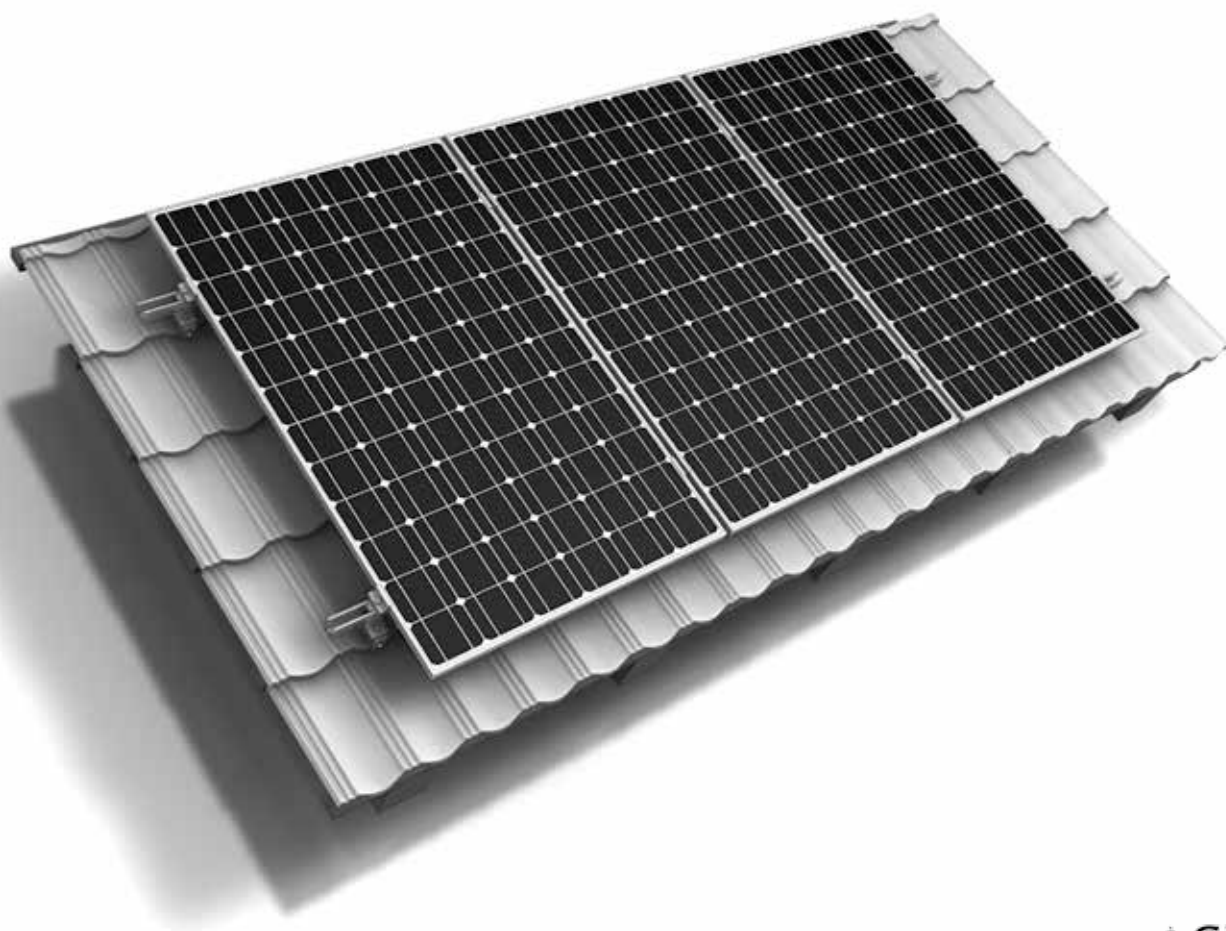


Mounting systems for solar technology



ASSEMBLY INSTRUCTIONS
ROOF FASTENER SYSTEM
CROSSHOOK 2G

GB

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PARTNER WITH A SYSTEM

With sophisticated, fully developed product ideas and obvious customer-orientation, K2 Systems is your friendly partner in the field of mounting systems for solar technology. International customers appreciate the tried and tested designs for use on roofs and in outdoor and individual solutions.

Mounting systems from K2 Systems impress with their attractive design and many well thought-out details. High grade materials and quality workmanship guarantee outstanding functionality and durability.

Our products consist of few yet perfectly matching components - this reduces the amount of material used, simplifies assembly while saving time and money.

As an energetic, experienced company, and in keeping with the times, we benefit from cooperation as partners in order to ensure the dynamic development of our company. The experiences from the personal dialogue with our customers forms the basis for permanent optimisation of our range of products. The team of K2 Systems looks forward to a successful cooperation with you.

TESTED QUALITY – MULTIPLY CERTIFIED

K2 Systems stands for secure connection, highest quality and precision. Our customers and business partners have already known that for a long time. Independent institutes have tested, confirmed and certified our capabilities and components.



GENERAL SAFETY INSTRUCTIONS

Please be aware that our General Assembly Regulations must be adhered to.

They can be viewed under www.k2-systems.com/en/downloads/product-information.html

In general, the following applies:

- Systems may only be installed and put into use by people who can ensure the proper carrying-out of the work due to their technical suitability (e.g. training or occupation) and/or experience.
- Before assembly, it must be checked that the product meets the local static requirements. For roof systems, the load-bearing capacity of the roof has to be checked in principle.
- National and local building regulations, standards and environmental regulations are always to be adhered to.
- Work safety and accident prevention regulations and corresponding standards and regulations of occupational associations are to be adhered to! In particular, it is to be ensured that:
 - Safety clothing is worn (especially safety helmets, work shoes and gloves).
 - For work on roofs, the regulations for working on roofs are to be adhered to (e.g. use of anti-fall guards, scaffolding with arrestor equipment from an eaves height of 3m etc.)
 - Presence of two people is vital for the entire course of the assembly, so that swift help can be ensured in the case of an accident.
- K2 mounting systems are constantly being developed further. Because of this, assembly procedures can change. Therefore, before assembly, always check that the assembly instructions are up-to-date under www.k2-systems.com/en/downloads/product-information.html. We can also send you the latest version on request.
- The assembly instructions of the module manufacturer are to be adhered to.
- The grounding must be prepared on site (if necessary use lightning protection clamp).
- During the entire assembly time it is to be ensured that at least one copy of the assembly instructions is available on site.
- In the event of non-adherence to our General Safety Instructions and if competitor's parts are built in or attached, K2 Systems GmbH reserves the right to refuse liability.
- With disregarding our general installation and assembly instructions and not using all system components and assemblies according to these instructions as well when components are used, which were not obtained from us, K2 Systems is not liable for any resulting defects and damages. Warranty is excluded in such cases.
- If all safety instructions are adhered to and the system is correctly installed, there is a product warranty entitlement of 12 years! In this context we strongly recommend to also read our terms of guarantee which can be viewed under www.k2-systems.com/en/downloads/product-information.html. We can also send them to you on request.
- The dismantling of the system takes place according to the assembly steps, in reverse order.
- K2 components made of stainless steels are available in different corrosion resistance classes. In every case, the expected corrosion exposure of each structure or component must be checked.

ESSENTIAL: THE MATERIALS REQUIRED

All system components listed in the following are essential for assembling the K2 Systems CrossHook 2G system. The piece quantities are calculated on the basis of the respective requirements. The listed item numbers facilitate the comparison of items.



K2 CrossHook 2G

| 2000636

30mm adjustability of the bracket
Material: Aluminium EN AW-6063 T66



K2 Self-drilling wood screw, stainless steel

| Article number system-specific

Material: Stainless steel, TX 25 to M6, TX 40 to M8
Alternatively with above-rafter insulation: K2 Self-drilling wood screw, stainless steel with countersunk head



Self-drilling screw sheet metal EJOT 4,9x35

| 2001620

Material: stainless steel, TX 25, Ejot



K2 Climber 36/48 (with long borehole)

| 1002286

Material: Aluminium EN AW-6063 T66



K2 Allen Bolt

| 1000190

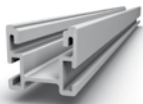
M8 DIN 912
Material: Stainless steel, drive: SW 6 mm



Washer DIN EN 10151

| 1000473

Material: stainless steel A2



Mounting rail K2 CrossRail 36

| Article number system-specific

Material: Aluminium EN AW-6063 T66

Alternatively: Mounting rail CrossRail 48

| 1001980



Rail connector Set K2 CrossRail 36

| 1002389

Set consists of:

- 1 Rail connector (1002284) EN AW-6063 T66
- 4 T-Bolts M8x20 (1002387) stainless steel A2
- 4 Collar Nuts serrated M8 (1000043), stainless steel A2

Alternatively: Rail connector Set CrossRail 48

| 1002392

ESSENTIAL: MATERIALS REQUIRED



K2 End clamps Set Standard

| Article number
system-specific

Set consists of:

- 1 Modul end clamp, Aluminium plate finish / black
- 1 Allen Bolt M8, WS 6 mm, stainless steel A2
- 1 M K2 (1001643), stainless steel A2 and PA
- 1 Washer S8 (1000473), stainless steel A2
- 1 spring, stainless steel



K2 Middle clamps Standard set

| Article number
system-specific

Set consists of:

- 1 Modul middle clamp, Aluminiumplate finish / black
- 1 Allen Bolt M8, WS 6 mm, stainless steel A2
- 1 M K2 (1001643), stainless steel A2 and PA
- 1 Washer S8 (1000473), stainless steel A2
- 1 spring, stainless steel

Alternatively: K2 Middle Clamp Set XS

| Article number
system-specific

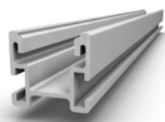


Optional: K2 Pad, plastic underlay plate

| 1002361

Material: glass fibre reinforced PA

ADDITIONAL MATERIAL FOR CROSS BRACING



Mounting rail K2 CrossRail 36

| Article number
system-specific

Material: Aluminium EN AW 6063 T66

Alternatively: Mounting rail K2 CrossRail 48

| 1001980



K2 Climber 36/48 Set

| 1006041

Set consists of:

- 1 Climber 36/48 (1002286), Aluminium EN AW-6063 T66
- 1 Allen bolt M8x25 (1000191), stainless steel A2
- 1 Lock washer S8 (1000473), stainless steel A2
- 1 M K2 slot nut with clip (1001643), stainless steel and PA

AT A GLANCE: OVERVIEW OF THE TOOLS

K2 Systems mounting systems are designed to ensure effortless assembly. Only the tools that are required are not included in the scope of supply. Here we have listed them together for ease of reference.



Torque wrench

WS 4 mm and 6 mm
(WS=wrench size)



Measuring tape



Cordless screwdriver

Mount for TX25, TX40

IN GENERAL:

Please carefully read through all the steps first to ensure safe and correct assembly of the system. The required material is listed for each step.

- The General Installation Instructions must be adhered to. These can be found at: www.k2-systems.com/en/downloads/product-information.html
- In case of above-rafter insulation or counter-battens special spacer screws have to be used to ensure an even load distribution.
- K2 components made from stainless steel are available in different corrosion classes. In any case it has to be checked, which exposure to corrosion is to be expected for the respective building or component.
- The grounding must be prepared on site and carried out in accordance to the respective national regulations.
- Due to thermal expansion we recommend to provide for gaps in the module rows after 20m, however after 24.4m at the maximum. The minimum spacing for these gaps is 3 - 5 cm.
- The roof hook is not a climbing aid. Do NOT climb or step on the roof hooks during the install.

CROSSHOOK2G SYSTEM ASSEMBLY: STEP BY STEP

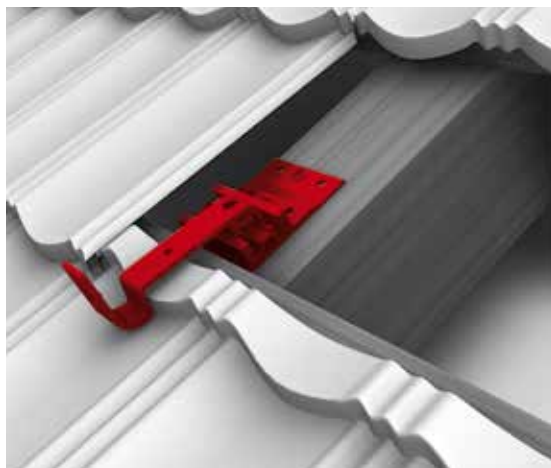


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REMOVE METAL TILE - REMOVE UPPER BRACKET

The rafters, where the roof hooks will be fixed to, have to be uncovered. In case of timber boarding or sarking boards instead of battens the exact position of the rafter has to be determined to ensure proper fixing of the roof hook.

Remove the upper bracket to place the remaining roofhook (base plate and lower bracket) on rafter and adjust the parts that the hook can be fixed. The height under bracket of the hook has to be checked and, if necessary, to be adjusted. The lower bracket position has to be in the valley of the tile.



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FIX AND ALINE REMAINING ROOFHOOK

The roof fastener must be mounted with a minimum of 2 stainless steel timber screws on the wooden rafters (at least one screw per row of holes).

Choosing the dimensions and position of the screws has to be carried out according to the applicable regulations. With a layer of timber boarding or sarking boards it has to be ensured to fix the roof hook through the boards into the rafter.

After adjusting the brackets fasten the Allen bolt.

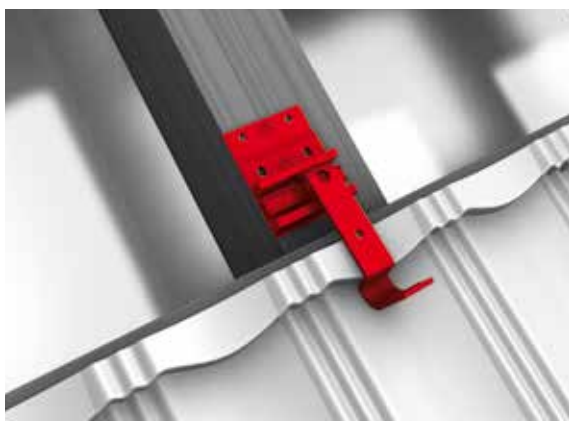
Torque: 16 Nm

In addition, the bracket is fixed to the batten with a selfdrilling screw.

Torque: flush

Required materials: K2 CrossHook 2G, Timber screw





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REMOUNT TILE

Subsequently the previously demounted metal tile goes back in and is ,moulded' to the roof hook with a suitable rubber mallet without damaging the surface of the tile. Afterwards the tile is fixed according to the tile manufacturer's instructions. There is no cut-out of the tile necessary.



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FIX UPPER BRACKET

The upper bracket of the CrossHook 2G is fixed to the lower bracket again with an Allen bolt and serrated nut. The upper bracket is pushed on to the lower end of the metal tile until touching the metal tile.

The assembly instructions of the metal tile manufacturer have to be adhered to.

The upper bracket now has to be levelled, then fixed with the bolt of the upper bracket. The upper edges of all upper roof hook bracket have to be on the same height level.

Torque moment 16 Nm

Required materials: Allen bolt M8, Washer



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FASTEN THE CROSSRAIL

The CrossRail is mounted on to the roof fastener using K2 Climbers. Tightening torque 16 Nm. The upper L-bracket is height adjustable. After adjusting the bracket fasten the allen Bolt with 14Nm.

Due to thermal expansion, we recommend to break the rows after 20 m, however, no further than 24.4 m. The minimum spacing for separation between the two K2 rails is 3 - 5 cm.

Required materials: K2 Climber, M8 screw, CrossRail, Washer

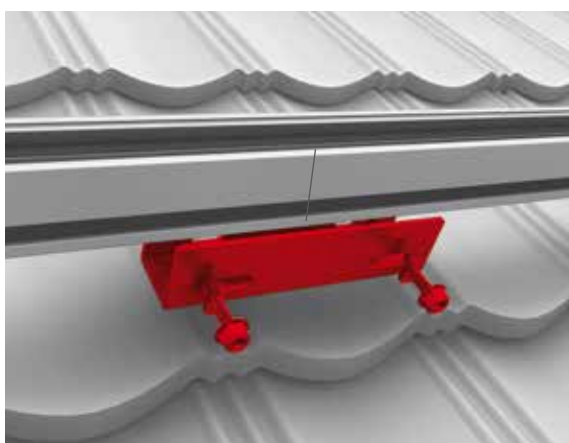


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HEIGHT ADJUSTMENT

Smaller unevenness can be levelled with one or more K2Pad spacer on top of each other

Required materials: K2 Pad



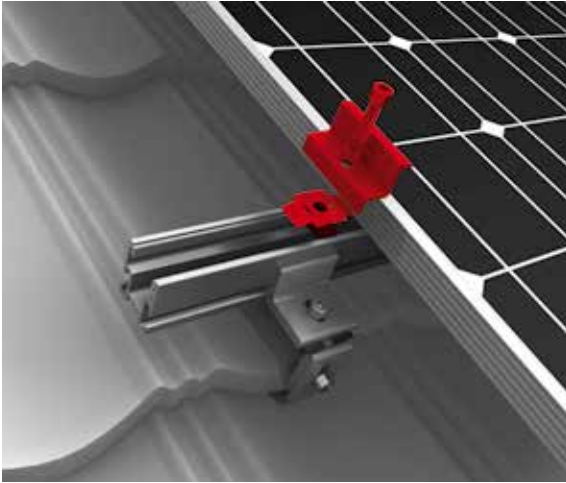
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RAIL CONNECTOR ASSEMBLY

Lay CrossRail on joint with rail connector and connect with 4 T bolts and self-locking nuts. The rail joint may not be in the range of the roof fastener. The rail joint must be located in the center of the connector.

Tightening torque 16 Nm.

Required materials: Rail connector set



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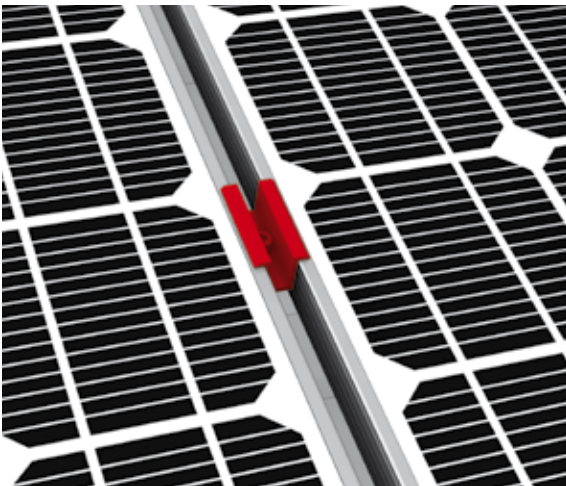
ATTACH MODULES

The slot nut M K2 is first inserted into the K2 CrossRail and rotated clockwise by 90 degrees. If the end clamps and middle clamps are delivered as a set, the entire set must be fixed to the rail in the same way. Attach module to the mounting rails according to the manufacturer's instructions. Attach module at the end of each row with end clamps and M8 DIN EN ISO 4762 as well as the slot nuts. Never mount end clamps directly on the rail joint or end of the rail! (Spacing: min. 20 mm from end clamp)

Pay attention to the mounting instructions of the module manufacture.

Tightening torque 14 Nm.

Required materials: End Clamp Set



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ATTACH MODULE

Attaching with Standard Middle Clamp

Use two standard middle clamps between two modules, which also need to be screwed with M8 DIN EN ISO 4762 in the slot nuts. **Pay attention to the mounting instructions of the module manufacturer!**

Tightening torque 14 Nm.

Required materials: Middle Clamp Set



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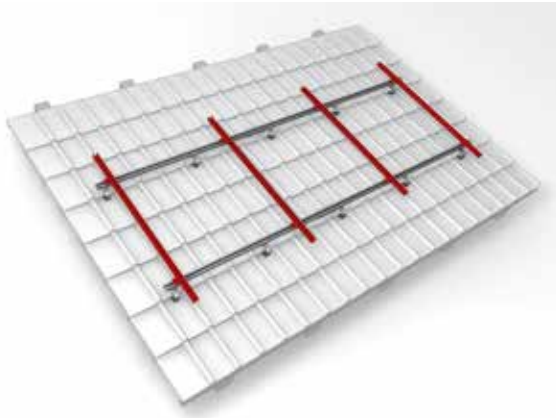
Attaching with XS Middle Clamp

Use two XS middle clamps between two modules, which also need to be screwed with M8 DIN EN ISO 4762 screws in the slot nuts. The XS middle clamps will need longer screws than the standard middle clamp.

Tightening torque 14 Nm.

Required materials: Middle Clamp Set XS

ALTERNATIVE SYSTEM DESIGNS (CROSS BRACING) WITH CROSSRAIL



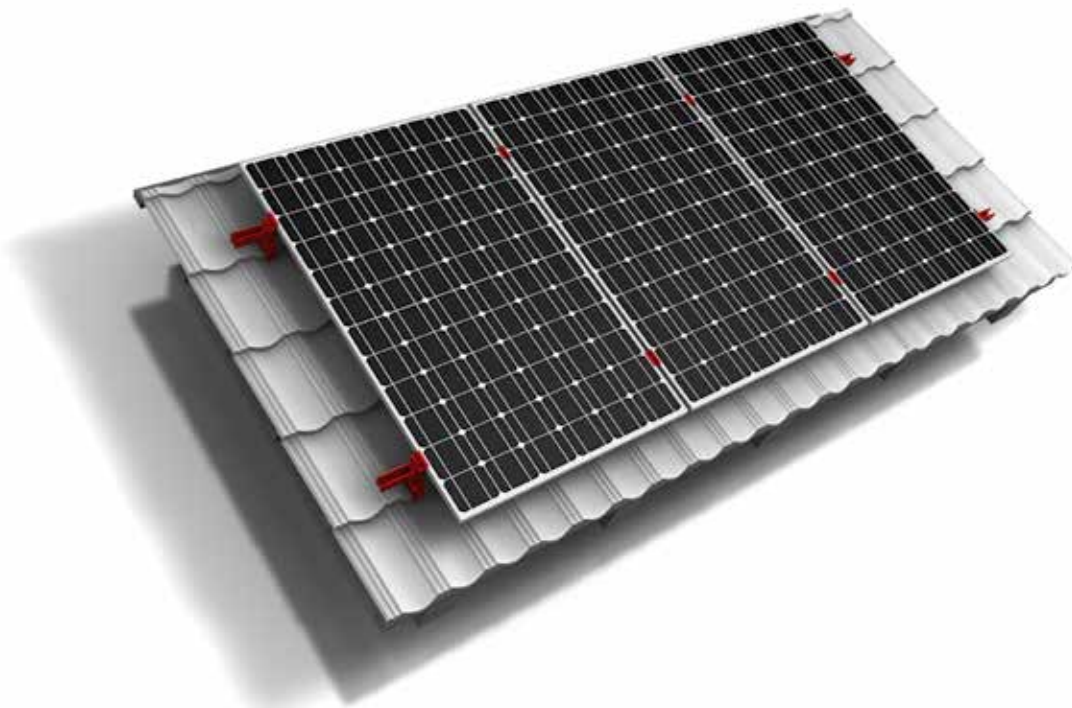
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MOUNT RAILS WITH CROSS BRACING

With cross bracing the upper rail position is fitted using the slot nut M K2 and the mounting bracket climber to the desired location, with appropriate spacing.

Tightening torque 16 Nm.

Required materials: CrossRail, Climber, M K2, Hexagon socket head cap screw M8, Washer



Ready!

THANK YOU FOR CHOOSING A K2 MOUNTING SYSTEM.

Systems from K2 Systems are fast and simple to install. We hope these instructions have helped you in this. Please contact us if you have any questions or suggestions for improvements. All contact details can be found at:

<http://www.k2-systems.uk.com/contact.html>

Our General Terms of Business apply. Please refer to <http://www.k2-systems.com/en/gsc.html>. German Law shall apply excluding the UN Convention on CISG. Place of venue is Stuttgart

Mounting systems for solar technology



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Montageanleitung CrossHook 2G | GB3 | 0115 | Änderungen vorbehalten
Product illustrations are exemplary illustrations and may differ from the original

