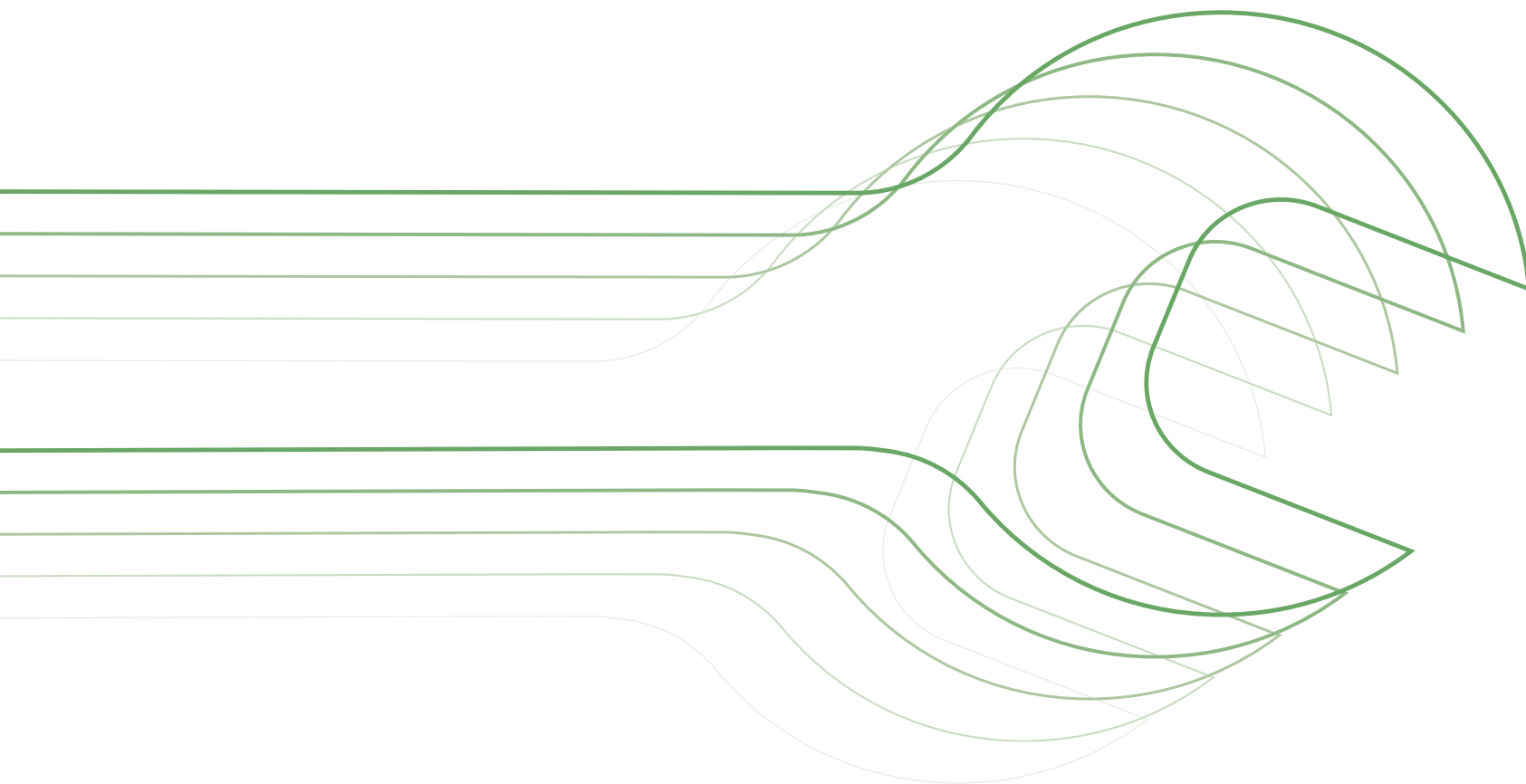


ALUMERO

EN



**SUSTAINABLE
SOLAR
SOLUTIONS**

easyBRACKET
ASSEMBLY MANUAL

Please read the safety instructions at the end of this manual before starting the installation. Make sure you are using the latest version of the assembly manual.

The layout and planning of the mounting system should be done using the **ALUMERO.PRO.TOOL** software. Refer to the required materials, positions, and arrangement of individual components as detailed in the project report provided by ALUMERO.PRO.TOOL or your ALUMERO sales representative. This data has been statically calculated and are essential for the safe and proper functioning of the system.

The installer of the photovoltaic system must ensure before installation begins that the roof substructure provided is designed for the additional loads.

This manual describes the assembly processes for the according ALUMERO system, attachment in open terrain, and the installation of modules.

This ALUMERO mounting system is designed exclusively for mounting PV modules. Any other use is considered inappropriate.

Installation must only be performed by qualified personnel. Roofing work in particular should be carried out by a roofing professional.

For further questions, use ALUMERO's professional and comprehensive consulting service.

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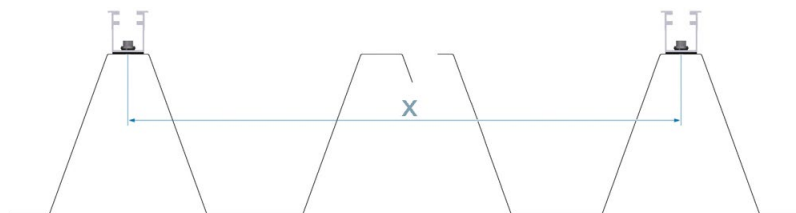
GENERAL INFORMATION

Min. sheet thickness:	Sheet steel min. 0,4 mm Aluminium min. 0,5 mm	
Roof pitch:	5° - 25°	
Trapezoidal sheet high bead:	Minimum width of the high bead 22 mm (25 mm recommended). The height of the high bead is irrelevant.	
Connection:	Thin sheet metal screws	
Max. module field size:	12 m length	
Screw mounting:	M8 (A2-70)	M10(A2-70)
Torque:	15 Nm	30 Nm

38/300



158/250



TOOLS REQUIRED



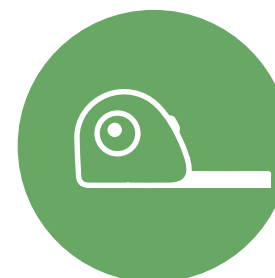
Cordless screwdriver
with bit inserts:
Hexagon SW 13
Allen key SW6 resp. TX45



Bit attachment SW8



Torque spanner



Measuring tape



Impact cord



Spirit level

COMPONENTS

STANDARD



Trapezoidal sheet short rail 2.1 T

L = 100 mm, incl. screws and sealing
Product No.: **802442**



Trapezoidal sheet short rail 2.1 T

L = 150 mm, incl. screws and sealing
Product No.: **802443**



Middle clamp Click 2.1

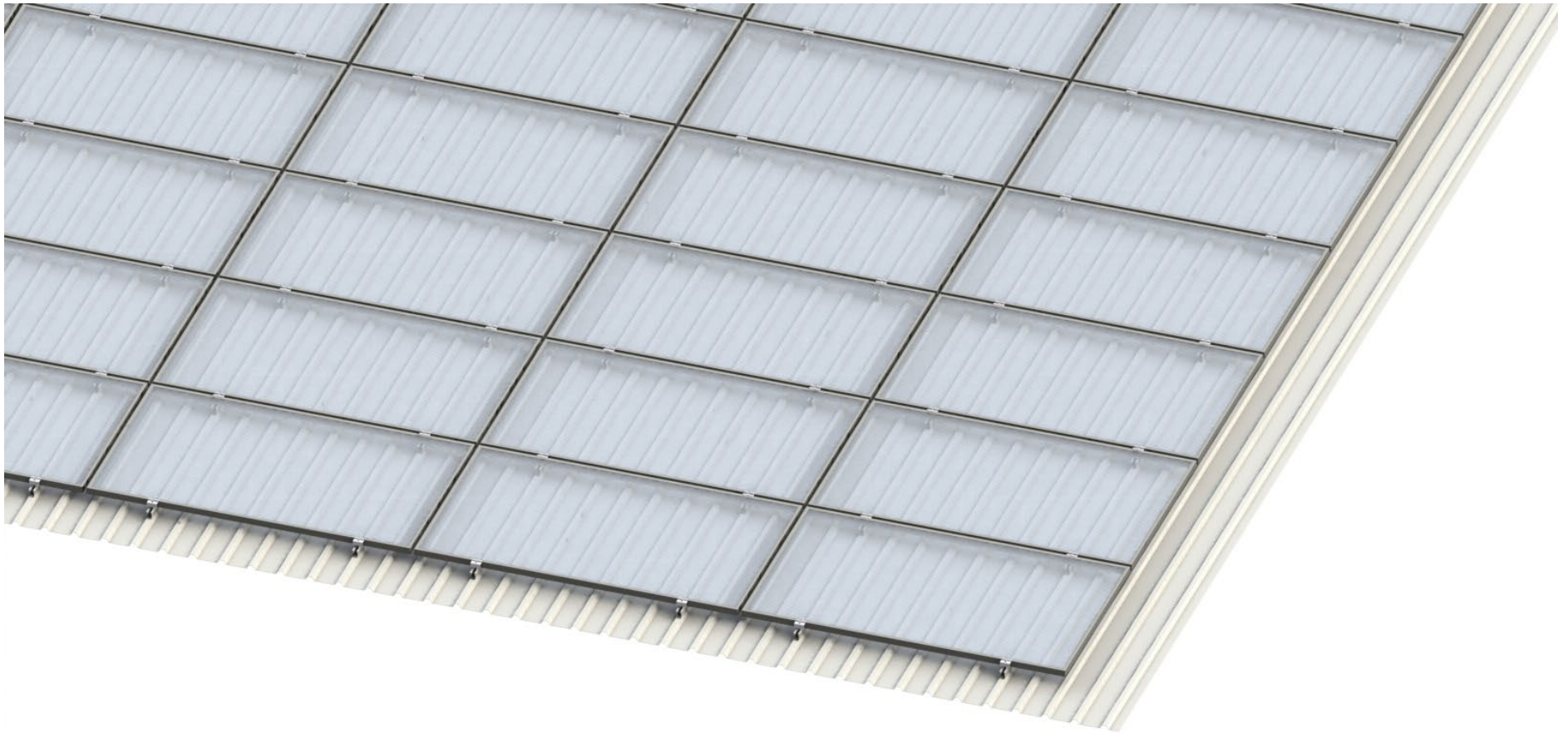
Product No.:
Sheer: **802301C P1 30-45**
Black: **802391C P1 30-45**



End clamp Click

Product No.:
Sheer: **802304C P1 30-42**
Black: **802304C P1 30-42**

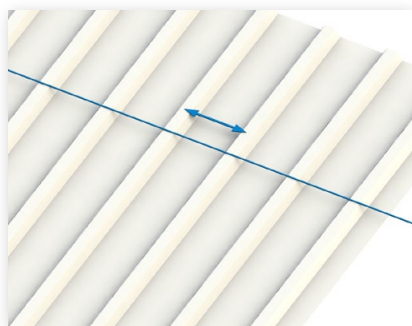
SUPERSTRUCTURE WITH TRAPEZOIDAL SHEET METAL SHORT RAILS HORIZONTAL MODULE ALIGNMENT



INSTALLATION

1 Measure and mark positions

Measure the positions of the trapezoidal sheet metal short rails on the roof according to the Solar.Pro.Tool project report and mark them using a chalk line. Measure the distance between the raised beads and position the trapezoidal sheet metal short rails.



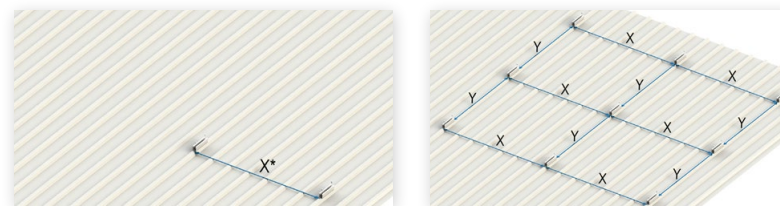
2 Installing the trapezoidal sheet metal short rails

Screw the trapezoidal sheet metal short rail with 2 thin sheet metal screws parallel to the centre of a raised bead. Ensure that the EPDM seal under the short rail and the sealing discs of the thin sheet metal screws are not compressed by more than 50 %. The distance between the thin sheet metal screws and the bead edge should be at least 8 mm.



Place the next short rails on the subsequent raised beads so that the **distance X** is maintained. The **distance X** depends on the distance between the raised beads and the module length.

The **distance Y** depends on the module width + clamping width (20 mm) + minimum distance to the end of the respective short rail (20 mm).

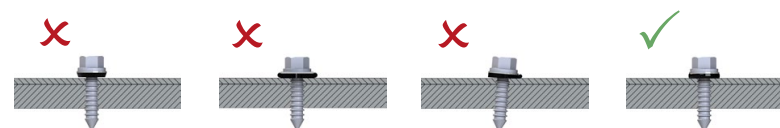


Please note: Please refer to the installation instructions for the modules used for the clamping ranges and the resulting loads.

Note on the thin sheet metal screws

Screw the thin sheet metal screws slowly, in a controlled manner and with a low torque so as not to overtighten the screw or destroy the sheet metal.

Only tighten the screw until the EPDM seal under the rail and the thin sheet metal screws is reduced to approx. 50 % of its original thickness. Further tightening does not increase the strength of the connection, but only the risk of failure.



THERMAL SEPARATION AND MAINTENANCE ROUTES

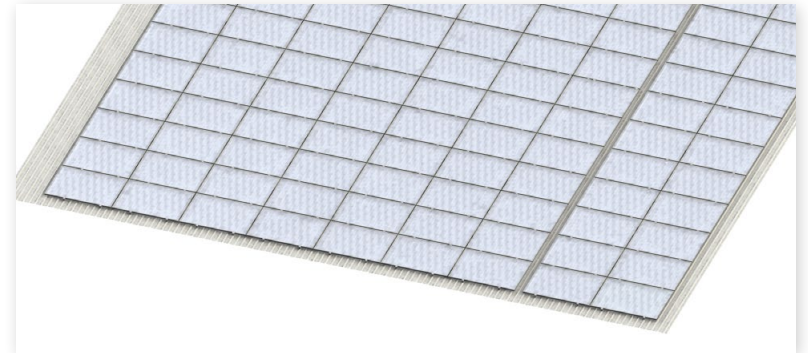
Observe the maximum module field length of 12 m. After this length, the modules must be thermally separated.



The thermal separation, the distance between the short rails after 12 m in the vertical direction, must be at least 20 mm (on the same high bead).



With short rails, thermal breaks are only necessary in the vertical direction. For larger systems, however, make sure that maintenance aisles are also horizontal.



Detail: Maintenance aisle in horizontal direction.

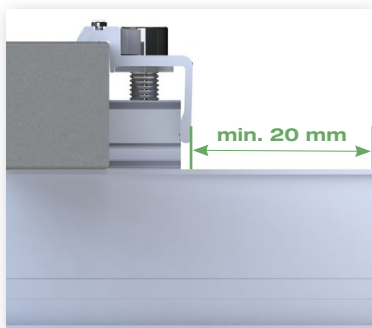
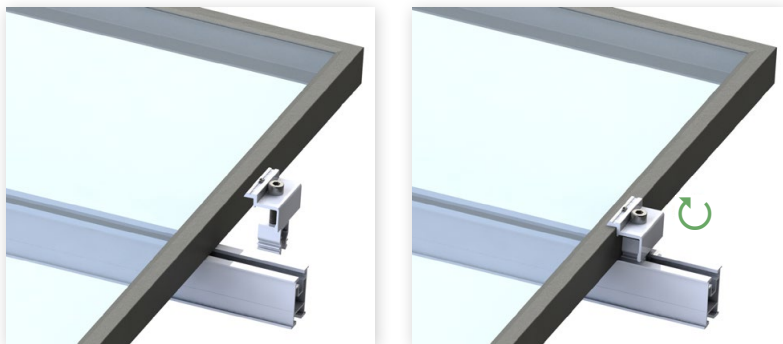


INSTALLING MODULES

1 Installing end clamps

Start with the bottom row of modules. Place the first module on the support profiles and align it.

Click in the Click end clamp at a slight angle and slide it towards the module frame. Tighten the Allen screw to a **torque of 15 Nm**.



Please note:

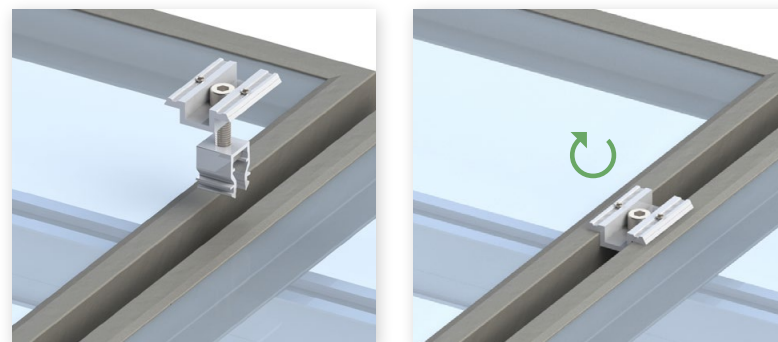
The end clamps must be fitted at least 20 mm from the end of the respective mounting profile.



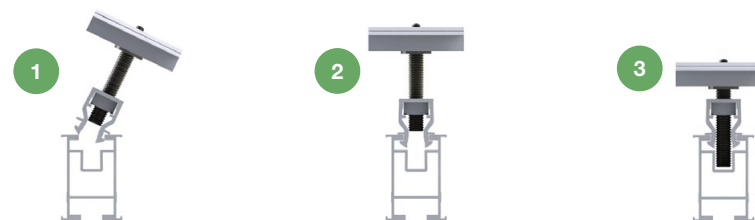
Attention: When using end clamps with threaded plates, attention must be paid to the alignment. The threaded plate must be at right angles to the profile channel.

2 Installing middle clamps

Place the Click centre clamp on the frame of the previous module and click in at a slight angle. Push the module in so that both modules are firmly in place. Tighten the Allen screw with a **torque of 15 Nm**.



Install the last module of each module row with end clamps as described above. Install the remaining module rows in the same way.



Please note:

- + Distance of the clamps to the ends of the trapezoidal sheet metal bridges: **min. 20 mm!**
- + Clamp the modules only in the specified fastening areas! These can be found in the module manufacturer's module data sheet.
- + Distance (horizontal and vertical) between modules: **approx. 20 mm!**

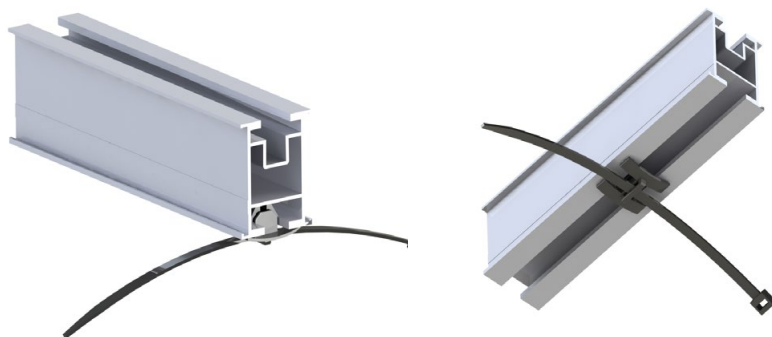
INSTALLING THE MODULE CABLES

1

Module cables should not hang down or rest on the roof covering.

Press the clip attached to the cable tie into a profile channel of the carrier profile. Tie the cable together with the cable tie.

Remove the clip by sliding it out of the profile channel from the side.



POTENTIAL EQUALISATION

The potential equalisation between the individual system components must be carried out in accordance with the respective country-specific regulations. One way of earthing the ALUMERO system is shown below. Cable cross-sections and the overall earthing concept are not included in these instructions and must be calculated or created by the installer in accordance with the applicable standards and guidelines.

Other professional earthing methods than those listed here are also possible.

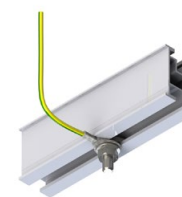
1

Grounding the carrier profile rows

Insert a wire clamp into the lower profile channel of the support profile in each row of carrier profiles. Insert the aluminium wire into the wire clamp and secure it by tightening the screw. Connect all rows of modules together in this way.



Fastening the aluminium wire
using a wire clamp



Fastening the earthing wire
using a hammer-head screw

2

Grounding the modules

Whether the modules must be earthed is specified by the module manufacturer in the respective module data sheet. If so, the potential equalisation of the modules can be created in the following way recommended by ALUMERO.

To integrate the modules into the potential equalisation, you can use ALUMERO end and centre terminals with pins. The pins are located in the terminals, pierce the anodised layer of the module frames and thus connect all module rows with each other.



Click end clamp with pin



Click centre clamp with pin



All product illustrations contained in these installation instructions are for illustrative purposes only and are not true to scale. Changes and errors excepted!

Finished!

PLEASE NOTE THE FOLLOWING ADDITIONAL DOCUMENTS!

The following documents are required in addition to the installation instructions and for correct installation of the system:

- + Project report from ALUMERO.PRO.TOOL
- + Planning documents and drawings
- + The generally applicable document "Installation instructions" at <https://www.alumerogroup.eu/service> under "General" -> "Other"

Please also inform yourself about the safety regulations of the other system components.

**CONGRATULATIONS,
WELL DONE!**



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