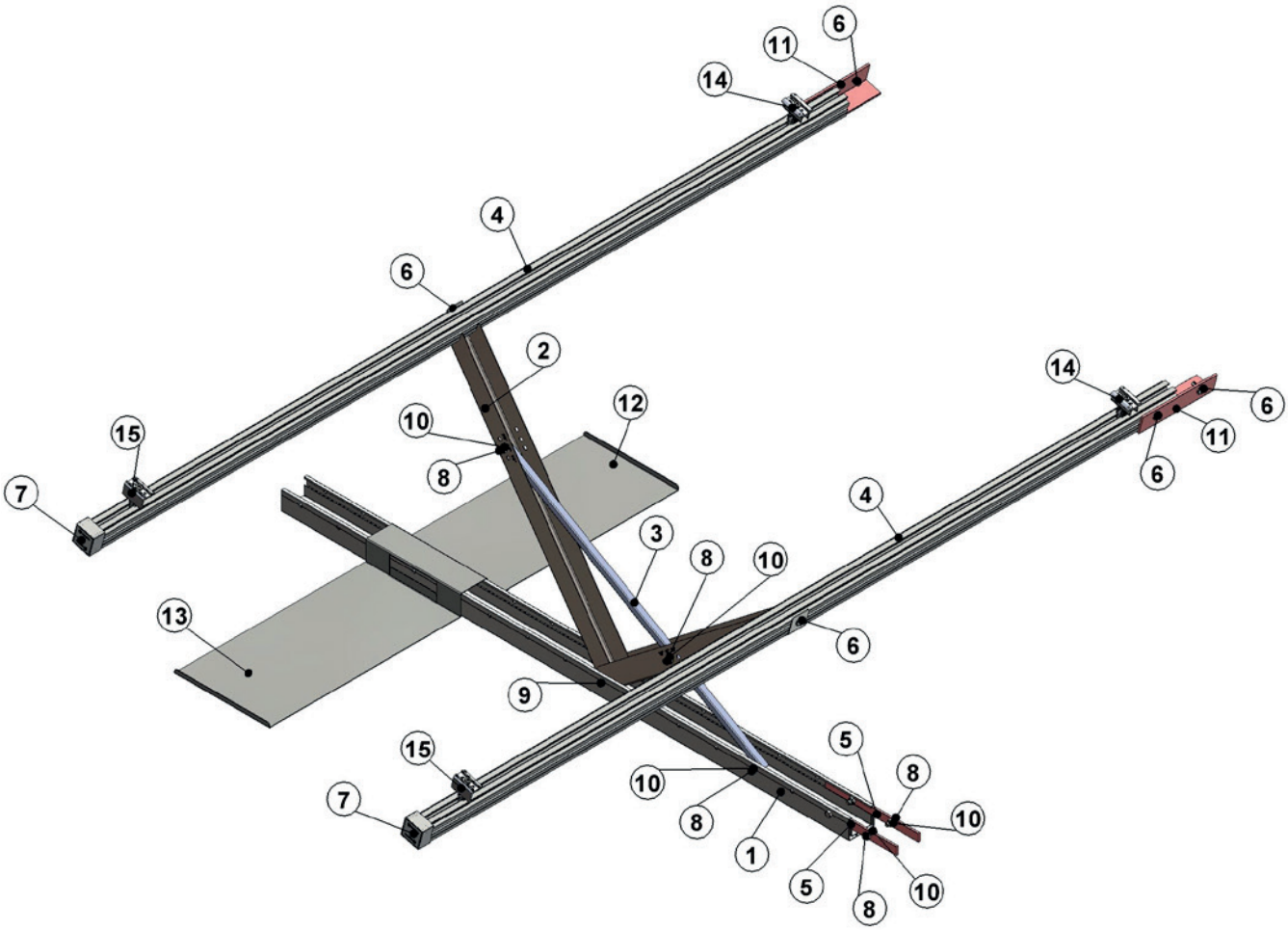


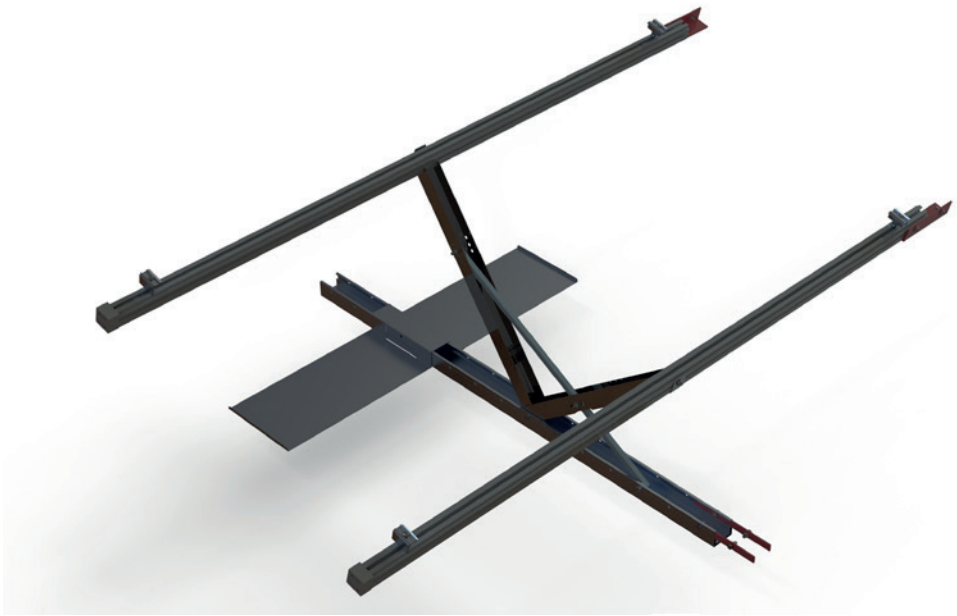
Tape measure

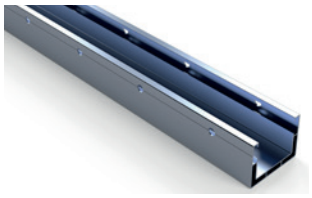
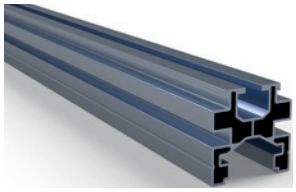


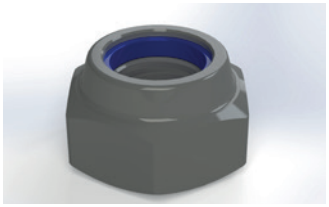
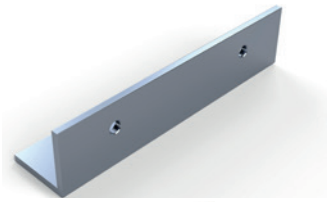
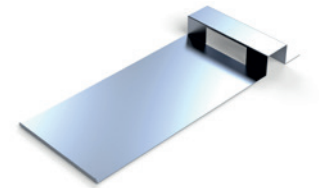
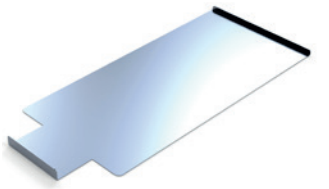
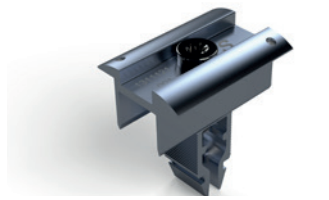
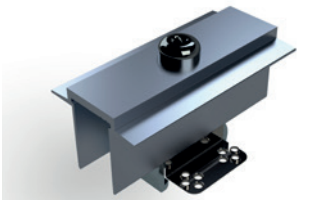
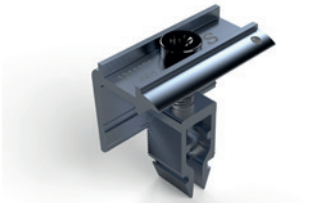
Torque wrench 15 - 20 Nm

System Components





	Position	Item no.	Quantity
	**1** Base rail (perforated)	12.111.23 3m 12.111.24 4.5m 12.111.26 6m	approx. 1.5 m / unit (landscape) approx. 2.1 m / unit (portrait)
	**2** Knickfix 10 - 20° standard / 5 - 45° optional	12.211.10 small 12.211.11 standard 12.211.13 large 12.211.15 large 1115	1 pc. / unit
	**3** Fixed strut	12.211.45	1 pc. / unit
	**4** Profile rail	12.400.21 6.1m 12.400.31 3.3m	approx. 3.5 m / unit (landscape) approx. 2.2 m / unit (portrait)
	**5** Base rail connector	12.111.31	2 pcs. / interface
	**6** Pan head screw (M8 x 20 thread grooving)	12.410.20	2 pcs. / unit
	**7** End cap PE	12.405.41 grey 12.405.42 black	4 pcs. / row
	**8** Hexagon head screw M8 x 20 mm	12.411.20	3 pcs. / unit 2 pcs. / connector base rail
	**9** Hexagon head screw M8 x 80 mm	12.411.27	1 pc. / unit

	Position	Item no.	Quantity
	**10** Hexagon nut M8 (with polyamide ring)	12.411.35	3 pcs. / unit 2 pcs. / connector base rail
	**11** Profile connector L-shaped	12.401.11	1 pc. / profile rail
	**12** Ballast plate top	12.111.45	Pcs. according to specification
	**13** Ballast plate below	12.111.48	Pcs. according to specification
	**14** Centre clamp M_A = max. 16 Nm	12.500.05 12.500.06	Pcs. according to PV layout
	**14** Centre clamp M_A = max. 10 Nm	12.500.07	Pcs. according to PV layout
	**15** End clamp M_A = max. 16 Nm	12.501.05 12.501.06	Pcs. according to PV layout
	**15** End clamp M_A = max. 10 Nm	12.501.07	Pcs. according to PV layout

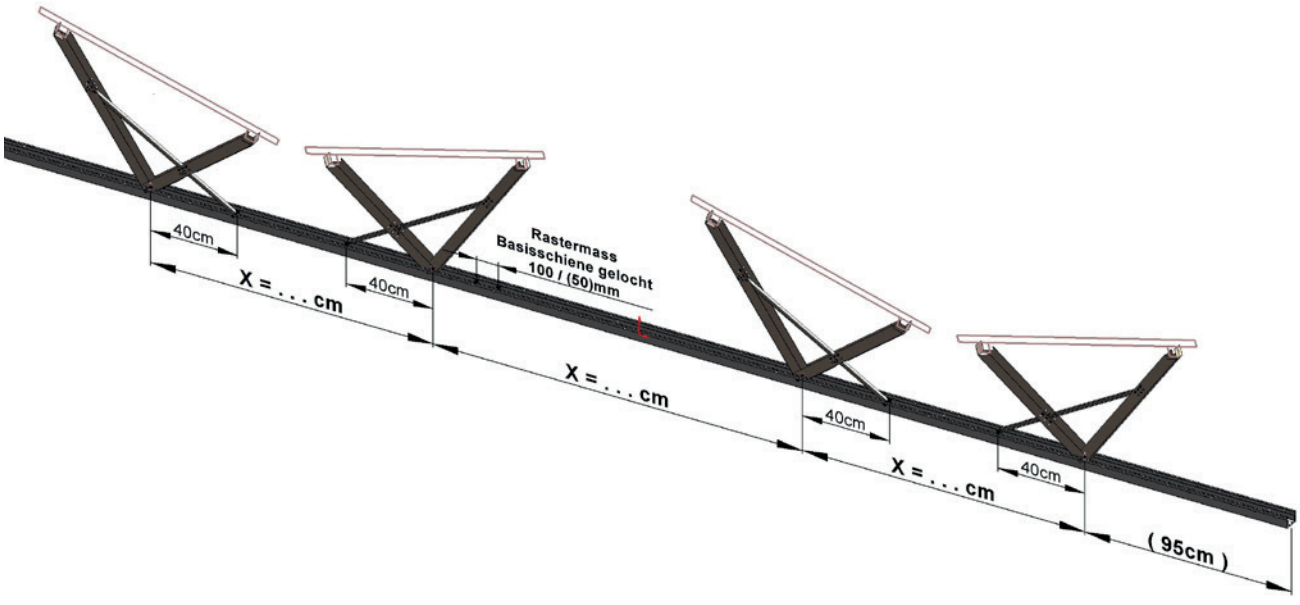
Step 1

Setting Up the Contec.greenlight on top Base Rail Mounted With Knickfix

- Repair uneven roof surfaces. Backfill or remove substrate/gravel. Remove heavy plant growth.
- Place base rail with pre-assembly (position Knickfix) on the roof surface.
- The edge distances, the distances of the Knickfix **x** as well as the distances for the base rails (**y** see page 15) are to be taken from the planning documents (installation plan with order).

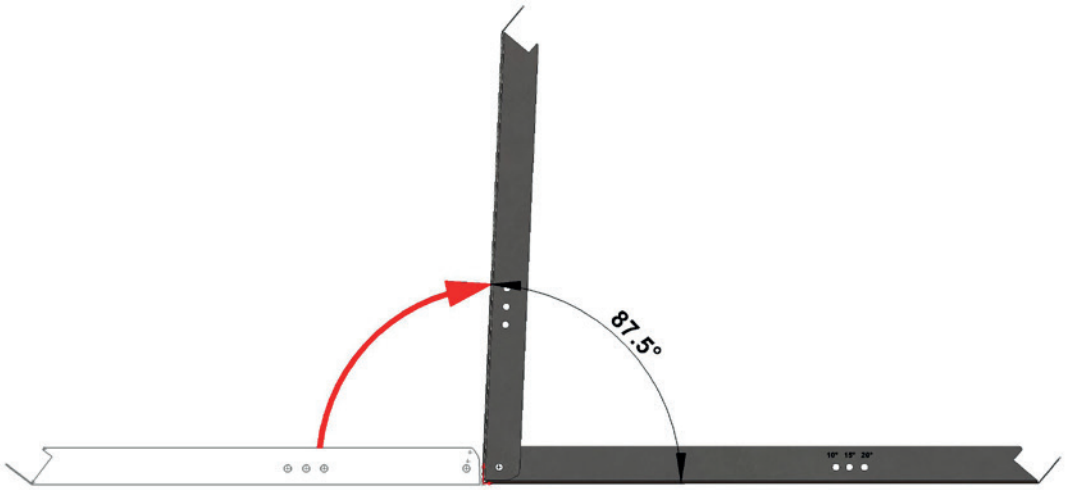


Variant east / west orientation -> butterfly shape



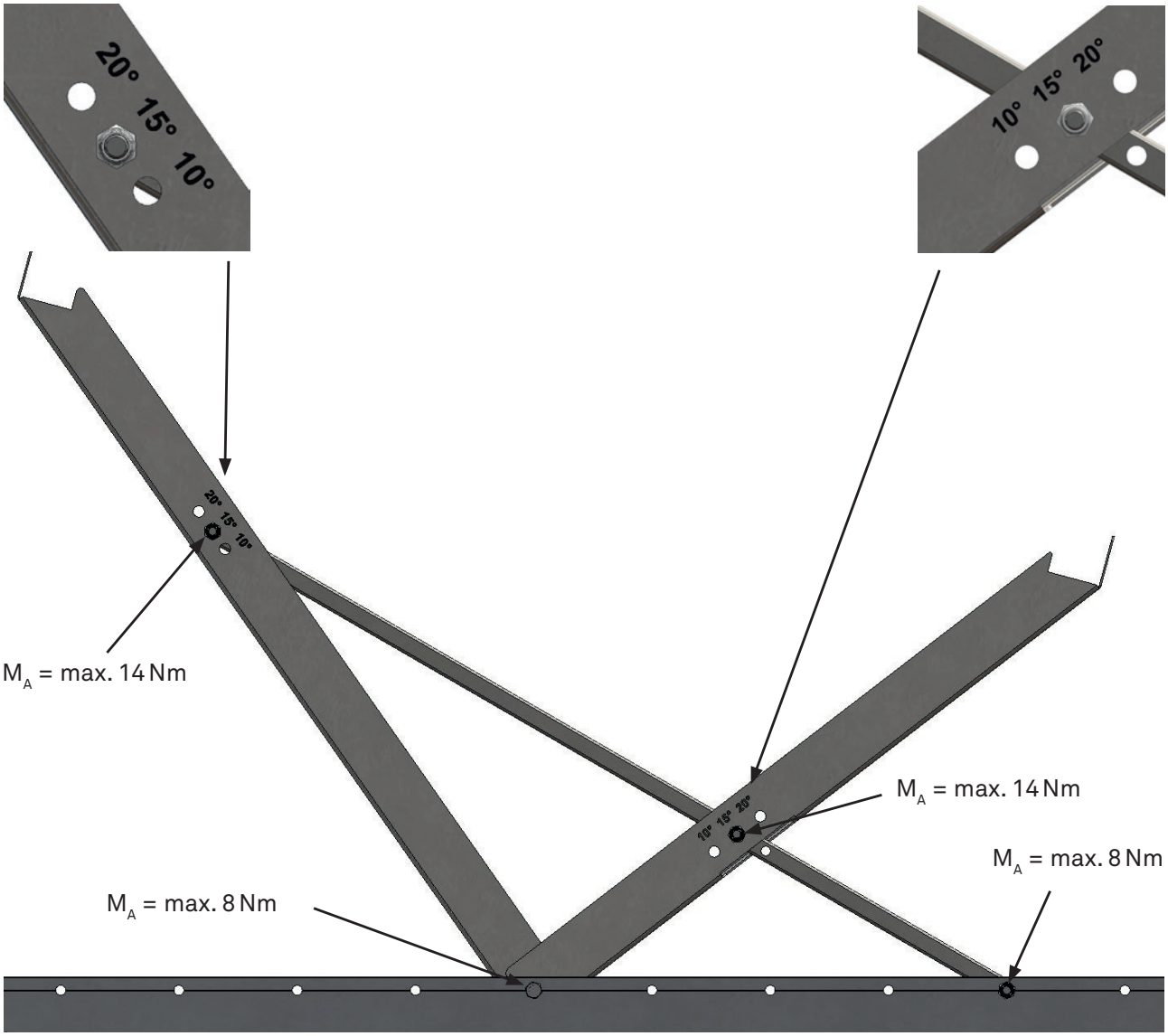
Mounting Contec.greenlight Knickfix With Fixed Struts on Base Rails

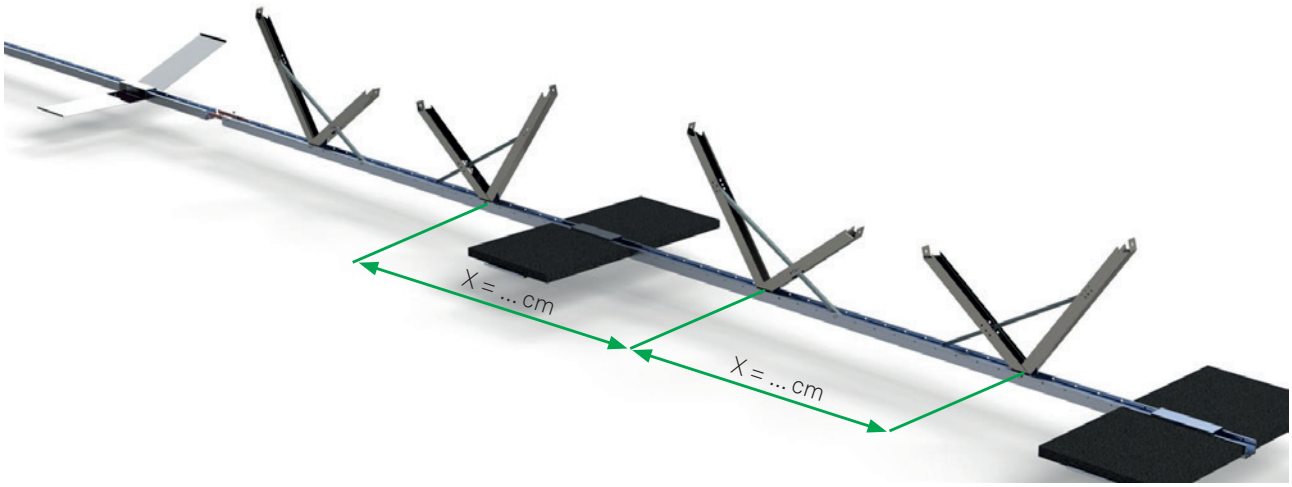
- Mount Knickfix with fixed strut on base rail
- Bent the Knickfix angle by hand to 87.5°.



- Position the angle on the base rail at the specified distance and screw in place.
- Mount fixed strut: 10°, 15° or 20° standard -> freely adjustable
- Place the screws in the position for desired angle of inclination.



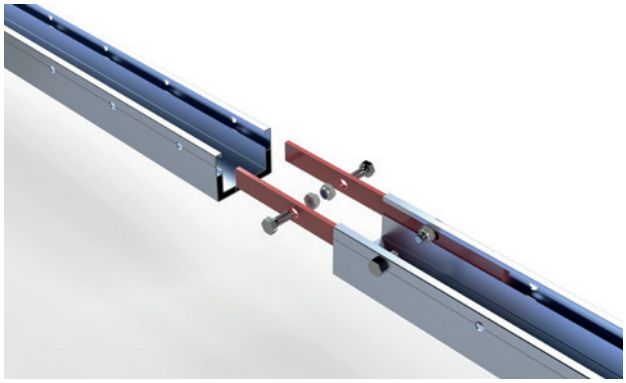

20° 15° 10°
10° 15° 20°
M_A = max. 14 Nm
M_A = max. 14 Nm
M_A = max. 8 Nm
M_A = max. 8 Nm

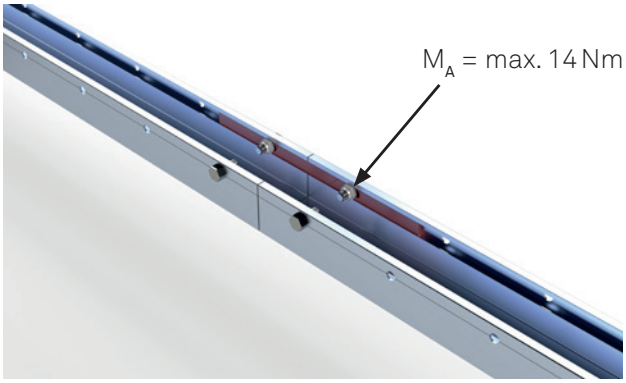

X = ... cm
X = ... cm

Step 2

Base Profile Connector

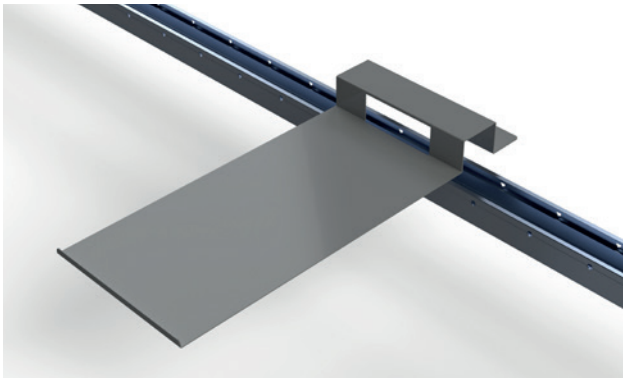
- 2 base profile connectors per joint
- Fasten using 4 M8 × 20 mm hexagon head screws (M_A = max. 14 Nm)

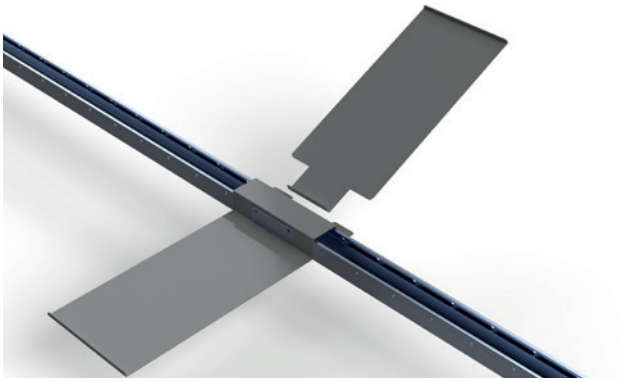


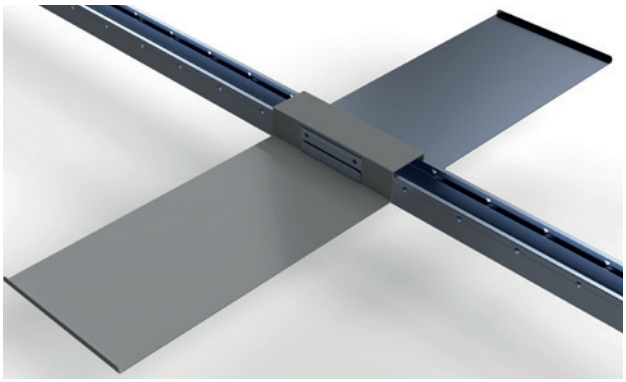


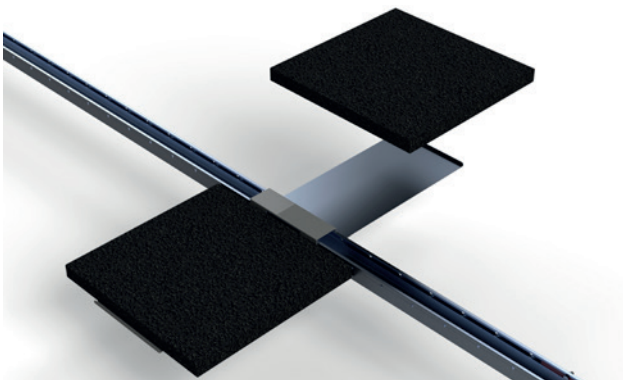
Assembly

- Mount the ballast plate at the top and bottom.
- Ballasting with garden plate 1 x 2 pcs. = ~ 42 kg / 2 x 2 pcs. = ~ 84 kg (garden plates are not included in the delivery).
- The distances of the ballasting units are to be taken from the planning documents (installation plan).







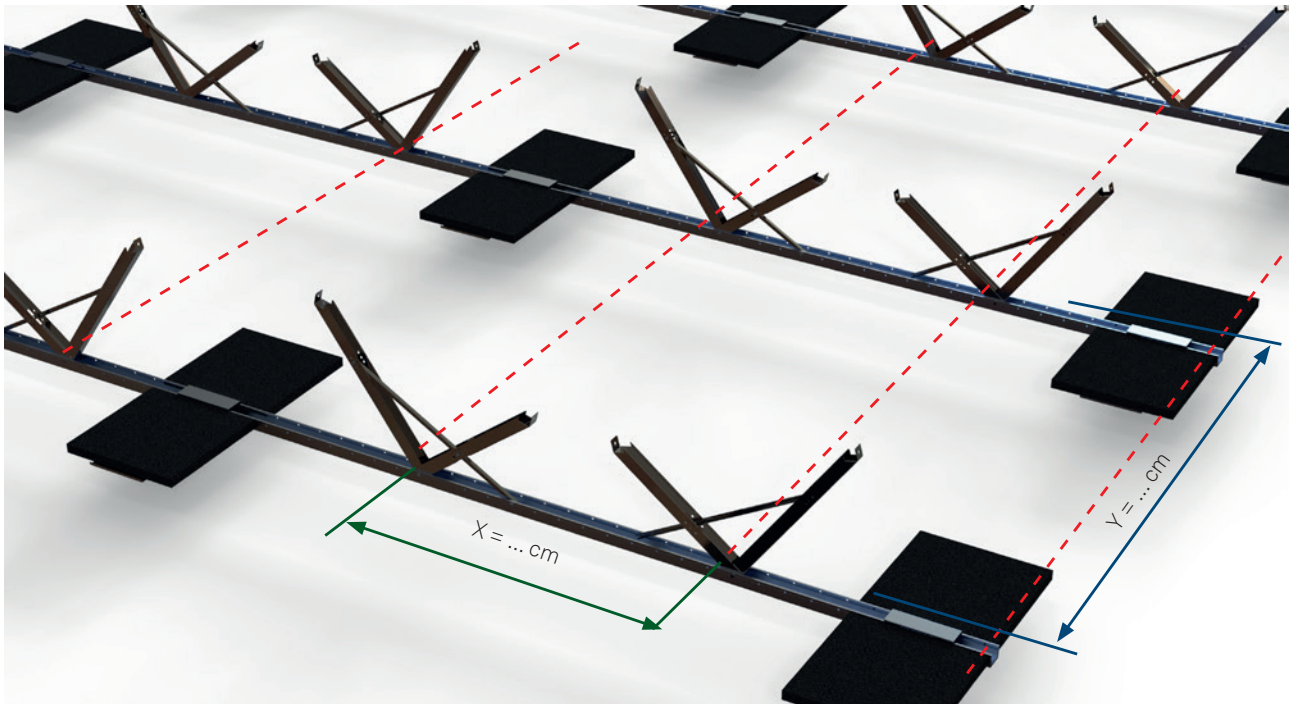


Step 3

Setting up/positioning the preassambled base rail with Knickfix and fixed strut

- Place the pre-assembled base rail on the roof surface. The grid dimension Y of the base rail can be found in the planning documents (installation plan).
- Ensure that the base rail is parallel to each other and that the Knickfix is in the correct position.



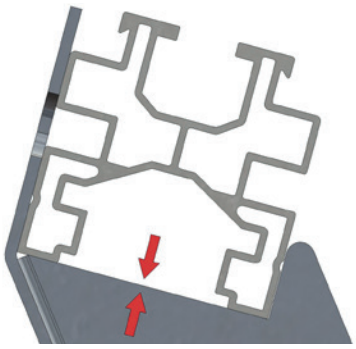


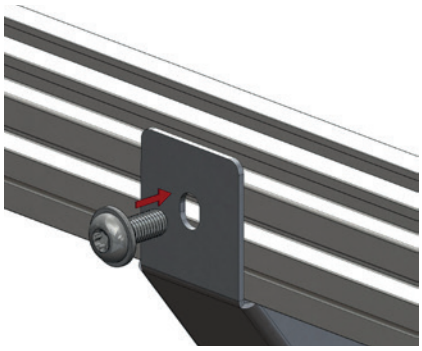
- Check alignment distance of Knickfix (base position of hexagon head screw M8 x 80 mm)
- Check parallelism of the base rail to each other

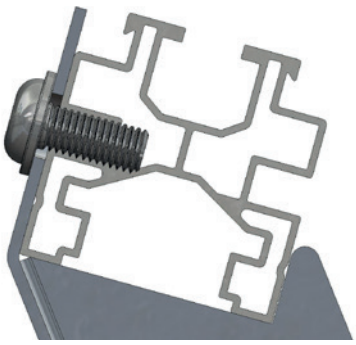
Step 4

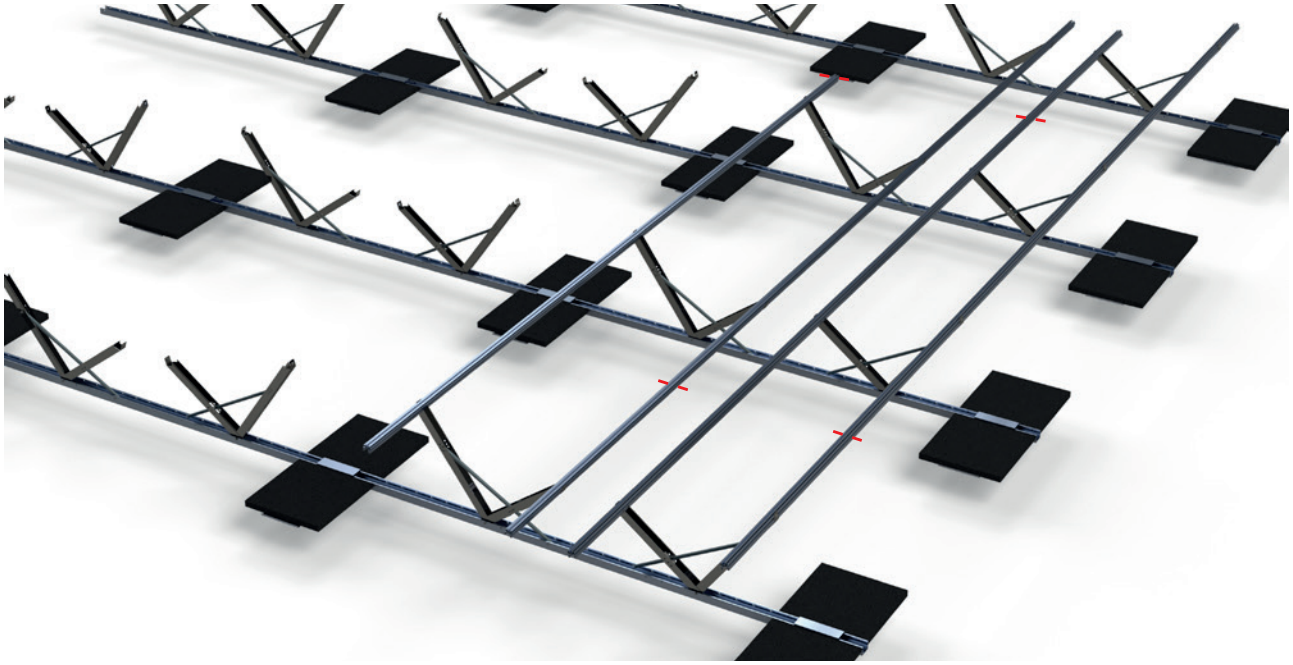
Mounting the Profile Rails

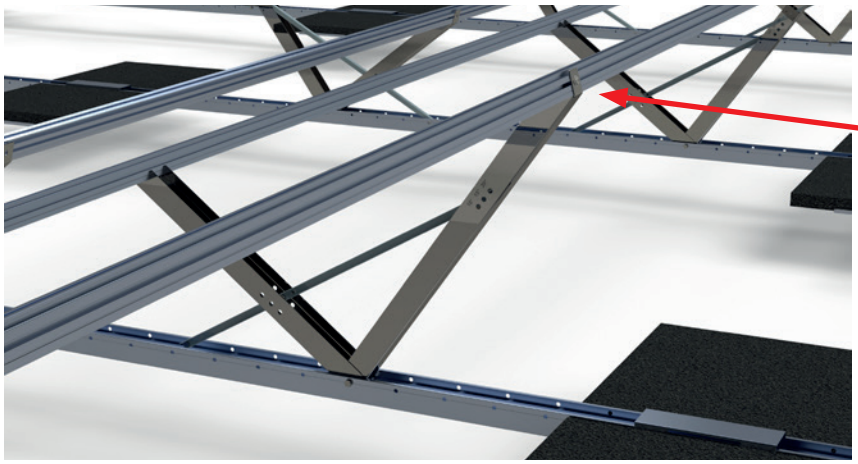
Screw the individual profile rails onto the Knickfix brackets with the thread-forming screws M8 x 20 mm. Without pre-drilling, with the correct torque of the drilling machine, the screws should penetrate the profile wall (with feeling and some pressure).

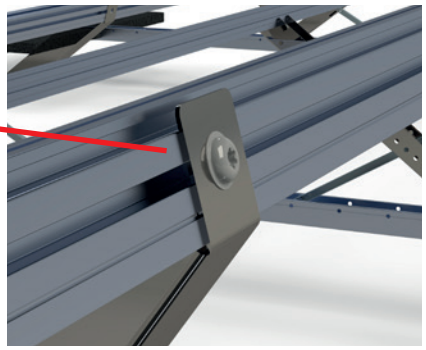




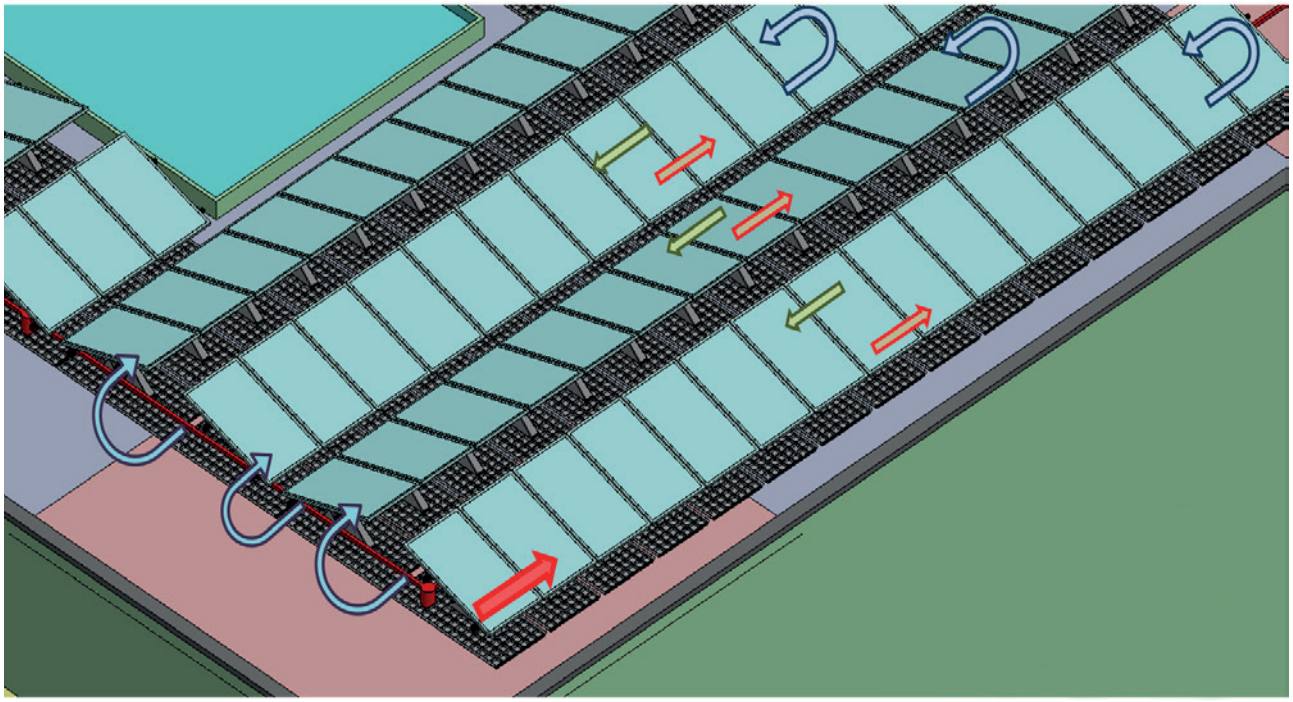


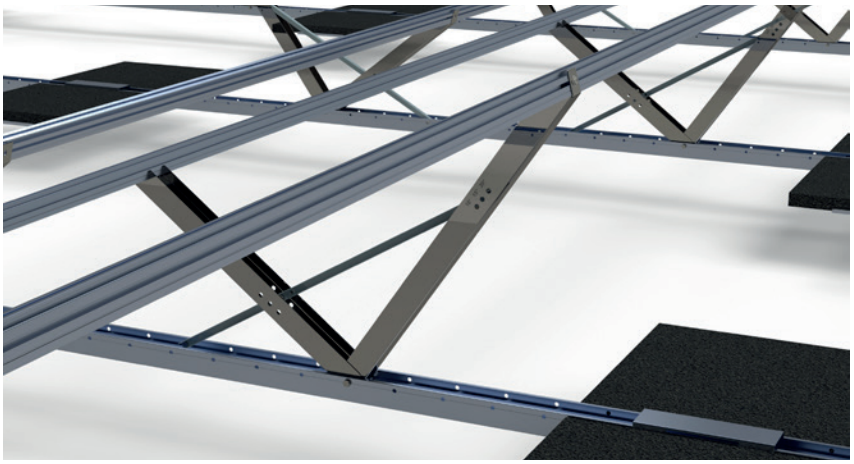


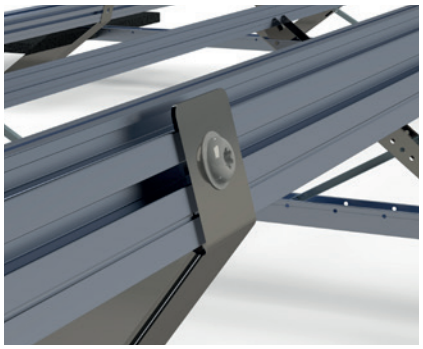




- The profile rail is calculated according to the following diagram.
- Calculation of overhang: Module width + module clamp + an additional module clamp at the end of the module row + 100 mm overhang at the start and end of the module row/rail length.
- If the remainder is shorter than 1000 mm, it is considered a waste. From 1000 mm, you must start with the remainder on the next rail.
- The installation is carried out in serpentine lines.

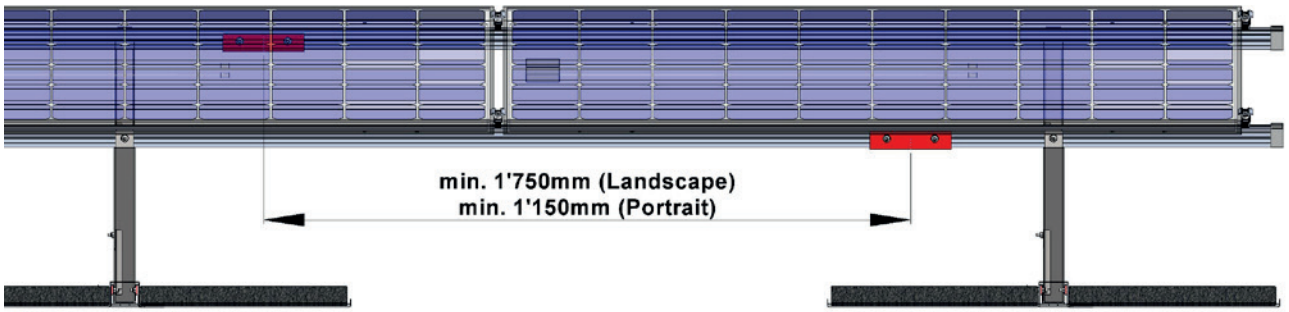


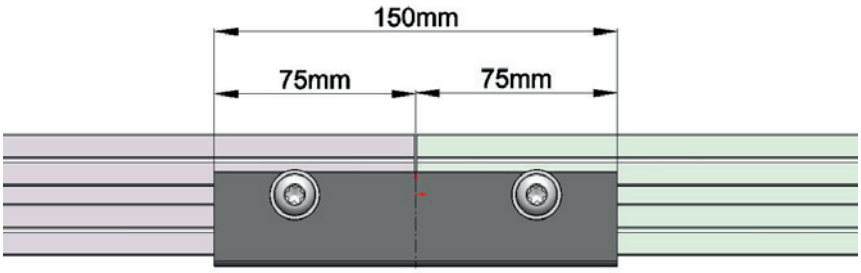




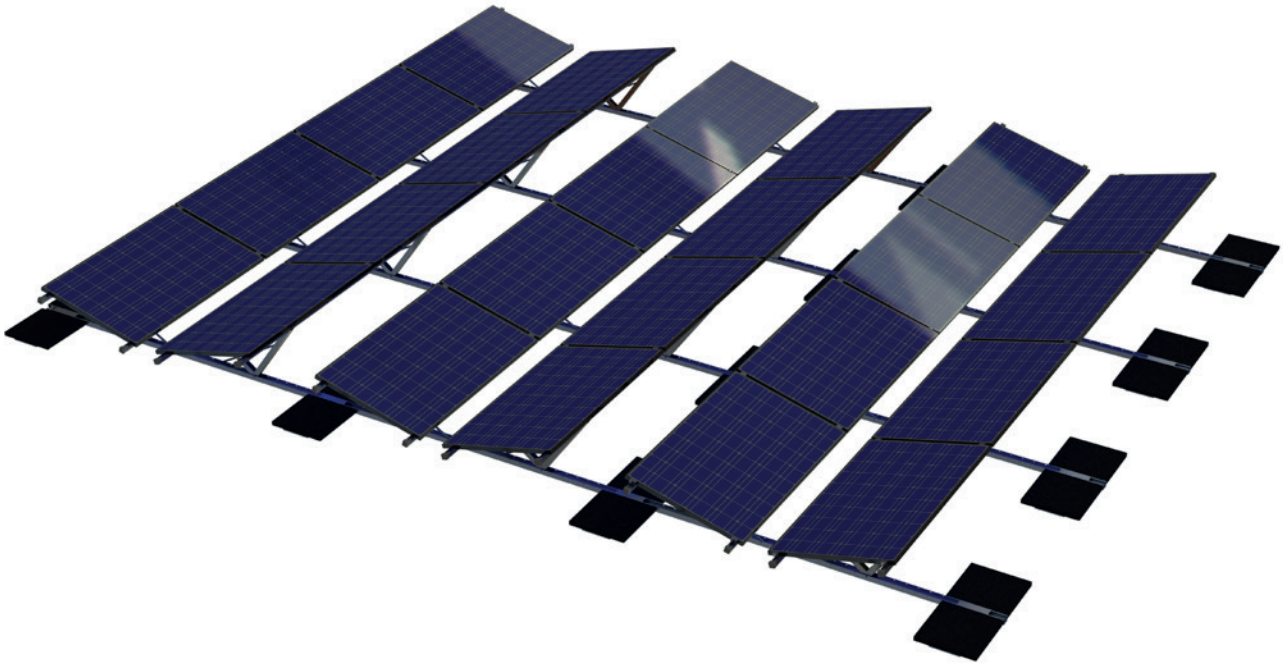
Step 5

Fasten the individual profile rails together using the L-shaped profile connector and two M8 × 20 mm thread-forming screws per connection.





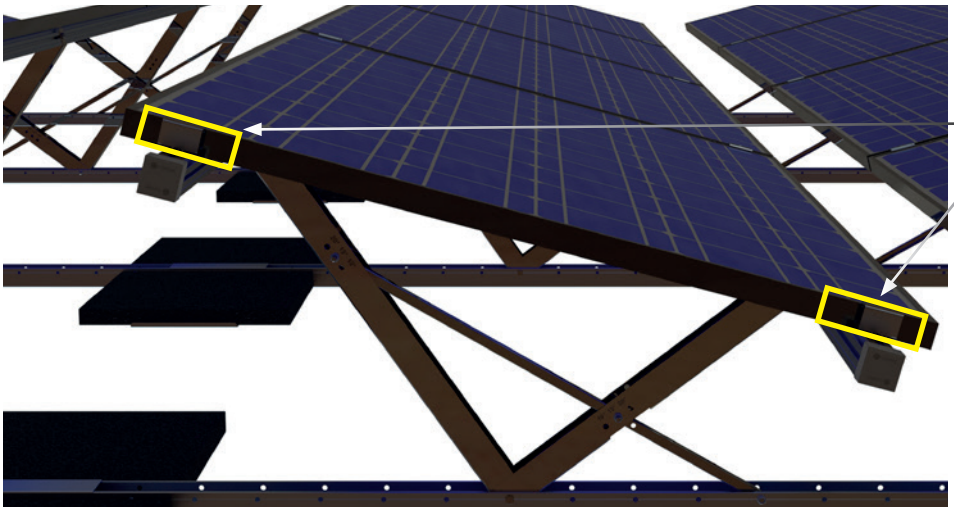
Mounting the Modules

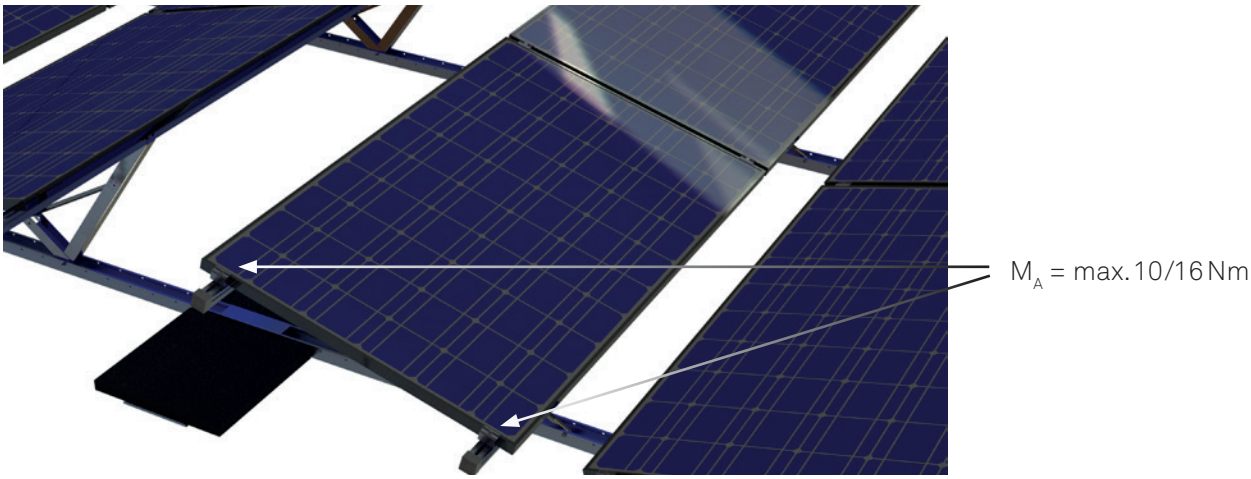


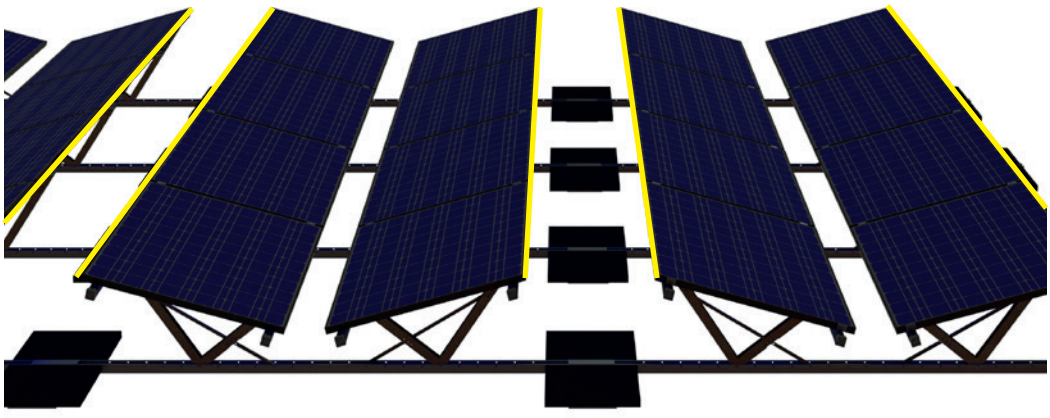
Step 6

Mounting the Modules

- Module assembly according to the manufacturer's specifications
- Adhere to clamping ranges
- Max. observe tightening torque of module terminal System components (page 5)







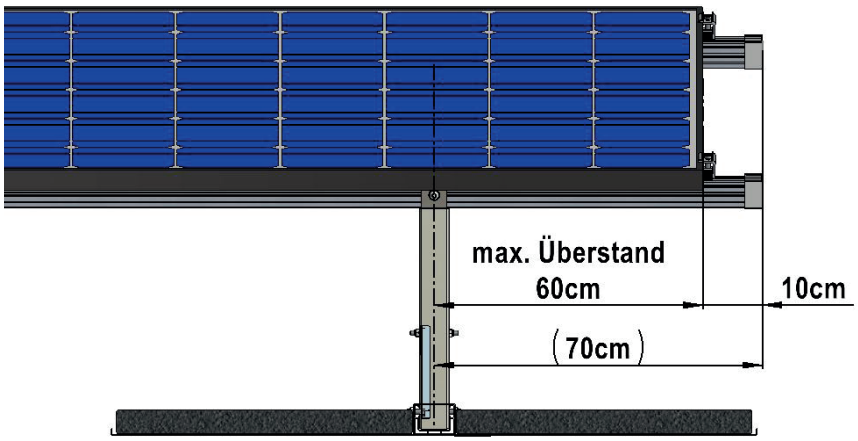
Important Notes

To Be Observed Urgently During Assembly

- Only clamping systems approved by Contec AG may be used for mounting.
- The tightening torque (M_A) of the module clamps can be found in the system components. A suitable torque wrench or a cordless screwdriver with torque limiter must be used for this purpose. Lower tightening torques can lead to system failure.
- Do not drill, nail or weld on the module frames.
- Only use corrosion-free screws for mounting.
- The installation of the modules deviating from the planning by Contec AG, is only permitted after consultation and written approval of the manufacturer.
- In the case of an order, the system statics of Contec AG are taken over by the planning.
- The customer is responsible for the static release of the area to be covered.

Installation of the Contec.greenlight on top Substructure Module Placement

- At the beginning and end of the row is allowed a maximum projection of the modules of 60 cm.
- Follow the manufacturer‘s instructions for module installation.

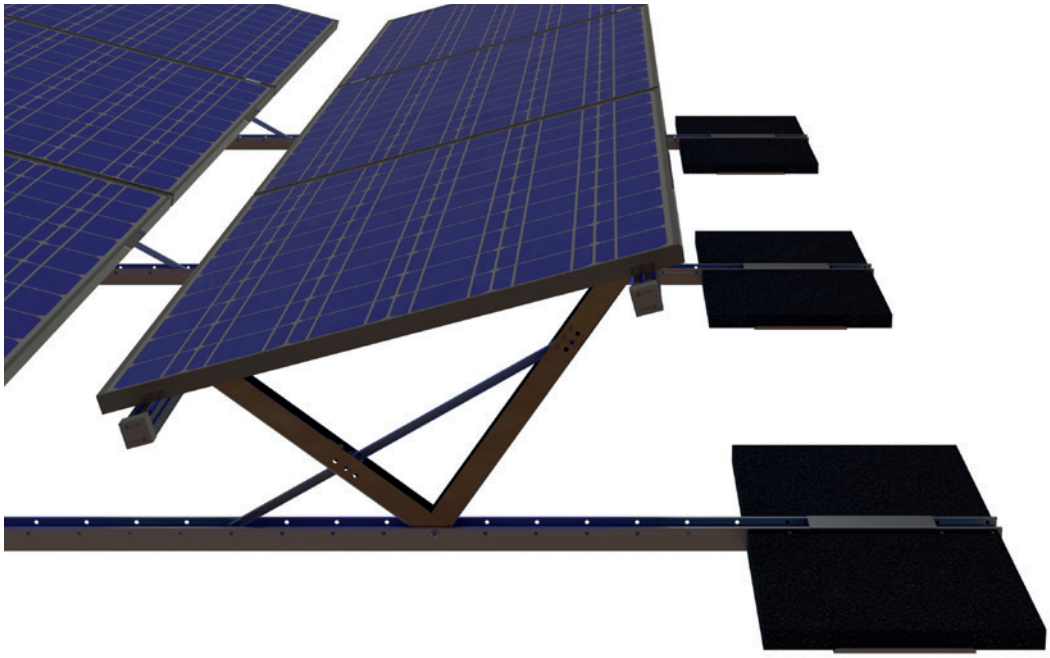


Lightning Protection

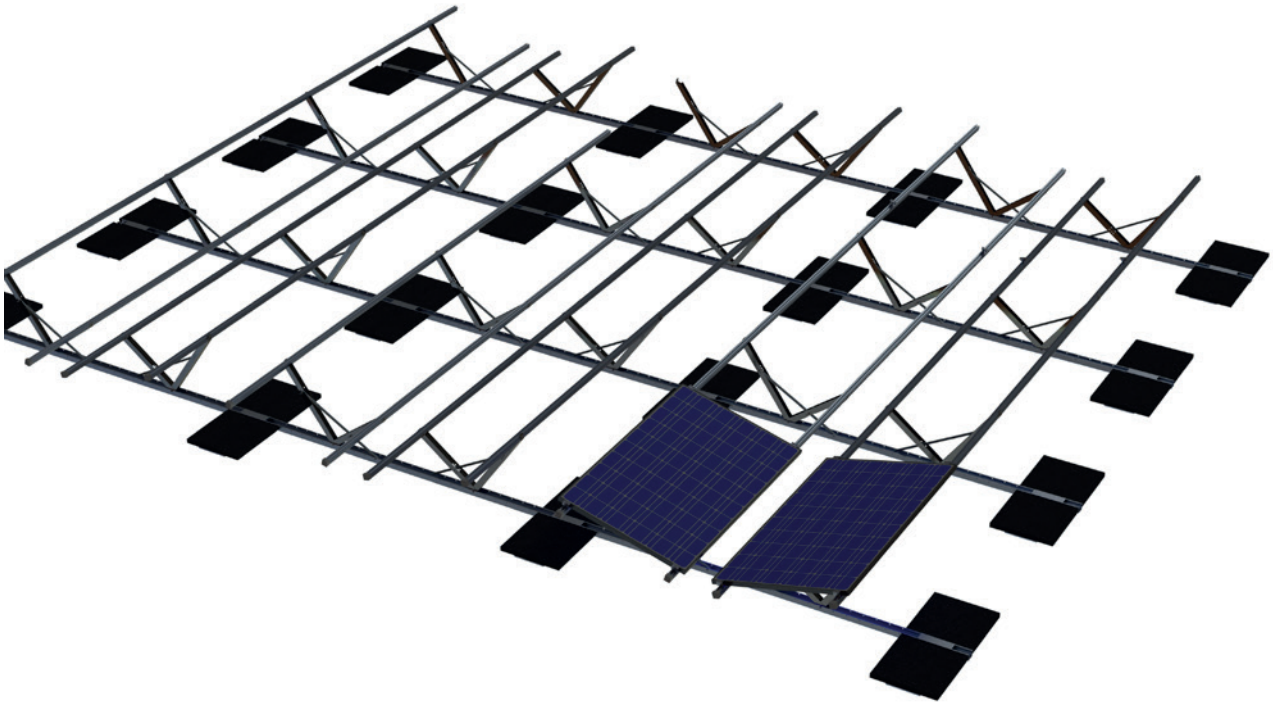
The conductivity of the mounting profile is 34 - 38 MS/m.

Ballast

Ballast unit with garden slabs 50 cm x 50 cm x 4 cm (~21 kg).



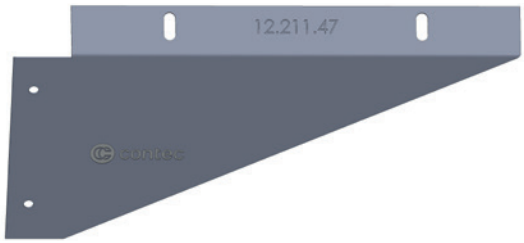
- The weight per unit area, the number of ballasting units including the number of garden slabs and the position/spacing are to be taken from the planning documents.
- Weight per ballasting unit 1 x 2 Stk. = ~ 42 kg, 2 x 2 Stk. = ~ 84 kg

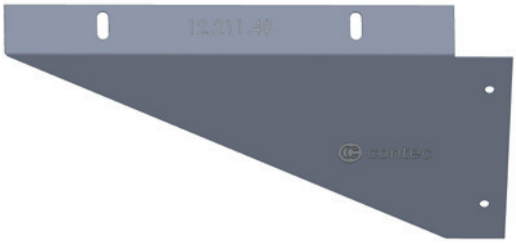


Assembly Wind Bracing Sheet

Application

The wind bracing sheets serve to provide lateral reinforcement and stabilization of the PV mounting system Contec.greenlight on top. They are used at the beginning and end of each PV module row and contribute to increased resistance against wind uplift and shear forces.

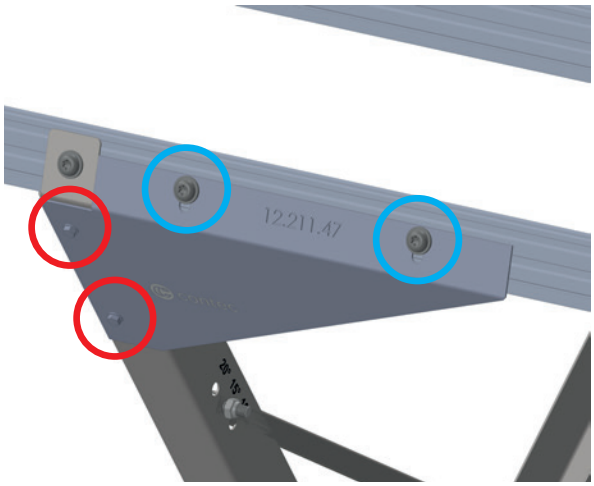


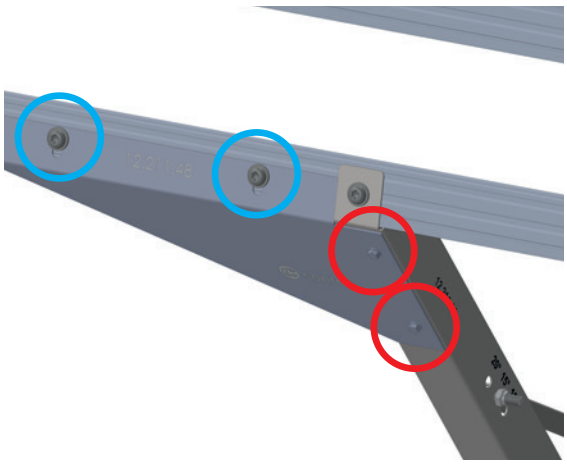


Assembly Position

At the beginning and end of each module series.

Assembly Information





Fastening to the Knickfix **(marked in red)**

- 2 x self-drilling screws 4.8 x 20 mm (12.411.29)
- Direct screwing through the wind bracing sheet into the Knickfix
- No pre-drilling required

Fastening to the profile rail **(marked in blue)**

- 2 x pan head screws M8 x 20 mm self-tapping (12.410.20)
- Direct screwing through the wind bracing sheet into the profile rail
- No pre-drilling required

Required Tools



Cordless screwdriver



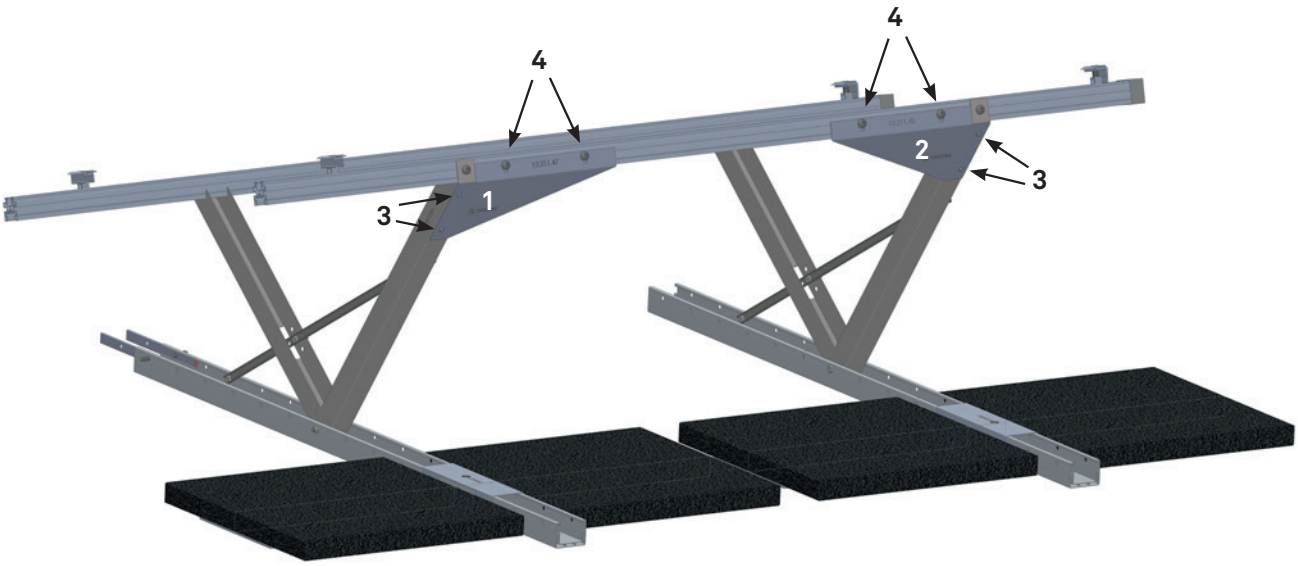
Torx-Bit T40 / 45



Ratchet socket wrench 8 mm

Required Materials

No.	Item No.	Designation	Number of pcs per row
1	12.211.47	Wind connection 10° - 20° left	1
2	12.211.48	Wind connection 10° - 20° right	1
3	12.411.29	Drill screw 4.8 x 20 A2	4
4	12.410.20	Pan head screws M8 x 20 mm, self-tapping	4



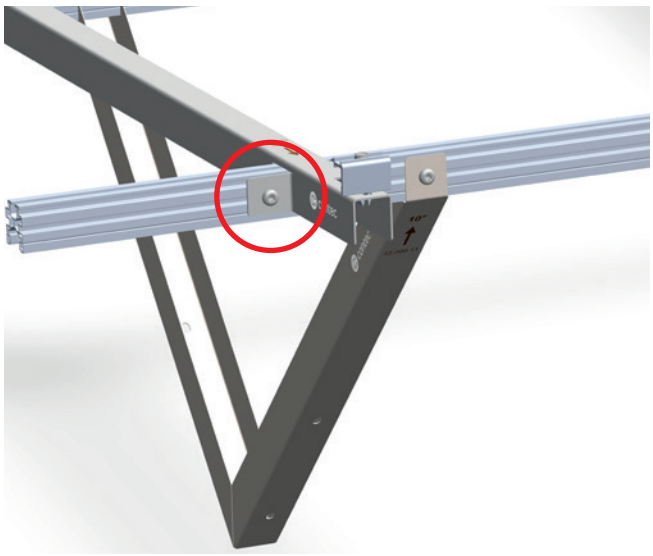
Assembly Cross Bracing

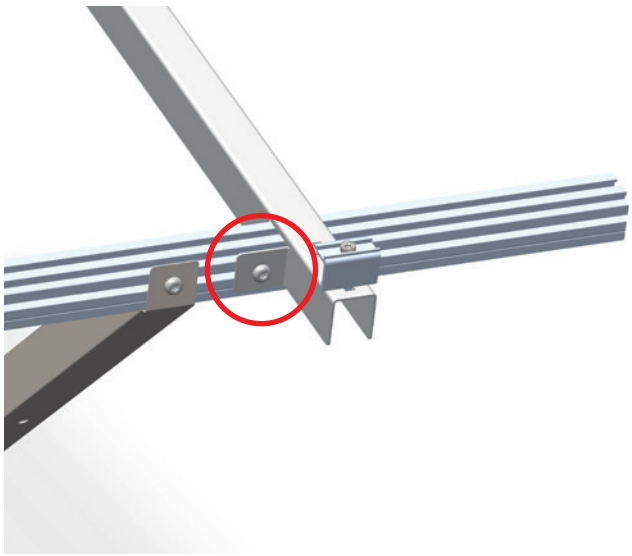
Application

The cross bracing is used for clamping along the long module edge in landscape format on the PV mounting systems Contec.greenlight and Contec.greenlight on top.
It is mounted crosswise onto the profile rail and increases the permissible wind and snow loads according to the module manufacturer's installation instructions.



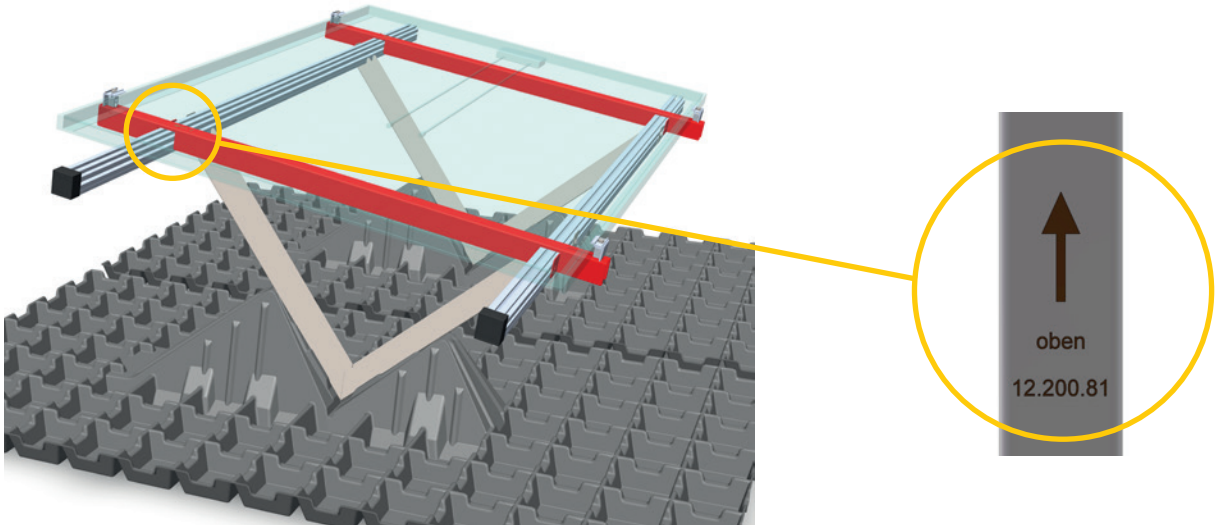
Assembly Information

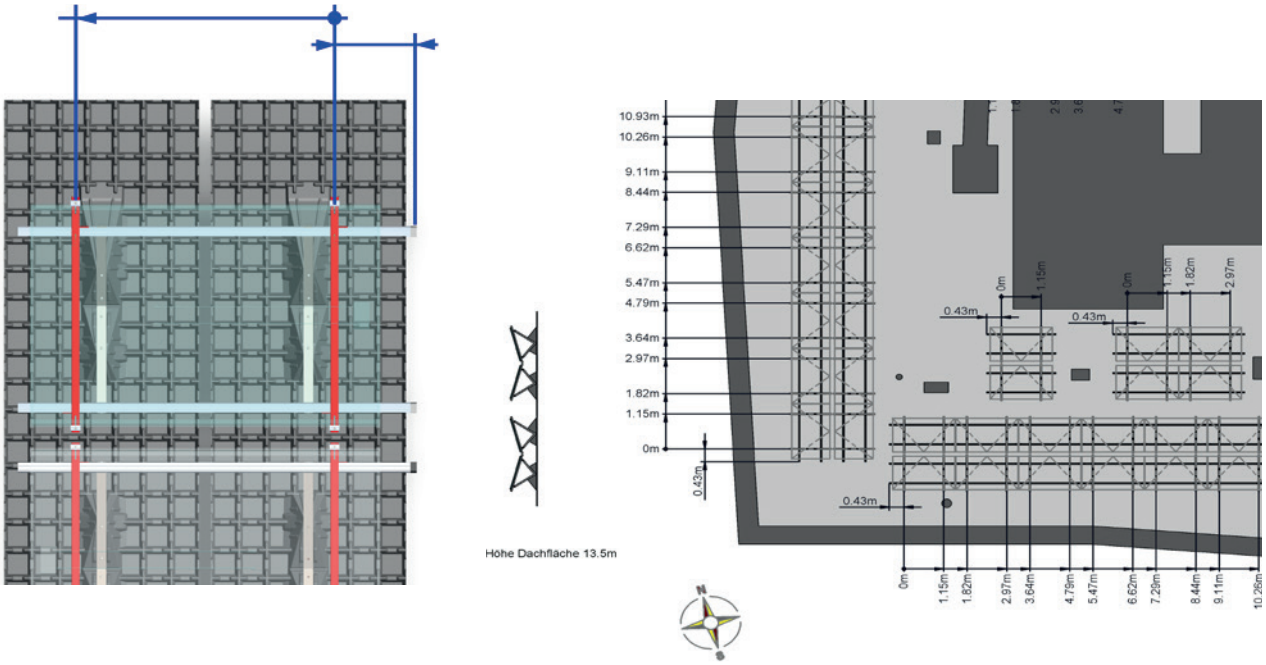




Fixing to the profile rail **(marked in red)**

- 2 × pan head screws M8 × 20 mm, thread-forming (12.410.20)
- Direct fastening through the cross bracing into the profile rail
- No pre-drilling required
- Observe orientation – long side facing upwards





Important Notes for Installation

- The upper side of the cross bracing is longer than the lower one
- The installation direction must follow the marking
- Spacing must comply with the installation plan
- Minimum 2 pcs. and maximum 4 pcs. cross bracing per installation
- The number of cross bracing per module is defined during planning
- Only **Schletter end clamps Rapid 16 30 - 40** and **Rapid 16 40 - 50** are permitted
- The clamping specifications of the module manufacturer must be respected

Required Tools



Cordless screwdriver

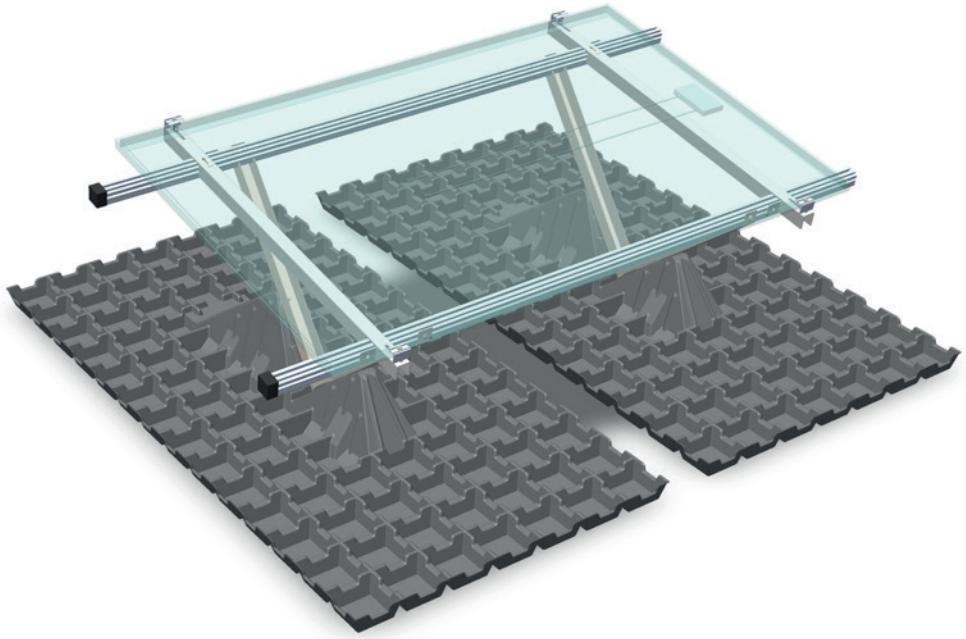


Torx-Bit T40 / 45

Required Materials

Item No.	Description	Min. Quantity per Meodule
12.200.81	Cross bracing standard	2
12.410.20	Pan head screw M8 × 20, thread-forming	4

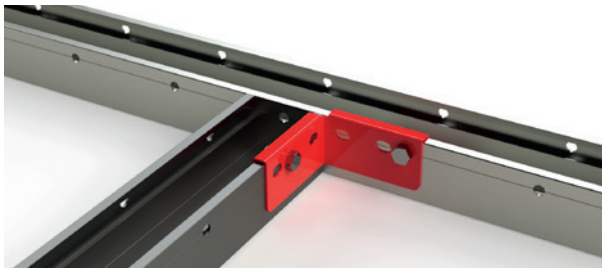
If the number of cross bracings is increased, the other components must be increased accordingly.



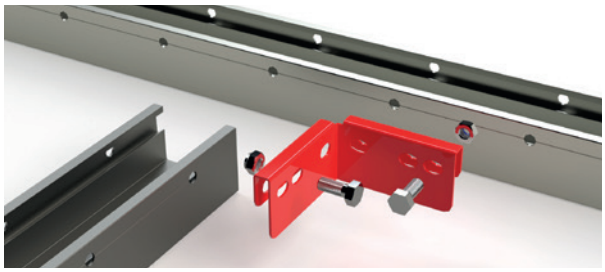
Assembly Cross Connectors

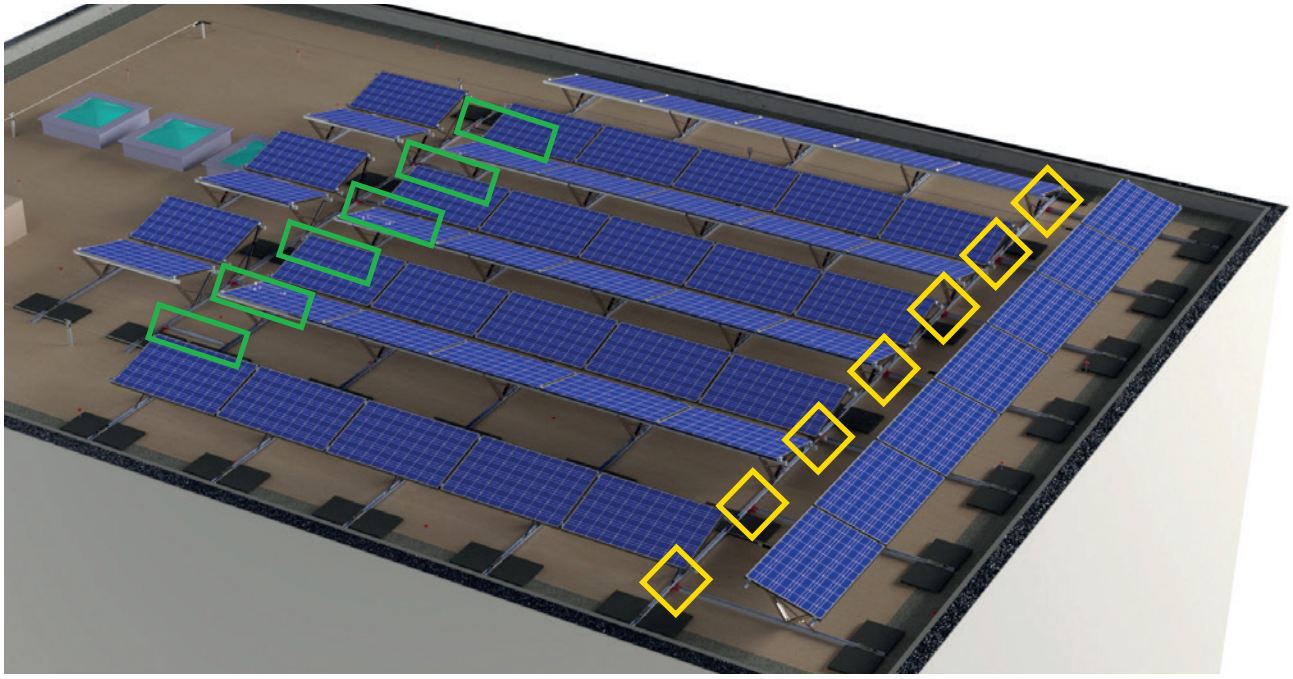
The cross connectors are used to connect individual modules or groups of modules to create a stable interconnected array.

12.100.85 Cross connector set, small
12.111.23 Base rail 3m (1/3 pc.)
12.111.51 Cross connector (2 pcs.)
12.411.20 Hexagon bolt M8 x 20 (4 pcs.)
12.411.35 Lock nut M8 (4 pcs.)

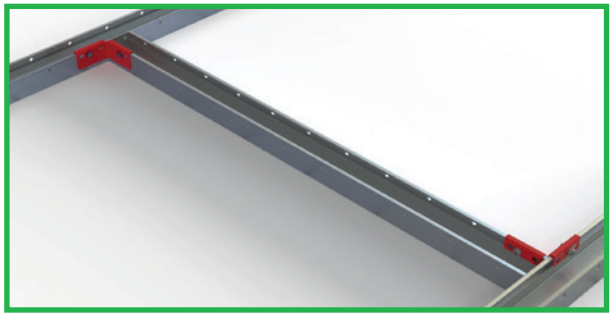


12.100.87 Cross connector set, large
12.111.23 Base rail 3m (1/2 pc.)
12.111.51 Cross connector (2 pcs.)
12.411.20 Hexagon bolt M8 x 20 (4 pcs.)
12.411.35 Lock nut M8 (4 pcs.)

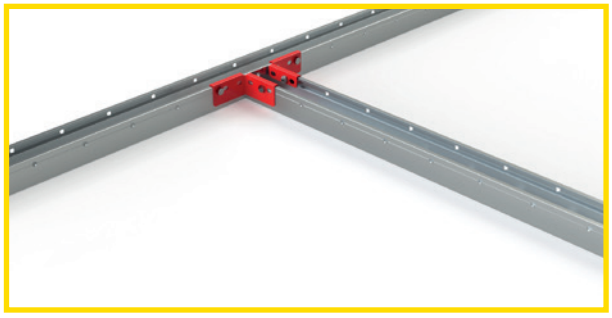




East / West

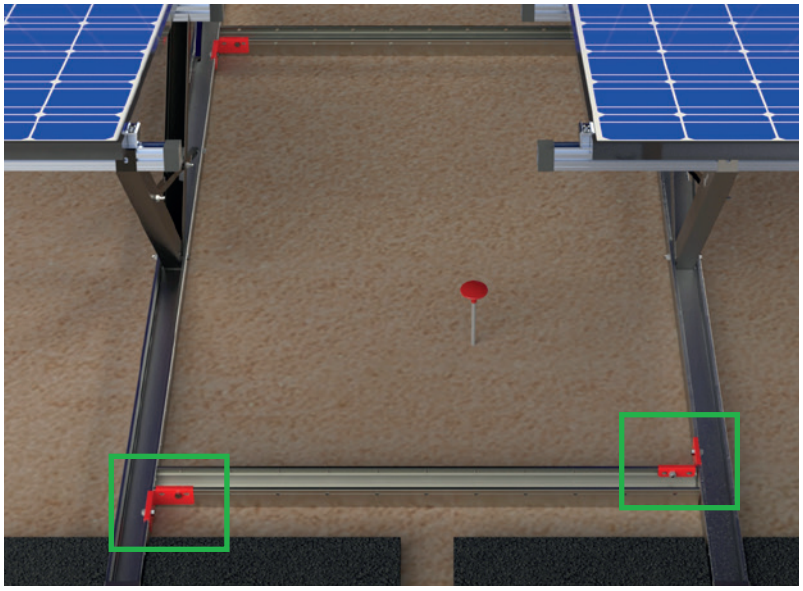


South

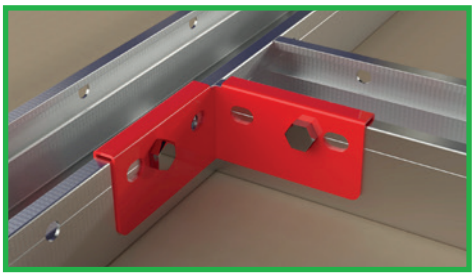


Examples of PV layouts with Contec.greenlight on top – cross connectors

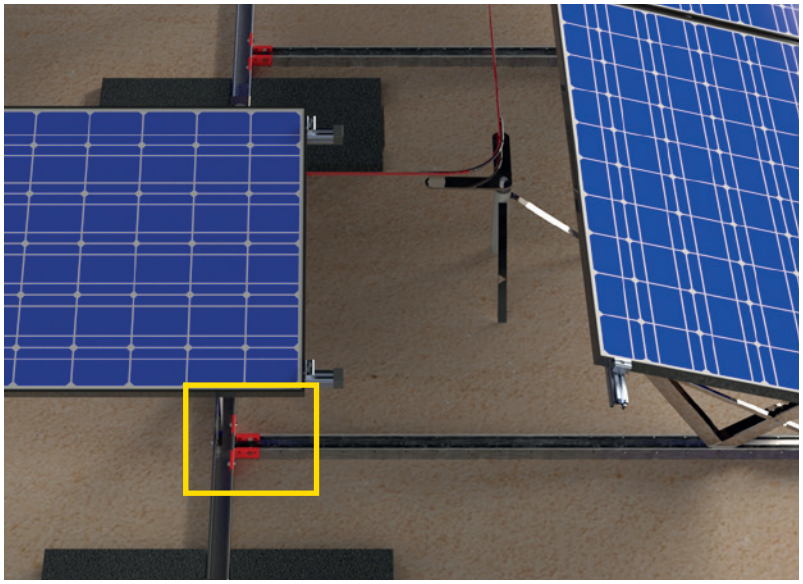
East/West



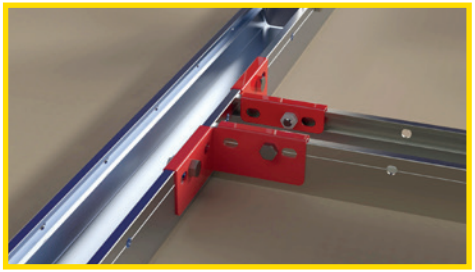
Parallel connection



South



Cross connection



Notes

- The base rails must be cut to the required length on site in accordance with the specifications in the planning documents.
- The positions and spacing of the cross connectors can be found in the Contec layout plan.