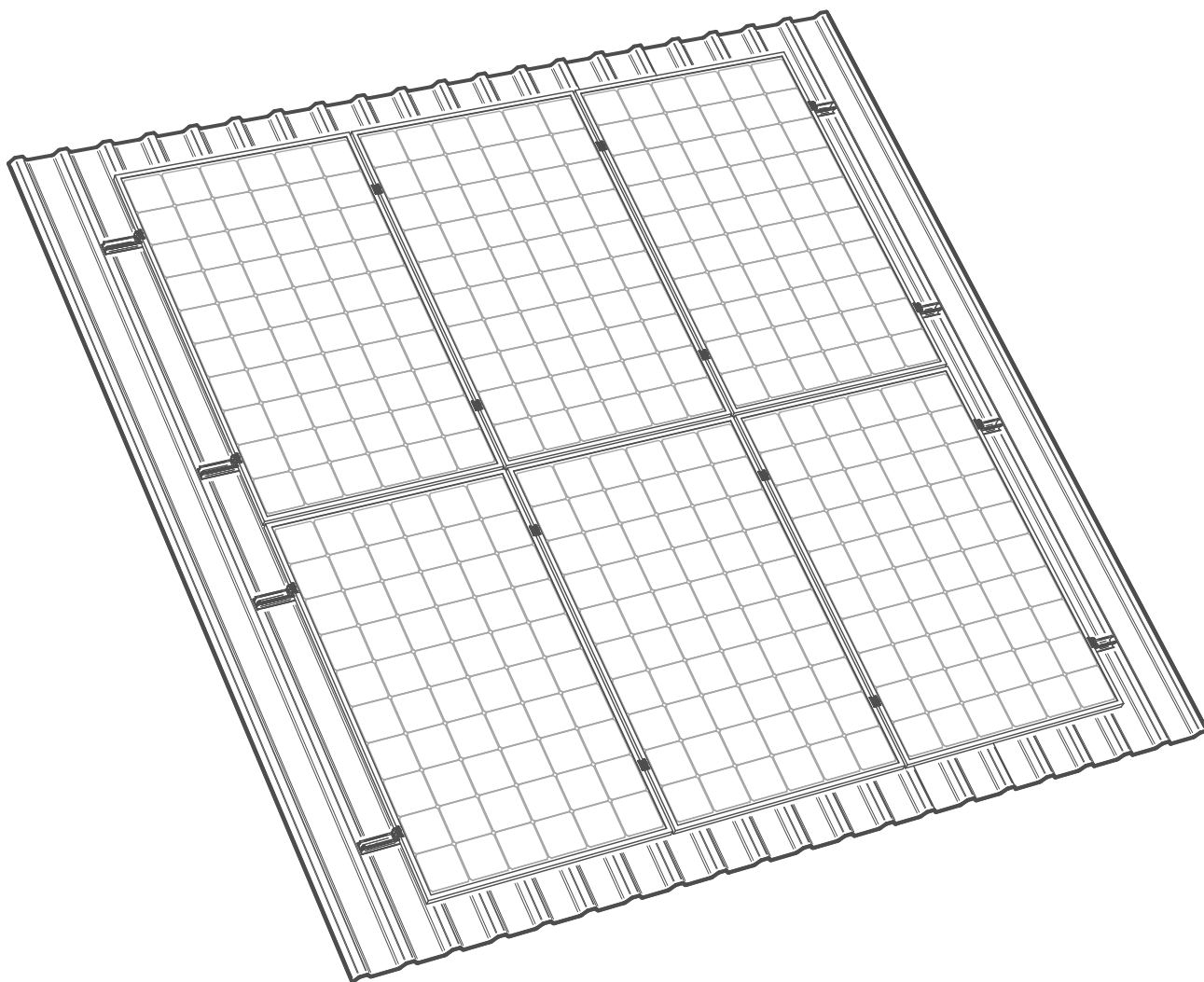


Instruction manual

Trapezoidal roof

Portrait



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Version: 2026A

EN

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Made in Europe

Made in Europe, extensively tested and designed for easier installation.
Made from high-quality aluminium and strong Magnelis steel.

Product application depends on the country and/or environmental factors and the roof type.

More information is available at www.cobalt.solar/downloads

Our general terms and conditions apply.

/ General

This manual describes the installation of the Cobalt Mounting Systems mounting system for pitched tiled roofs. Read the manual carefully and follow all instructions. We continuously improve our products, so product details may differ from this manual. Failure to comply with the requirements in this document may invalidate warranty and product-liability claims.

/ Safety instructions

· Our products may only be installed by qualified personnel. Incorrect installation can damage the system or building and may create a hazard to people.

Risk of falling. Working at height involves a risk of injury from falls. Always comply with the applicable regulations for safe working at height, including the use of prescribed safety equipment and protective clothing. The PV mounting system is not suitable as a climbing aid or fall-protection system.

Health and safety regulations, accident-prevention guidelines and applicable standards must be observed. Use appropriate personal protective equipment.

Keep the work area safe. Pay particular attention to the risk of injury from falling objects and take effective measures to prevent accidents.

Avoid installation in strong winds or on slippery surfaces.

/ General instructions

Ensure that this manual is available on site during installation and after project completion.

Before work begins, have an independent structural engineer verify that the roof has sufficient load-bearing capacity to support the additional weight of the installation over the long term.

Applicable building regulations, building standards and environmental requirements must be observed.

Ensure that the roof remains watertight.

The installation instructions of the roof-tile and module manufacturers must be observed.

All electrical work must be carried out in accordance with the applicable standards and regulations, including requirements concerning induction loops and equipotential bonding.

/ The standard thin sheet metal screws are intended for thin-walled sheet material (up to 1 × 1.5 mm aluminium sheet)

Wind zones, snow loads and required clear zones can be determined using the CoBuilder design software.

The system is designed for use on trapezoidal-sheet roofs with a roof pitch between 10 and 70 degrees.

The system is designed for PV modules with frame thicknesses of 30–45 mm

A thermal break must be provided after a row length of no more than 21 m

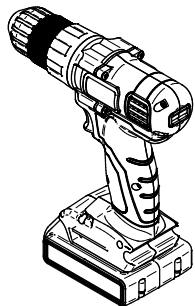
The minimum distance to the roof edge is 300 mm. For structures below 5 m, this distance may be reduced, provided this complies with the applicable regulations.

The minimum distance to the ridge is 300 mm

REQUIRED TOOLS

Our mounting systems are designed for straightforward installation. At minimum, the tools listed below are required and must be provided by the installer.

/ Cordless drill



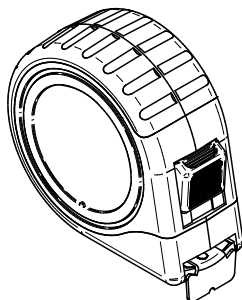
10 mm and 8 mm (socket)

- or - (depending on preference)



T30

/ Measuring tools



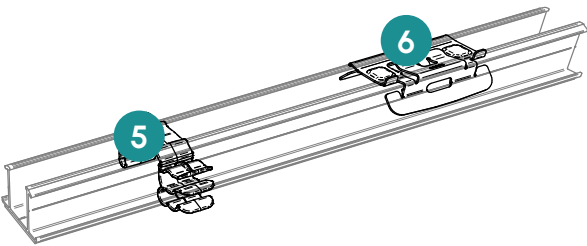
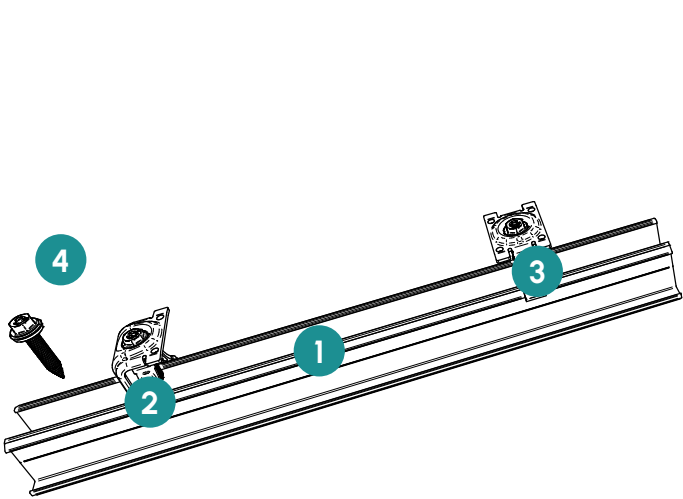
Cobalt - Calculator tool

For planning the module layout, we recommend using CoBuilder. This tool enables you to calculate your project in accordance with the applicable national standards. The tool has been independently reviewed and certified.

More information can be found at:

The calculation tool is available at: <https://www.cobalt.solar/nl/tools/cobuilder>

REQUIRED MATERIALS



Basic products

Trapezoidal mounting		1
4100394	portrait trapezoidal (L=394mm)	
4100230	portrait trapezoidal (L=230mm)	
See page xx, B for the dimensions of the hole pattern.		

End clamps		2
7010030	End clamp 30mm, silver	
7000030	End clamp 30mm, black	
7010035	End clamp 35mm, silver	
7000035	End clamp 35mm, black	
7011000	Universal endclamp, silver	
7001000	Universal endclamp, black	

Middle clamp		5
7110100	Middle clamp (28-50mm), silver	
7100100	Middle clamp (28-50mm), black	

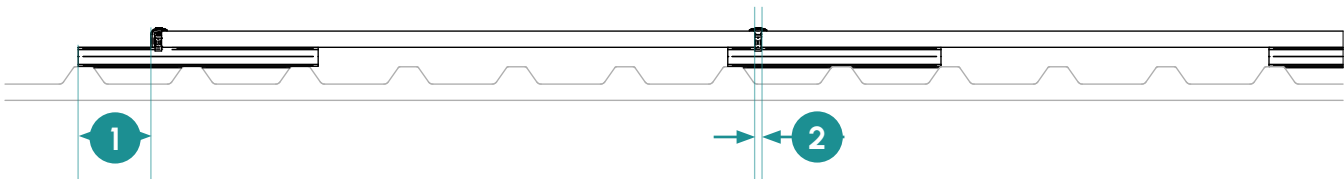
Optional products

Cable clip		+
9003000	Cable clip for mounting rail	

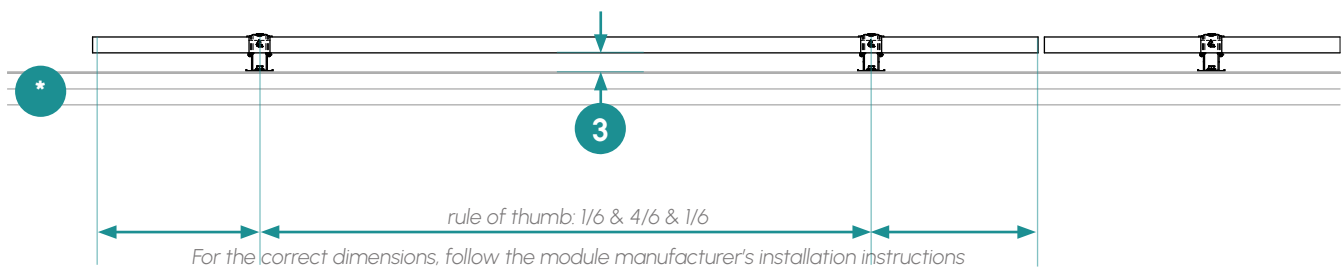
Optimizer clip		+
9105100	Optimizer clip for mounting	

DIMENSIONS

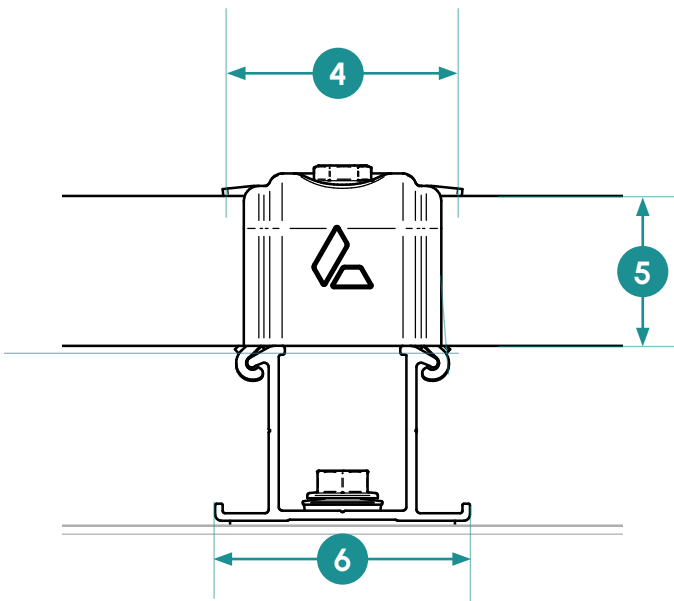
Front view (from the gutter)



Side view



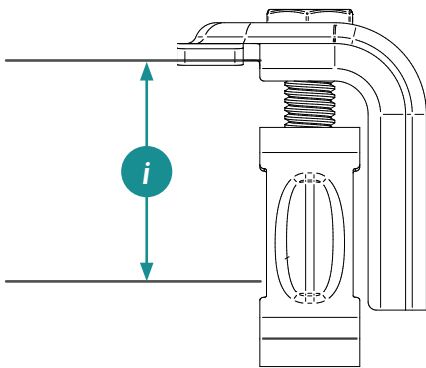
#	Dimension
1	minimum 15 mm
2	12mm
3	36 mm
4	50mm
5	30 - 45 mm
6	51 mm
*	The thin sheet metal screws are supplied as standard with the trapezoidal-roof products. They are intended for thin-walled sheet material (up to 1.5 mm). Contact the helpdesk for advice



End clamps

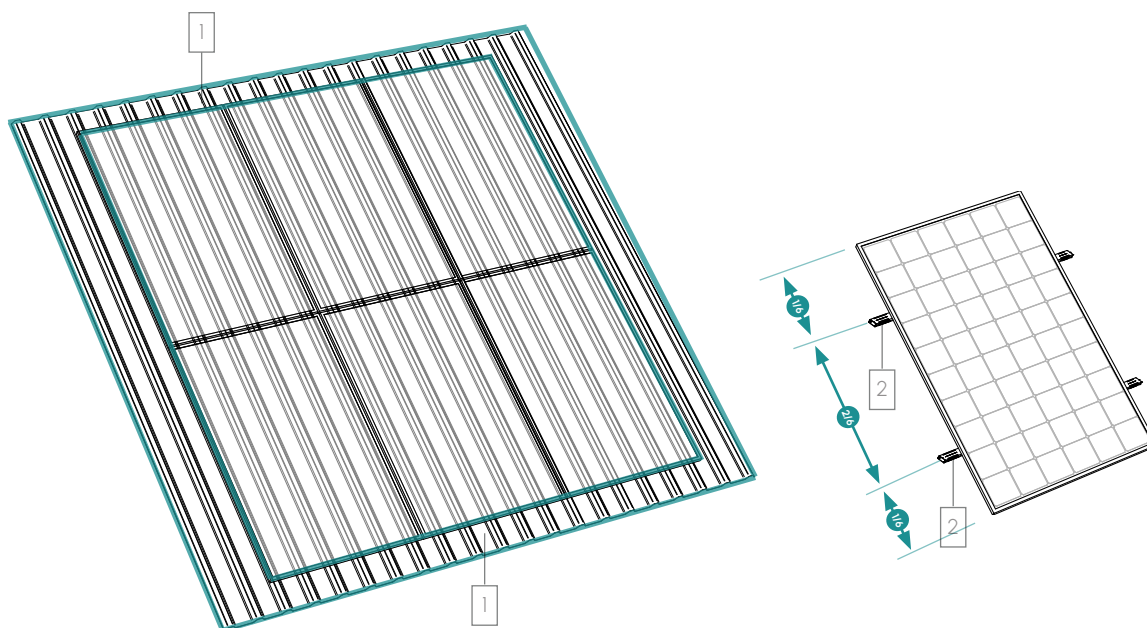
Cobalt offers two end-clamp options: universal and fixed. The universal clamp can be used with any compatible module, while the fixed clamp is intended for a specific module frame height. All variants are available in silver and black.

Type	Frame thicknesses
30 mm	29 - 31 mm
35 mm	34 - 36 mm
Universal	29 - 46 mm



INSTALLATION INSTRUCTIONS

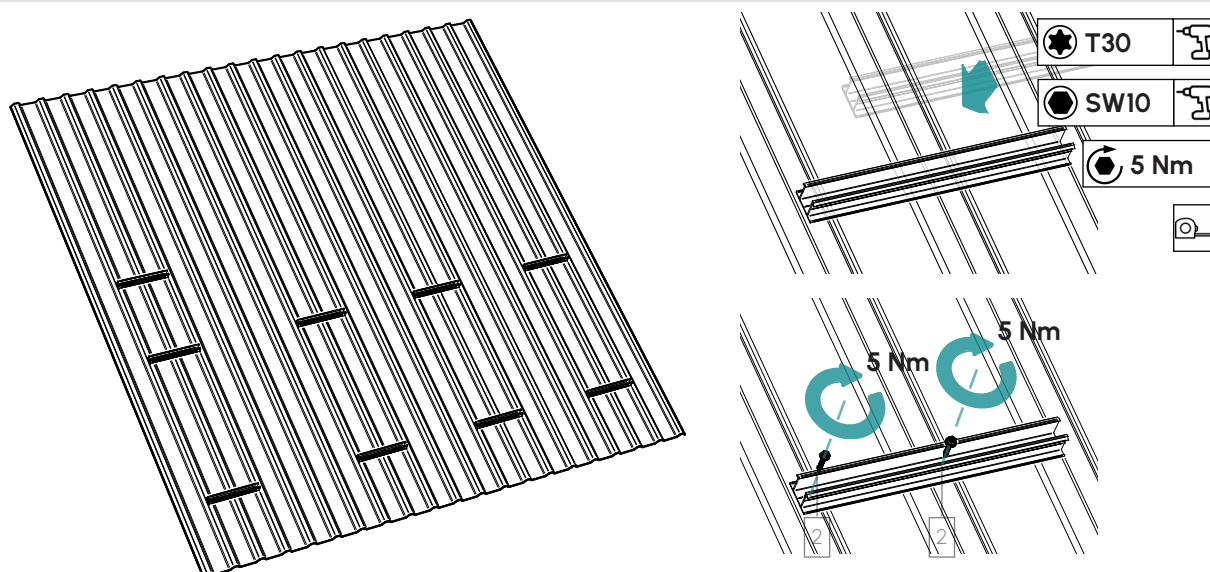
1 Plan the layout



Select a suitable position for the array and keep at least 30 cm (1) clear around the gutter, ridge and facade.

Refer to the PV module manufacturer's instructions for the correct distribution of the clamp positions. (2)

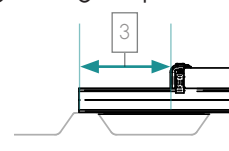
2 Position the trapezoidal mountings



Position the trapezoidal mountings (1) at the selected locations. A support must be installed beneath every clamp, either between modules or at the end of a row. The trapezoidal mounting does not have to be exactly centred under the clamp. Always maintain at least 15 mm clearance (3) between the end of the clamp and the end of the trapezoidal profile.

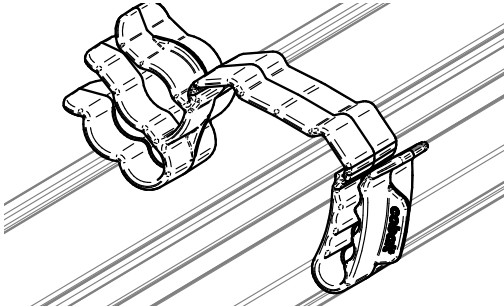
Fasten the trapezoidal mountings with the two thin sheet metal screws (2), using a minimum tightening torque of 5 N.m.

Repeat these steps until all required trapezoidal mountings have been installed. Use CoBuilder to plan the layout: The calculation tool is available at: <https://www.cobalt.solar/nl/tools/cobuilder>

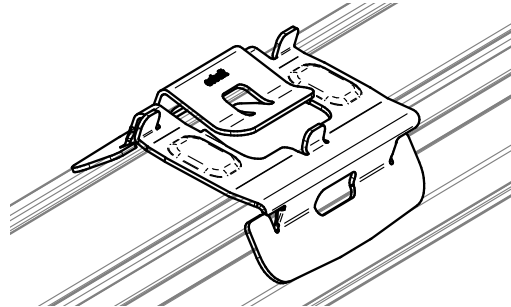


INSTALLATION INSTRUCTIONS

Tip 3 Options

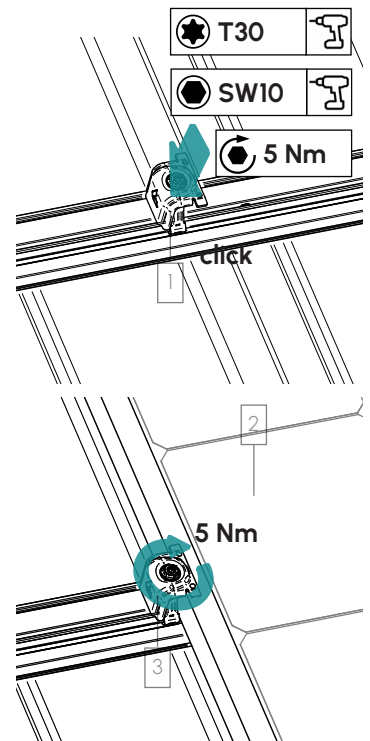
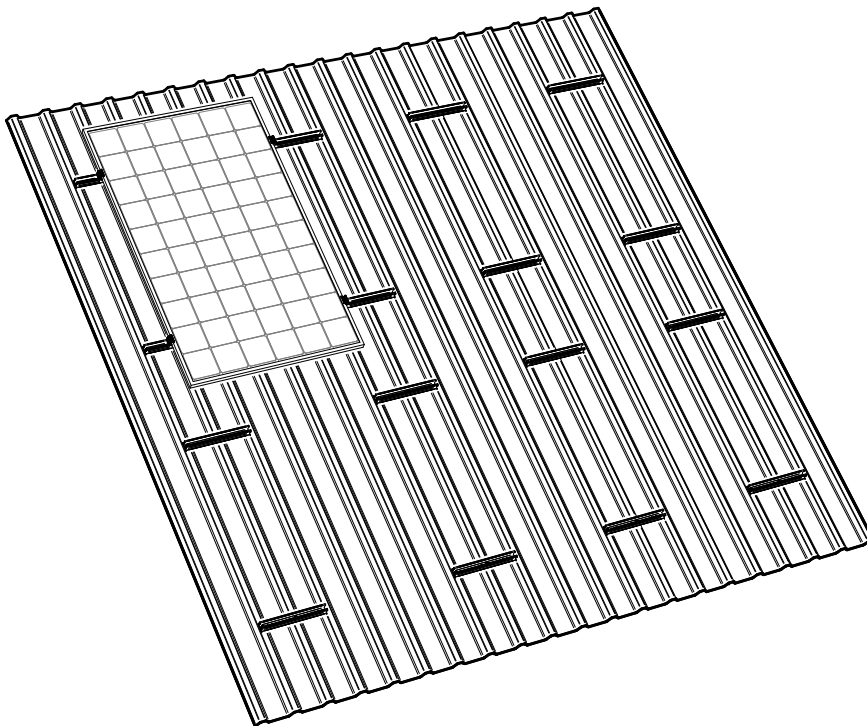


The cable clip allows string cables and MC connectors to be secured neatly and reliably.



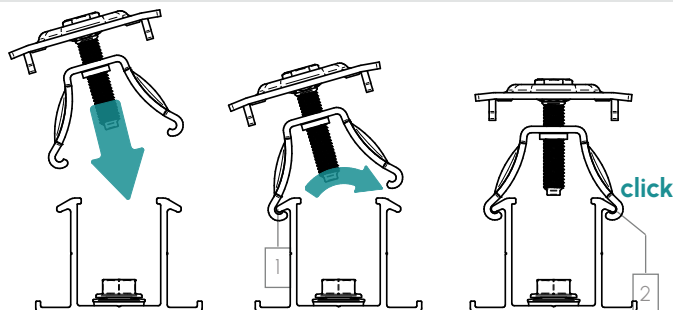
The steel clip can be used to secure an optimiser or micro-inverter.

3 Position the first PV module



Choose whether to work from left to right or vice versa. Install the end clamp (1) on the two relevant trapezoidal mountings. Slide the PV module (2) beneath the clamp (3) and tighten the bolt to 5 Nm. Check that the module is aligned correctly and adjust if necessary.

Tip 4 Clicking the clamps into place

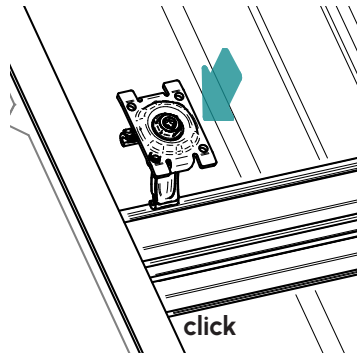
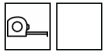
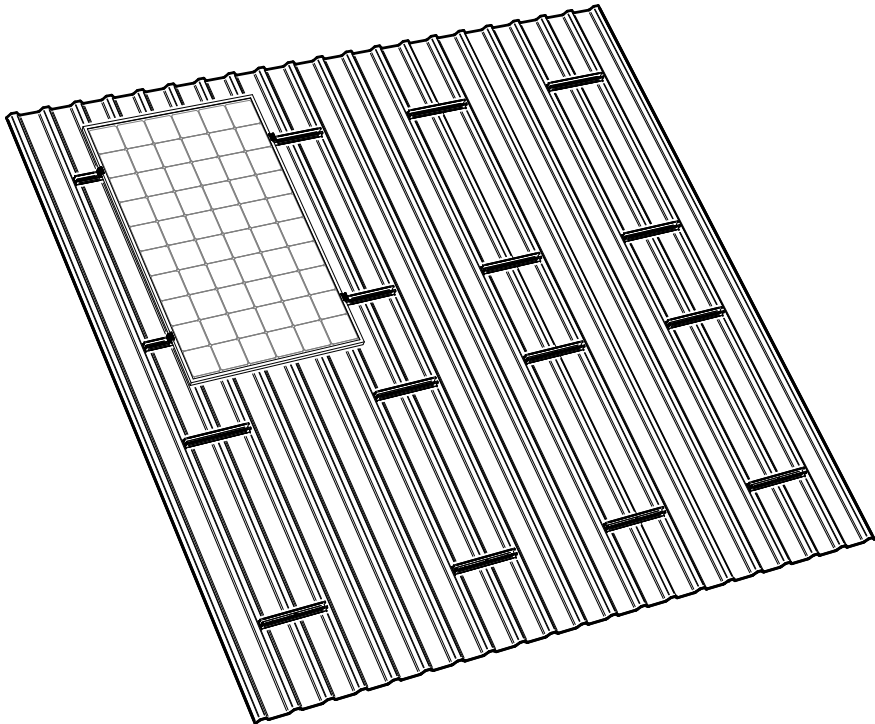


Hook one tab (1) over one edge of the trapezoidal mounting and tilt the clamp until you hear a clear click (2). Check that both sides are correctly engaged and slide the clamp into position.

INSTALLATION INSTRUCTIONS

4

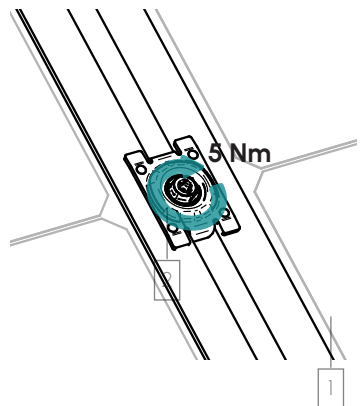
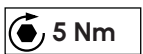
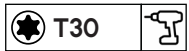
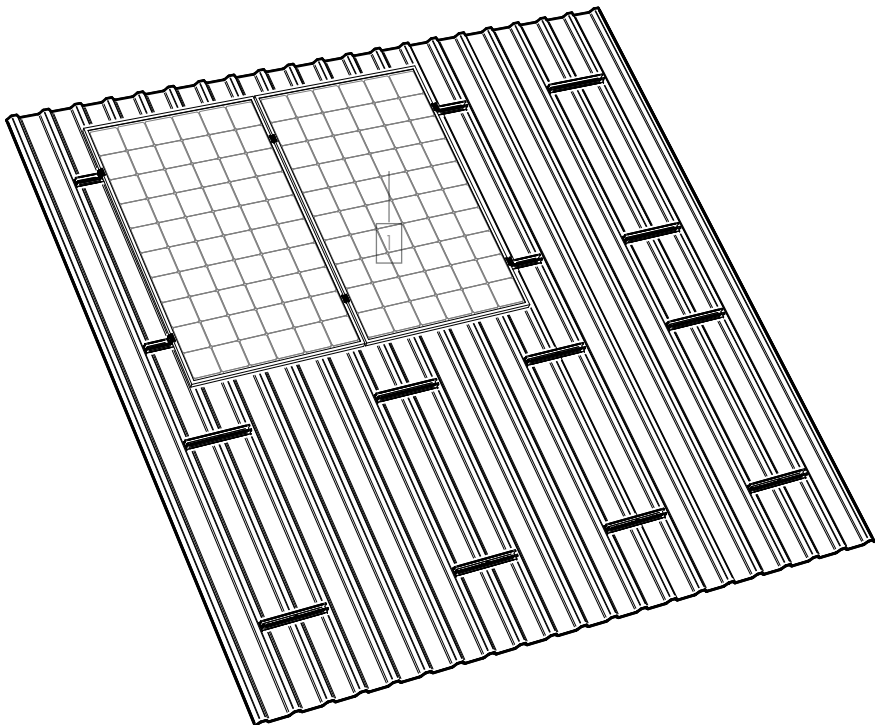
Position middle clamps



Install the middle clamp and slide it firmly against the already installed module. Do not tighten the clamp until the next module has been positioned. Ensure that the module sits firmly against the clamps.

5

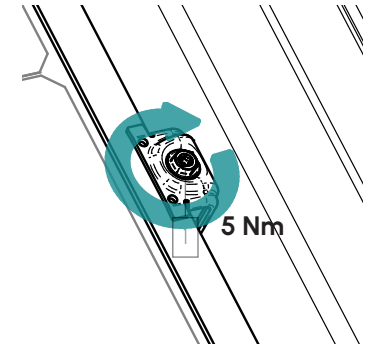
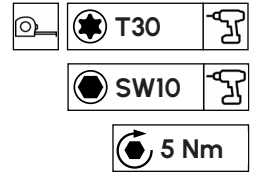
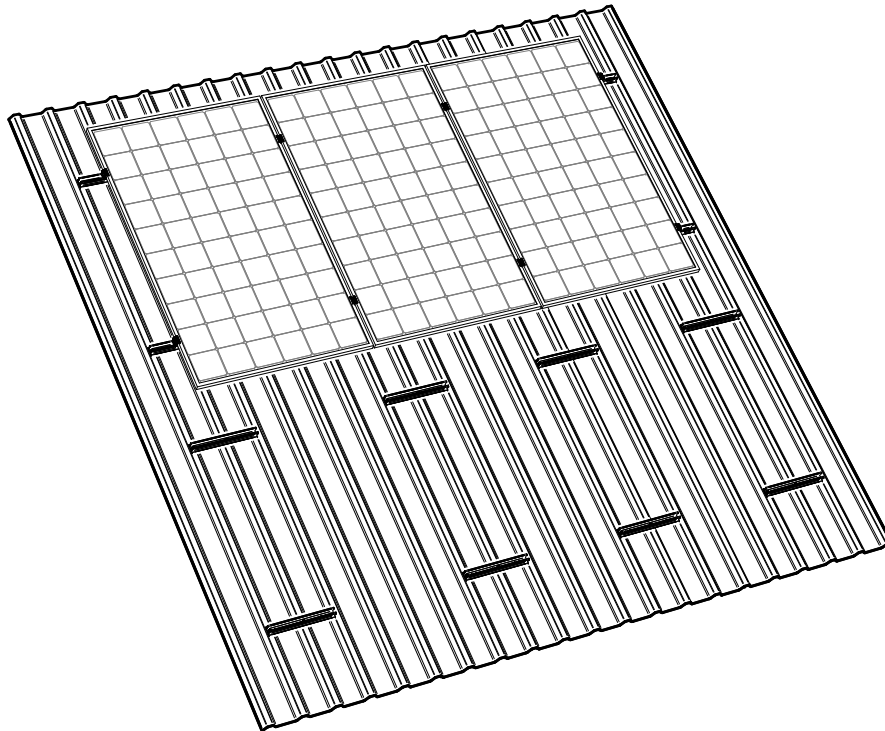
Position the second PV module



Position the next PV module and ensure that it is pressed firmly against the already positioned middle clamp (1). Check that all modules remain aligned and correct their position if necessary. Then tighten the middle-clamp bolt to 5 Nm (2).

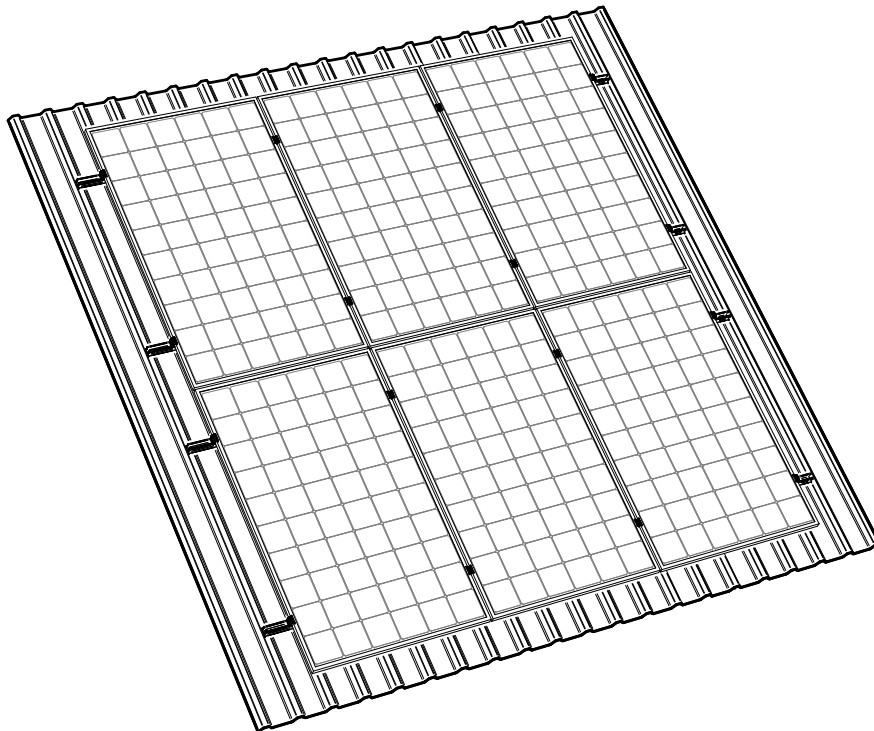
INSTALLATION INSTRUCTIONS

6 Complete the row



Complete the row (repeating step 6) and finish with an end clamp. All bolts must be tightened to 5 Nm (l).

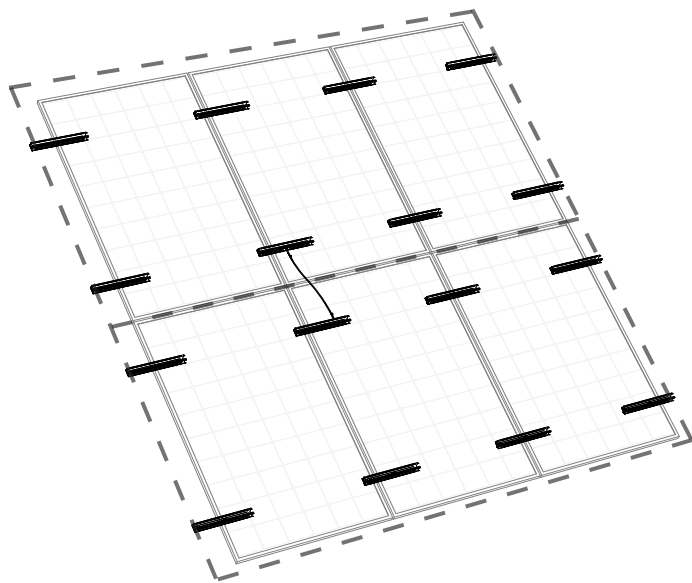
7 Complete the module field



Repeat all steps for each subsequent row of PV modules. Maintaining a 12 mm gap between the modules gives the best result.

INSTALLATION INSTRUCTIONS

AEquipotential bonding

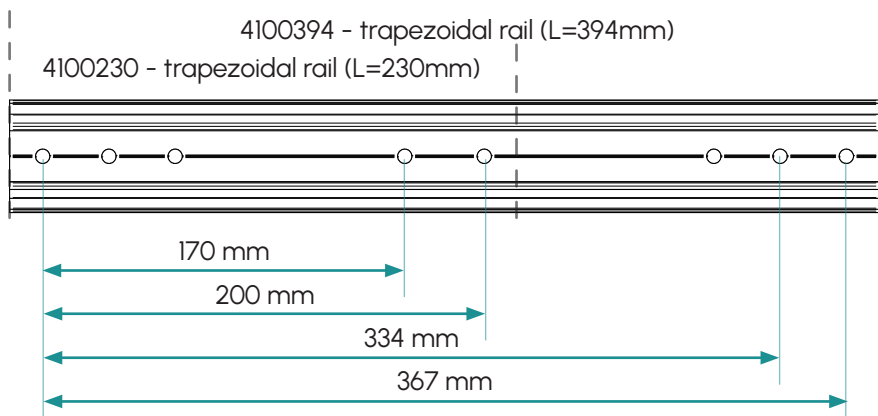


The clamps from Cobalt Mounting Systems feature integrated equipotential bonding, so the modules within the same row are electrically bonded to each other.

The rows can be connected to each other as shown in the accompanying diagram. For bonding between rows and toward the electrical installation, follow the applicable standards.

Refer to NEN 1010 for further instructions or requirements regarding equipotential bonding and grounding.

BHole pattern

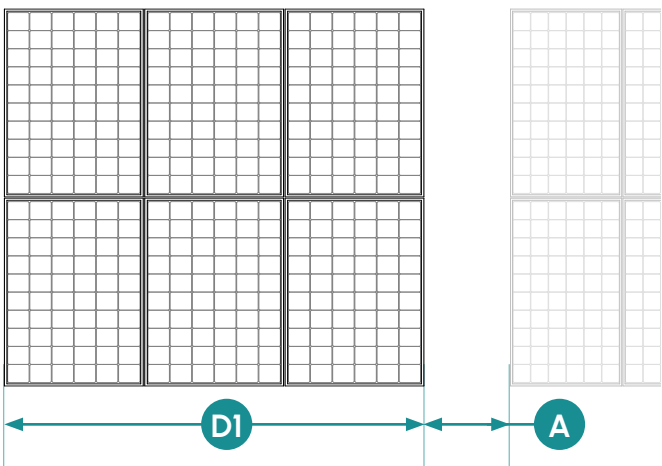


CThermal expansion joints

To prevent damage due to thermal expansion, expansion joints must be incorporated once the array reaches a certain size. As a rule of thumb, the following distances may be used.

D1 = max 21 m (21,000 mm)
A (spacing) = min 150 mm

Tip! Use calculator.cobalt.solar to automatically calculate expansion-joint sections based on the drawn module layout.



GENERAL TERMS AND CONDITIONS

/ General terms and conditions

Our general terms and conditions apply and can be downloaded from our website **www.cobalt.solar**.

/ Versions

Although the greatest possible care is taken in preparing and maintaining this manual, it cannot be guaranteed that all information is current at all times. Cobalt mounting systems are continuously developed and improved, so the installation process may change at any time.

Before installation, check www.cobalt.solar for the latest instructions. We can provide the latest version on request.

/ Rights

No rights may be derived from this manual, in particular rights of reproduction, distribution or translation. No part of these instructions may be reproduced in any form (including printing, photocopying, microfilm or any other method) without the prior written consent of Cobalt Mounting Systems, nor may it be processed, reproduced or distributed by electronic systems.

We reserve the right to make changes resulting from technical developments

/ Certification

Cobalt has its products validated by independent engineering firms. The studies and validation procedures form the basis for the Cobalt calculation tool and the calculations Cobalt performs for installations.

For certificates, visit our website at **www.cobalt.solar/nl/tools/downloads**

/ Eurocode

Cobalt mounting systems are designed, calculated and manufactured in accordance with the Eurocodes and NEN 7250 requirements, their derivatives and local annexes (listed below).

EN-1990 - Basis of structural design
EN 1991-1-3 - Actions on structures (snowload)
EN 1991-1-3 - Actions on structures (windload)
EN 1993-1-1 - Design of steel structures
EN 1993-1-3 - Design of steel structures
NEN 7250 - Solar energy systems - Integration in roofs and facades
EN 1998 - Design of structures for earthquake resistance
EN 1090 - Standards for Execution of steel structures and aluminium structural all parts
BRL9931 - Mounting solar elements on and to buildings

INSTRUCTION MANUAL
TRAPEZOIDAL ROOF
PORTRAIT