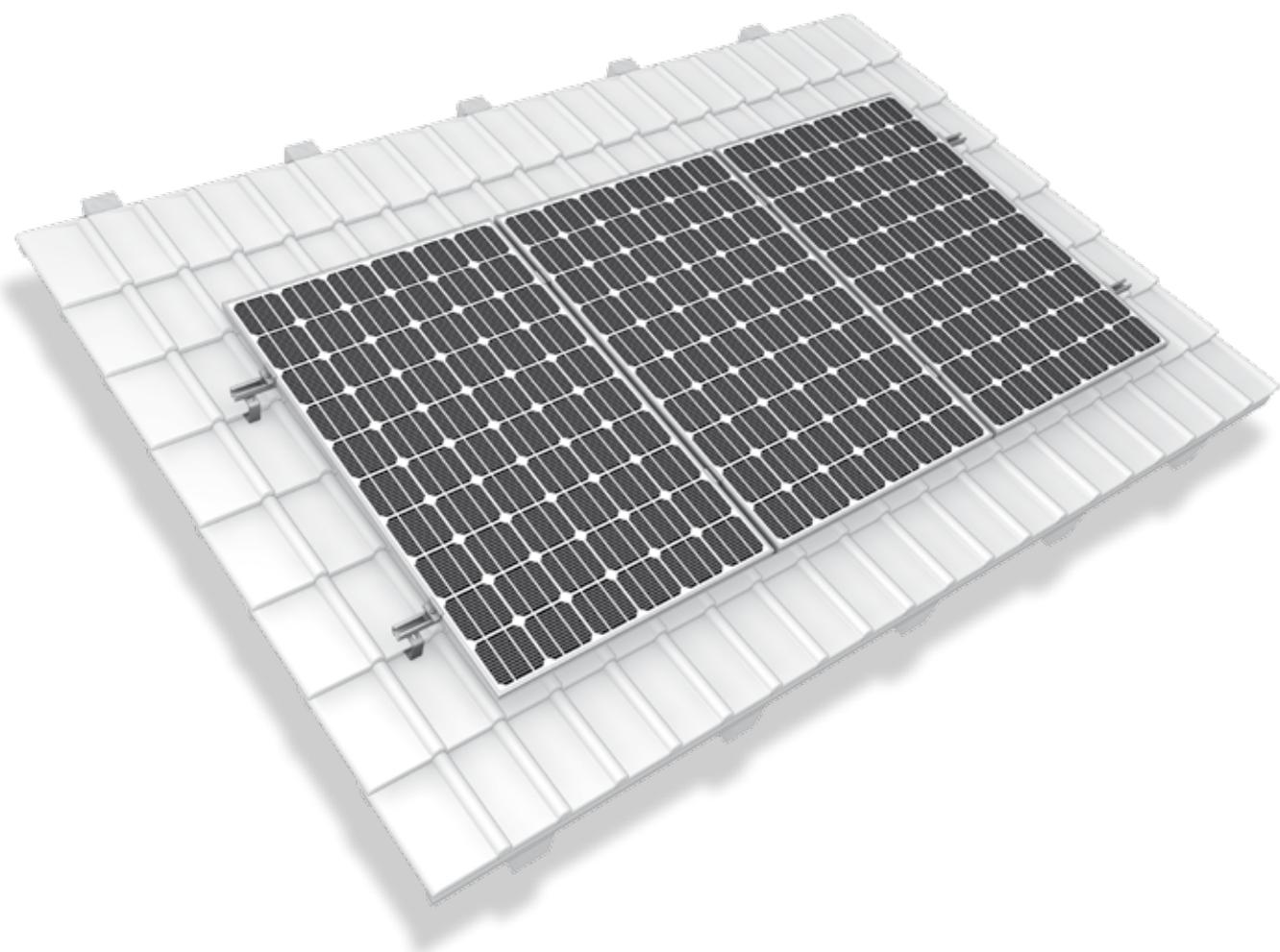


Mounting systems for solar technology



ASSEMBLY INSTRUCTIONS
ROOF FASTENER PAN TILE

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 – FOUR CERTIFICATIONS

K2 Systems stands for secure connection, highest quality and precision. Our customers and business partners have already known that for a long time. And three 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 Roof Fastener Pan Tile system. The piece quantities are calculated on the basis of the respective requirements. The listed item numbers facilitate the comparison of items.

	K2 Roof Fastener Pan Tile (standard) Material: Aluminium	Item number system specific
	Alternatively: This instruction also applies to the K2 roof fasteners Vario 1, Vario 2, Coppo, Spanish tile roof (rafter & concrete), Spanish tile roof (purlin), Vario 2s	
	Self-drilling timber screw, flat head Material: Stainless steel	Item number system specific
	Alternatively: For roof insulation, a self-drilling timber screw with distance screw is required.	Item number system specific
	Hammer head screw (T-bolt) M10 x 20 Material: Stainless steel	1000637
	Self-locking nut M10 Material: Stainless steel, drive: SW 15	1000042
	Mounting rail LightRail 37 Material: Aluminium	Item number system specific
	Alternatively: MediumRail, AlpinRail	
	Rail connector Set LightRail Material: Aluminium	1004107
	Alternatively: Rail connector Set MediumRail, AlpinRail	
	End Clamp Set Standard Material: Aluminium	Item number system specific
	Alternatively: End Clamp Set XS	Item number system specific

ESSENTIAL: THE MATERIALS REQUIRED



Middle Clamp Set Standard

Material: Aluminium

| Item number
system specific

Alternatively: Middle Clamp Set XS

| Item number
system specific

ADDITIONAL MATERIAL FOR CROSS BRACING



Mounting rail CrossRail 36

Material: Aluminium

| Item number
system specific



M K2 slot nut

Material: Stainless steel, plastic

| 1001643

Alternatively, also slot nut made of galvanised steel can be used.



Climber 36/48 (with long slot)

Material: Aluminium

| 1002286



Hexagon socket head cap screw DIN 912 M8 x 25

for Climber mounting

Material: Stainless steel, drive: SW 6

| 1000191



Lock washer DIN EN 10151

Material: stainless steel

| 1000473

AT A GLANCE: TOOLS OVERVIEW

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



Torque wrench

With attachment for SW 13, SW 15, HW 6



Measuring tape



Cordless screwdriver

With mount for T-40



Angle grinder

ROOF FASTENER SYSTEM ASSEMBLY: STEP BY STEP

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. Should you have any problems during assembly or questions relating to the system please contact us on our

SERVICE HOTLINE: +49 (0) 7152-3560-0

IMPORTANT:

- The 'General Assembly Instructions' must be observed.
These can be viewed at www.k2-systems.com/en/downloads/product-information.html
- If you don't already have them, you can obtain access data for our customer area on request.
- In the case of high snow loads the roof fastener boom must be supported with suitable measures (base plate) to avoid tile breaking.
- In the case of on-roof insulation or counter lathing, special screws must be used, to guarantee an even distance screw joint.

ROOF FASTENER SYSTEM ASSEMBLY: STEP BY STEP



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UNCOVER RAFTERS (REMOVE TILES)

The rafters, on which the roof fasteners are to be mounted on must be exposed. The height of the roof fastener must be checked and adjusted if necessary.



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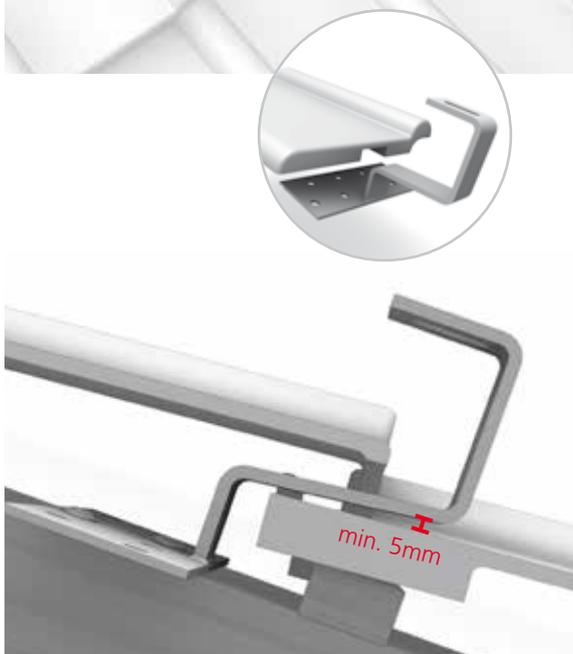
ASSEMBLE ROOF FASTENER

The roof fastener must be mounted with a minimum of 2 stainless steel timber screws on to the wooden rafters (at least one screw per row of holes). This also applies to roof insulation or counter lathing. Horizontally align the roof fastener hangers in order to get into the hollow of the tile. Flex deck tiles and lower tiles in the area of the hanger. The top edges of the roof fasteners in a horizontal row must be at the same height.

The roof fasteners must be mounted in such a way that there is a minimum spacing of 5mm between the roof fastener bracket and the tile.

The amount of roof fasteners that need to be mounted depends on roof requirements and will be specified when order is placed.

Required materials: K2 roof fasteners, timber screw





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MOUNT CARRIER RAIL

The rail is mounted to the roof fastener with an M10 T-bolt and a self-locking nut. 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 K2 is 3-5 cm. Tightening torque 35 Nm.

Required materials: LightRail, M10 T-bolt, M10 self-locking nut



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RAIL CONNECTOR ASSEMBLY

Lay CrossRail on joint with rail connector and connect with the 2 T bolts and self-locking nuts. The rail joint may not be in the range of the roof fastener. Tightening torque 35 Nm.

Required materials: Rail Connector Set



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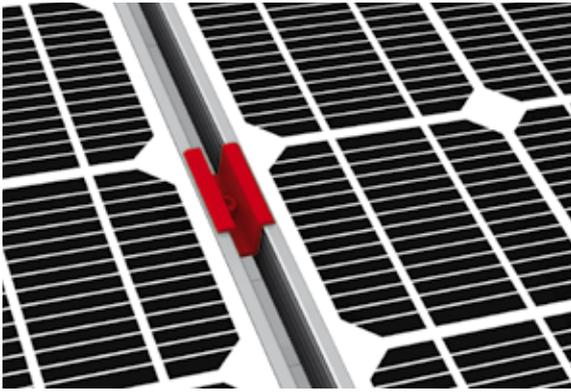
ATTACH MODULES

The slot nut M K2 is first inserted into the rail 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 manufacturer's instructions. Attach module at the end of each row with end clamps and screws DIN 912 M8 as well as the slot nuts. Never mount end clamps directly on to the rail joint or end of the rail! (Spacing: min. 20 mm from end clamp)

Pay attention to the mounting guidelines by module manufacturer!

Tightening torque 14 Nm.

Required materials: End clamps set



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ATTACH MODULE GAPS

Attaching with Standard Middle Clamp

Use two Standard Middle Clamps between two modules, which also need to be screwed with DIN 912 M8 screws in the slot nuts. Pay attention to the mounting instructions by module manufacturer! Tightening torque 14 Nm.

Required materials: Middle Clamp Set



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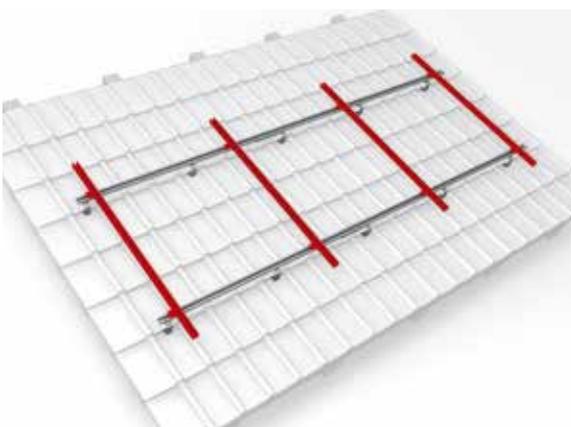
Attaching with XS Middle Clamp

Use two XS Middle Clamps between two modules, which must also be screwed with the DIN 912 M8 screws in the slot nuts.

For the Xs Middle Clamps, longer screws are required than for the Standard Middle Clamps. Tightening torque 14 Nm.

Required materials: Middle Clamp Set XS

ALTERNATIVE SYSTEM DESIGNS (CROSS BRACING) WITH CROSSRAIL



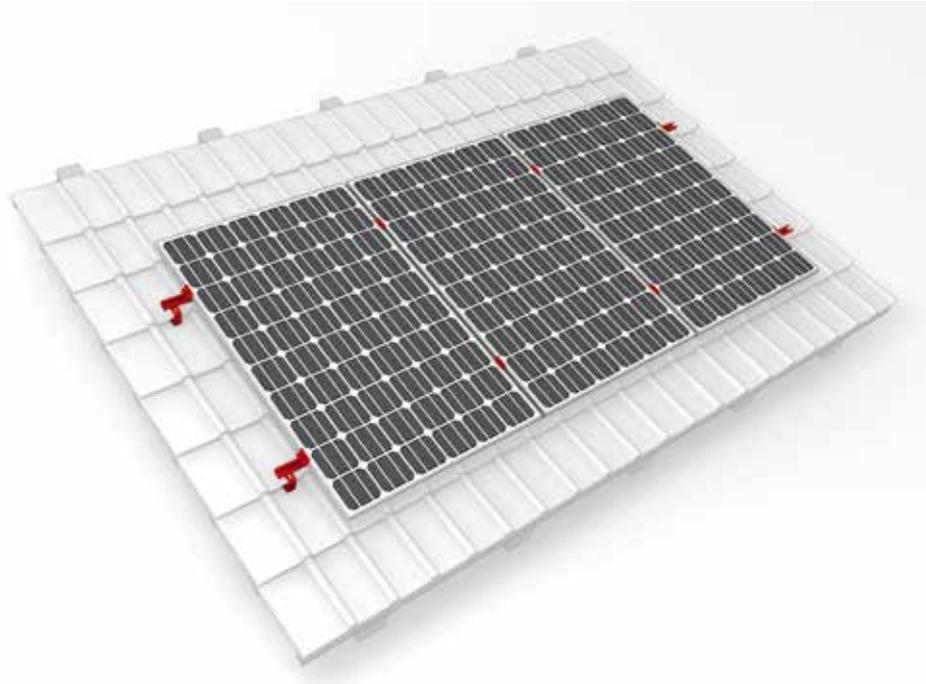
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ASSEMBLE RAILS WITH CROSS BRACING

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

Tightening torque 16 Nm

Required materials: Crossrail, Climber, M K2, K2 M, Allen bolt M8



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. We are looking forward to receive your call on our

Service-Hotline +49 (0) 7152-3560-0

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.

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Montageanleitung Dachhaken Standard | G85 | 0713 | Subject to change.
Product illustrations are exemplary illustrations and may differ from the original.

