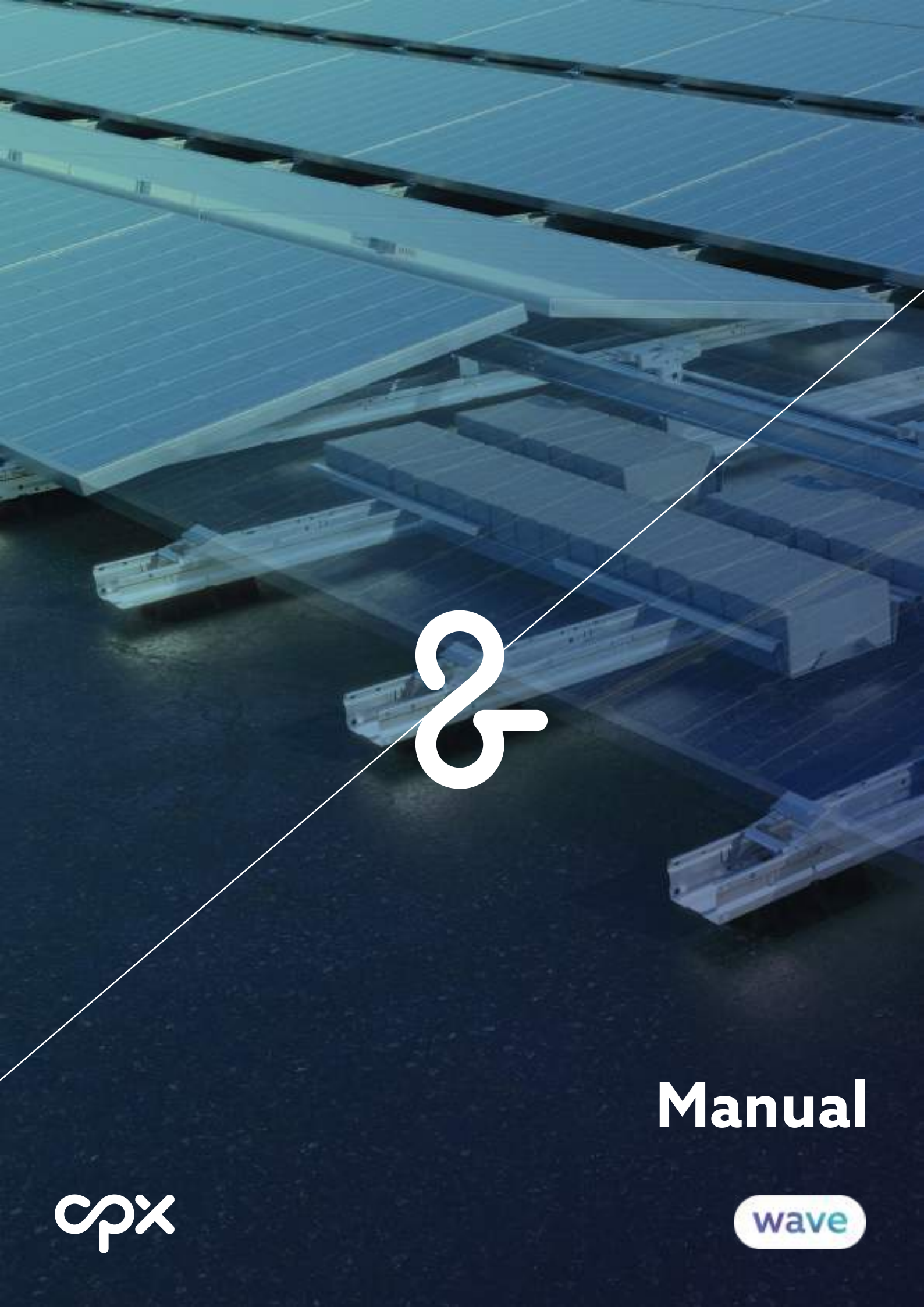


The background of the entire page is a photograph of solar panels and their mounting hardware. The panels are blue and rectangular, arranged in rows. The mounting hardware consists of silver-colored metal rails and brackets. A large, white ampersand (&) is superimposed over the center of the image. A thin white diagonal line runs from the top right corner towards the bottom left, passing through the ampersand.

&

Manual



wave



DISCLAIMER

This assembly manual must be kept in a safe place for future use!

For the duration and conditions of the warranty, we recommend that you contact your supplier. We refer to our General Terms and Conditions of Sale and Delivery, which are available on request. The manufacturer rejects all liability for any damage or injury resulting from failure to follow this assembly manual carefully and observe the usual precautions during transport, assembly and using the Wave assembly system.

GENERAL INSTALLATION CONDITIONS

General

Failure to comply with the instructions in this document may result in the lapse of all warranty and product liability claims. The data, comments and opinions contained in this document are binding and should be checked for completeness and up to date status. CPX reserves the right to change this document without notice.

Stability and condition of the roof

The roof must be in good condition and strong enough to support the weight of the solar panels including additional materials, wind and snow loads. Check the stability of the roof and adjust the roof/structure if necessary, if in doubt, call in a structural engineer. Ensure that the load threshold of the roof is not exceeded, either locally or as a whole.

Safety warnings

- The installation of the Wave assembly system must be carried out as standard by qualified technical personnel (at least 2 skilled persons).
- The addition or omission of parts may adversely affect the operation and is strongly discouraged!
- Before installing the solar panels, the roof must be clean, dry, flat and free of algae, etc.
- Avoid assembly in strong winds and on a wet and slippery roof surface.
- Always work on the roof with fall protection and, if necessary, with safety nets and edge protection.
- Wear shoes with a reinforced tip and firm non-slip soles.
- Always wear suitable protective clothing when performing work.
- When moving the material (solar panels, etc.) always use a hoisting aid/hoisting installation.
- Always place a ladder on a strong, stable surface.
- Always place the ladder at an angle of about 75° and allow it to protrude about 1 metre above the roof edge.
- If possible, secure the ladder at the top with a rope or tension strap.
- Preferably work according to the manual "Safe Working on Roofs".
- **NB:** In the assembly of the standard unit and the start unit, make sure that hands and/or fingers are not trapped in the area of the hinged parts!

Range of application of Wave

- Suitable for all wind zones, terrain categories and building heights,

provided the maximum wind pressure does not exceed the maximum panel specification.

- For roof heights above 20m please contact your supplier.
- Roof material: Concrete, Bitumen, EPDM, PVC, TPO. For other roof coverings, please contact your supplier.
- Roof slope: Up to 5° counts as a flat roof. If your roof slope is > 5°, please contact your supplier.
- Maximum field size: 40 x 40m.
- For panels with a panel width between 990mm and 1070mm the DR1 modules should be used.
- For panels with a panel width between 1070mm and 1150mm the DR2 modules should be used.
- In all cases, the panel frame must meet the specification as shown on the next page.

Due to continuous improvement efforts, the product may differ in detail from what is described in this manual. This means that the instructions given are only intended as a guide for the installation of the product mentioned in this manual.

This manual has been compiled with the greatest possible care, but the manufacturer cannot accept liability for any errors in this manual or their consequences. In addition, all rights are reserved and no part of this manual may be reproduced in any form whatsoever.

Edge area

The distance from the solar panels to the edge of the roof must be approximately 1/5 of the height of the building with a minimum distance of 30 cm, due to the very turbulent wind currents in this area. No solar panels must be installed in this area, either in whole or in part.

The edge area to be maintained is derived from the Wave calculator.

Ballast

If your roof is higher than 20 metres, we recommend that you consult your supplier to help you determine the correct ballast.

Standards, regulations and rules

When installing the assembly system, it is important to follow the assembly manual and related standards to prevent accidents.

In particular, observe the following standards, regulations and rules:

- Buildings Decree 2012 (regulations for the construction, use and demolition of buildings)
- NEN 7250:2014 - Structural aspects of solar energy systems
- EN 1990 - Basis of structural design
- EN 1991-1-3 - General loads - snow load
- EN 1991-1-4 - General loads - wind pressure
- NEN 1010:2015 - Electrical installations for low voltage (HD-IEC 60364)
- EN-IEC 62305 - Lightning protection
- Workplace safety laws and regulations - safe working and working conditions
- NEN 3140 - safe operation of low-voltage installations
- VCA checklist - Safe working on the work floor
- Scaffolding directive & workplace safety A-sheet ladders/scaffolding

Removal and disassembly

Dispose of the product in accordance with local laws and regulations.

At the end of the service life, all materials are recyclable.

The plastic roof supports are attached to the units and the wind deflectors by means of a click system.

Warranty

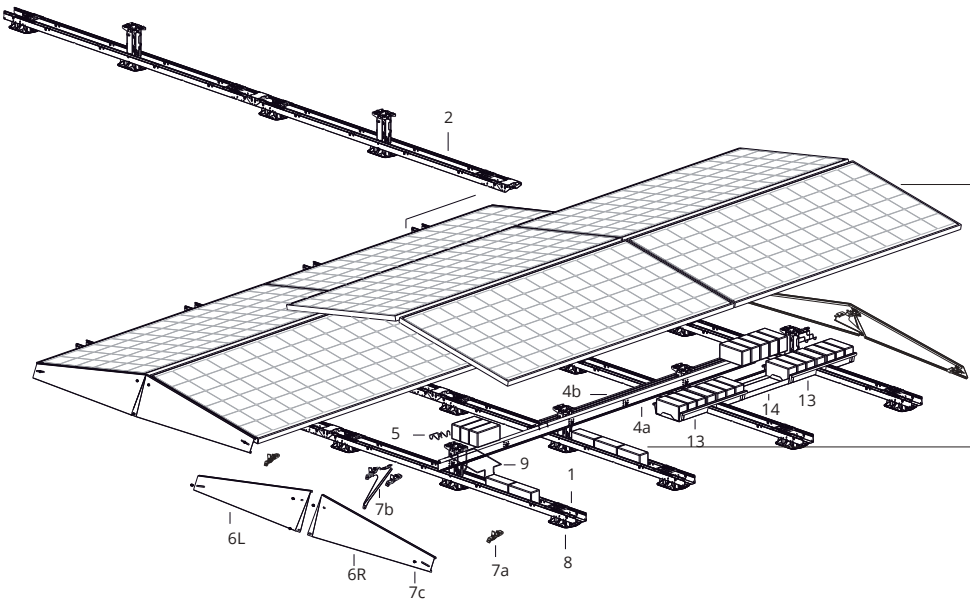
Warranty according to the CPX warranty terms. These can be found on the website www.cpx.eu

Liability

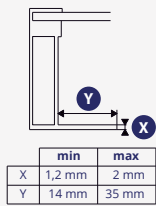
The manufacturer accepts no liability for damage or injury caused by failure to comply (strictly) with the safety guidelines and instructions in this manual, or by negligence during installation of the product and the accessories listed in this document.

- Typing errors reserved

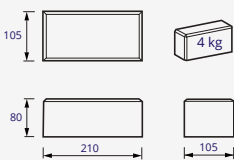
1 BILL OF MATERIALS



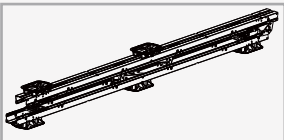
PANEL FRAME



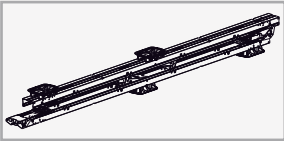
BALLAST



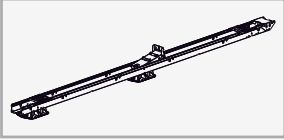
UNITS



1a. Wave Dual Start unit 4P DR1 1009101
1b. Wave Dual Start unit 4P DR2 1009151



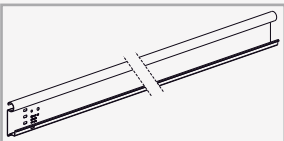
2a. Wave Dual Unit 4P DR1 1009100
2b. Wave Dual Unit 4P DR2 1009150



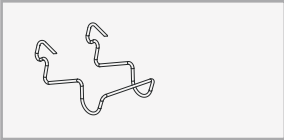
3a. Wave Dual Unit 2P DR1 1009102
3b. Wave Dual Unit 2P DR2 1009152

DR1 (Dual range 1): panel widths 990mm to 1070mm
DR2 (Dual range 2): panel widths 1070mm to 1150mm

STABILIZERS

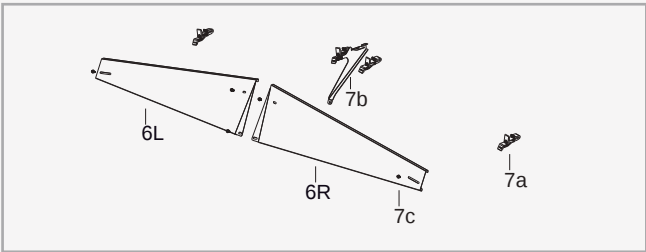


4a. Wave Stabilizer 2900 1009110
4b. FlatFix Wave Stabilizer 3530 1009111
4c. FlatFix Wave Stabilizer 4000 1009114
4d. FlatFix Wave Stabilizer 4350 1009115



5. FlatFix Wave Cable bracket 1009124

WIND DEFLECTORS



6a. Wave Wind deflector Set 990-1070 1009148
6b. Wave Wind deflector Set 1070-1150 1009158
7. Wave Winddeflector Clamp Set 1009153
7a: Side Clamps (3x)
7b: Mid Clamp (1x)
7c: Mounting Screw M6x12 (5x)

ACCESSORIES



8. Wave Roof support 1009120



9. Wave Ballast bracket 1009123



10. Wave Module unlock tool 1009142



11. Wave Measuring bar 2500mm 1009143



12. Wave Spacer Tool 1009144

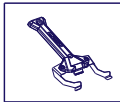
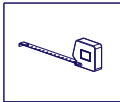
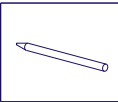


13. Wave Ballast Tray 1009129

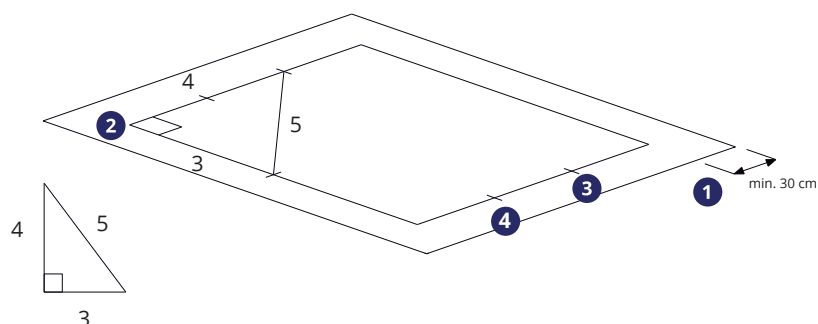
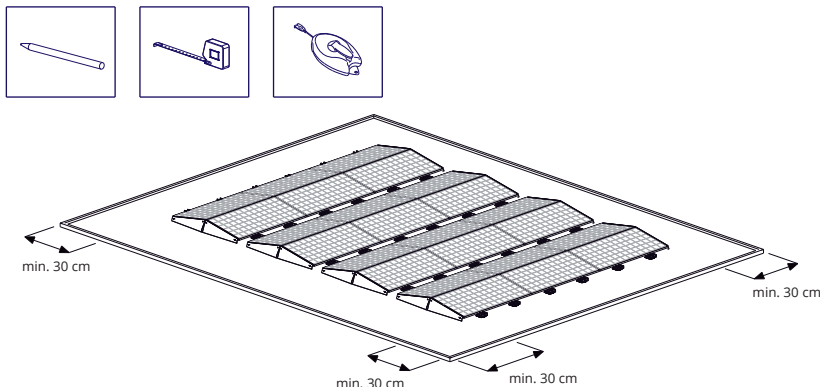


14. Wave Ballast Tray Extender 1009130

TOOLS & EQUIPMENT



2 PREPARATIONS FOR ASSEMBLY



1 PREPARING THE ROOF AND ALIGNING (THE FIELDS)



- ⚠ NB:** Make sure your roof is in good condition! If in doubt, consult your roof specialist.
- ⚠ NB:** Follow the installation drawing and make sure the fields are well coordinated.

2 MEASURING AND MARKING (OF FIELD)

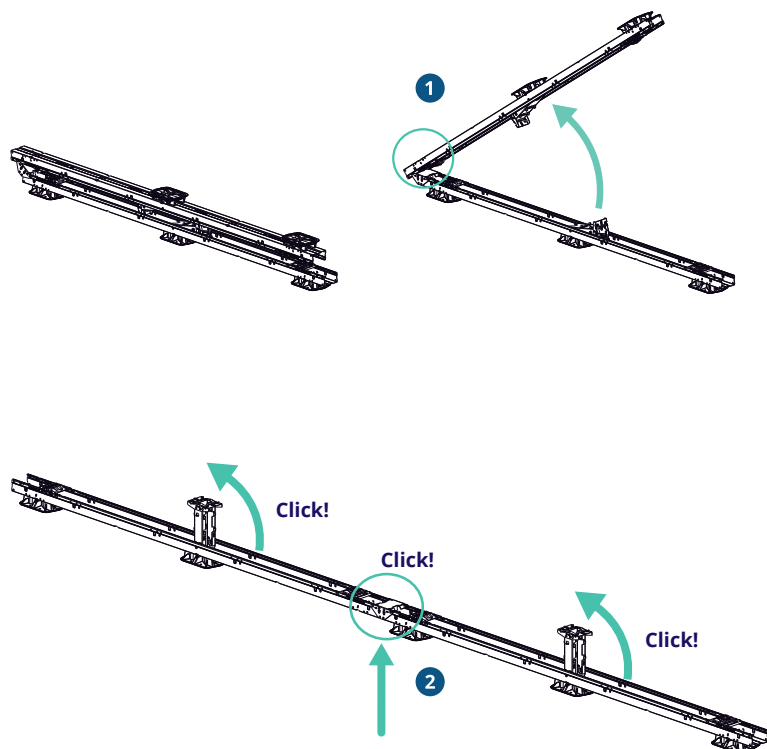
Calculate how much space you need based on the dimensions of your panel.

1. Keep at least 30 cm around the panel field free.
2. Draw field contours at right angles with 3-4-5 rule. Use a chalk or blemish cord for this. Also mark each panel with a short stripe.
3. Mark the panel edges.
4. Mark with chalk the place on the roof where the start units are to be placed.

- ⚠ NB:** The distance from the solar panels to the edge of the roof should be approximately 1/5 of the height of the building. See the installation drawing that is calculated with the CPX calculator for the correct distance.

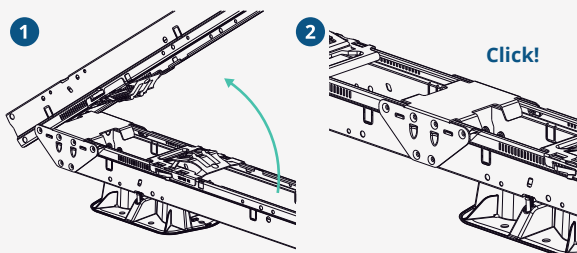
Tip: Check the measurement using the 3-4-5 rule.

3 PLACE DUAL START UNIT



1 PLACE THE DUAL START UNIT DIRECTLY ON THE RIGHT PLACE ON THE ROOF

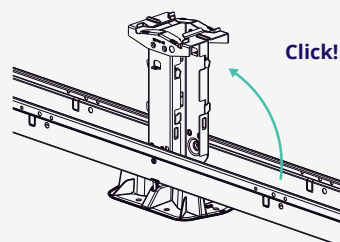
2 UNFOLD THE TOP OF THE DUAL START UNIT UNTIL IT IS COMPLETELY FLAT AND CLICKS INTO PLACE



Tip: Lift the dual start unit slightly at the coupling, by its own weight the unit clicks firmly into place.

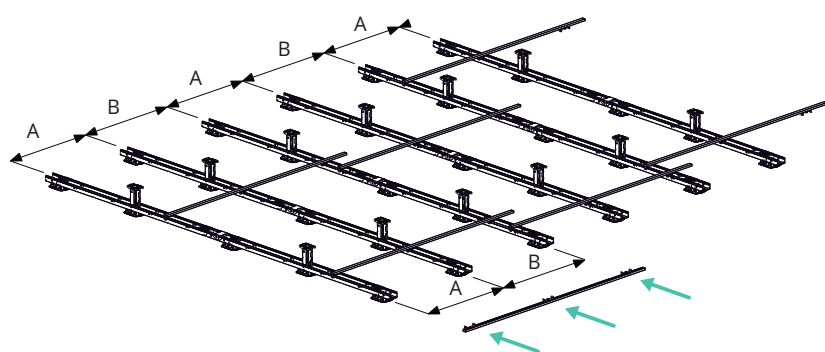
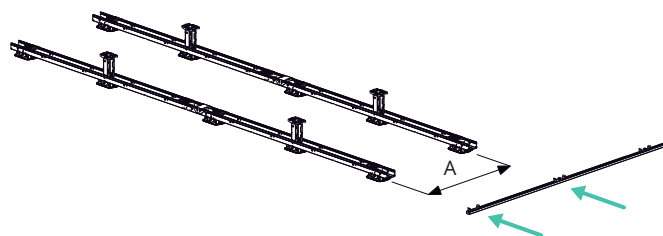
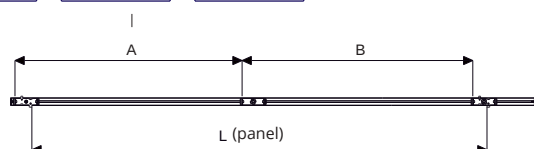
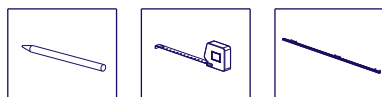
- ⚠ NB:** Make sure that your hands/fingers are not trapped in the area of the hinged parts!

3 PLACE THE HIGH BASE (2x) IN STANDING POSITION SO THAT IT CLICKS



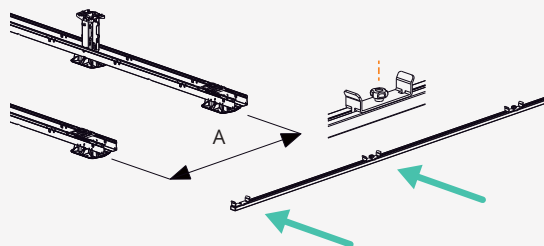
See Annex A for an explanation of how to attach additional roof supports to the unit.

4 POSITONING THE DUAL START UNITS



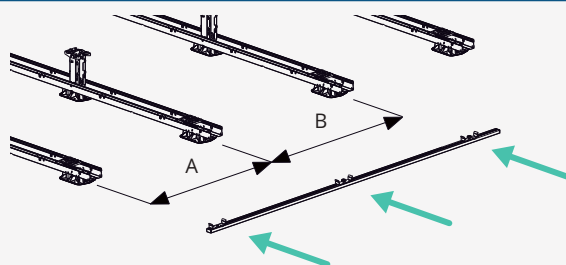
1 POSITION THE 2nd DUAL START UNIT

See Annex B for an explanation of the use of the Measuring bar.

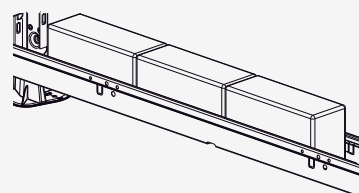


Place the first dual start unit at the edge of the panel field, with a centre-to-centre distance (A). To do this, use the measuring bar at various places on the dual start unit.

2 POSITIONING OF THE OTHER DUAL START UNITS



Make sure that the dual start units are aligned with each other.



Tip: Ballast the aligned units to prevent them from shifting.