

Mounting systems for solar technology



ASSEMBLY INSTRUCTIONS
XPRESSRAIL SYSTEM

USA

TABLE OF CONTENTS

TABLE OF CONTENTS	2
THE COMPANY	3
SAFETY REGULATIONS	4
MATERIALS REQUIRED	5
TOOLS REQUIRED	7
ASSEMBLY	8
TERMS AND CONDITIONS	17

ENGINEERING STRENGTH IS AT OUR CORE

With sophisticated product innovations and a deep customer focus, Everest Solar is the engineering leader for all your mounting system needs. We are the US division of K2 Systems, one of Europe's market leaders with more than 3 GW installed.

We offer proven product solutions and innovative designs. Wind tunnel testing along with advanced structural and electrical validation that should facilitate permitting, design and installation. Our designs result in cost competitive racking systems with dedicated support that will position you to win more projects.

We partner with our customers and suppliers for the long-term. High quality materials and cutting edge designs provide a durable, yet functional system. Our product line is comprised of a few, coordinated components that lower the cost of materials, and simplify installation, saving you time and money. All backed by German engineering, a long track record of quality, and a company that is here to stay.

Thank you for choosing Everest Solar mountings systems for your Solar PV Project.

GENERAL SAFETY INSTRUCTIONS

Everest Solar Systems' General Assembly Instructions must be followed to maintain the exclusive, limited product warranty.

You can access these instructions at Everest Technical Info Page

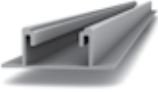




<http://www.everest-solarsystems.com/us/downloads/technical-information.html> or by contacting us directly.

In general, the following applies:

- Systems should be installed by experienced contractors licensed and qualified to perform the work with professional workmanship and quality.
- Before installation, Contractor must verify that the system meets all applicable laws, regulations, ordinances, and codes. Contractor shall verify that the roof or other structures to which the system is being attached are capable of carrying the system loads. For information about the dead loads of the various system components, Contractor should review the Everest Technical information page at <http://www.everest-solarsystems.com/us/downloads/technical-information.html> or contact us directly
- Contractor is solely responsible for work safety to ensure accident prevention regulations, corresponding standards and regulations of the applicable occupational safety and health agency, including:
 - Safety clothing is worn such as safety helmets, work shoes, and gloves.
 - Where required, the contractor should use fall protection, scaffolding with arrestor equipment and other approved methods for worker safety
- Contractor shall verify that it is using the most current instructions by downloading the latest version from our website or contacting our office directly.
- Module manufacturer installation guides must be followed. Please use approved electrical bonding and grounding components that are required by the local or national codes and AHJ.
- A copy of these instructions must be on site, and read and understood by all workers during installation
- In the event our general installation and assembly instructions are not followed, or that not all system components and assemblies are used according to these instructions, or that components are used which were not obtained from Everest Solar Systems, we are not liable for any resulting defects and damages, and the exclusive, limited warranty will be void.
- The exclusive, limited product warranty shall apply only if all instructions are strictly adhered to and the system is correctly installed. Everest Solar Systems disclaims any and all warranties, expressed or implied, including without limitation any warranties of merchantability and fitness for a particular purpose other than as set forth in the exclusive, limited warranty in the terms and conditions of sale, which can be viewed under on our website: <http://www.everest-solarsystems.com/us/downloads/technical-information.html>
- The dismantling of the system should be in reverse order of these assembly instructions.
- Everest 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

Below is a reference for the parts required to assemble the Everest CrossRail system. Exact quantities are based on your project requirements.

	XPRESSRAIL 22 Material: Aluminum	item number system-specific
	WEEB Lug 6.7 Material: Aluminum	2000379
	XPRESSCLIP Material: Glass fibre reinforced polyamid, EPDM	1001164
	Self-Tapping Screw 6 x 36 Material: Stainless steel, jointing: EPDM, wrench size: 8 mm	1001622
	Alternative: Self-tapping moulded screw 6 x 38 Material: Stainless Steel, EPDM, SW 8	1005193
	M K2 Slot Nut With Clip Material: Stainless steel, Glass fibre reinforced polyamid	1001643

XPressLock Set

| 1003558

Set consists of:



XPressLock
Material: Aluminium

DIN 7991 hexagon socket countersunk head
screw M8 x 20
Material: Stainless steel

M K2 slot nut with clip
Material: Stainless steel, Glass fibre reinforced polyamid



Module Middle Clamp

Material: Aluminum

| item number
system-specific



Module End Clamp

Material: Aluminum

| item number
system-specific



Allen Bolt DIN 912 M8

Material: Stainless steel, SW: 6 mm

| item number
system-specific



Lock washer DIN EN 10151

Material: Stainless steel

| 1000473

AT A GLANCE: OVERVIEW OF THE TOOLS

Everest Solar Systems are designed to make installation easy and fast. The basic tools required to assemble the parts are listed below as a guide.



Torque Wrench

With attachment for HW 6



Measuring Tape



Cordless Screwdriver

With attachment for HW 6

Tools and materials for the installation of third party items such as roof attachment products, roof covering and sealing products or items used for bonding and grounding are not listed here. Please refer to the instructions of those third party products.

BONDING AND GROUNDING:

Appropriate means of bonding and grounding are required by regulation. Everest Solar Systems has successfully tested the Burndy WEEB KMC and WEEB Lug 6.7 with the Everest Solar XPressRail system. If required to splice short sections of XPressRail using the Flat Connector, the Everest Solar MK2 is used for bonding the rails together. The MK2 is ETL Listed to UL 467. Please refer to the Burndy Installation Manual to review how the WEEB KMC and WEEB Lug 6.7 are to be used in conjunction with the Everest Solar XPressRail system. The Burndy and Everest Solar XPressRail Installation Manuals are available on our website:

<http://www.everest-solarsystems.com/us/downloads/technical-information.html>

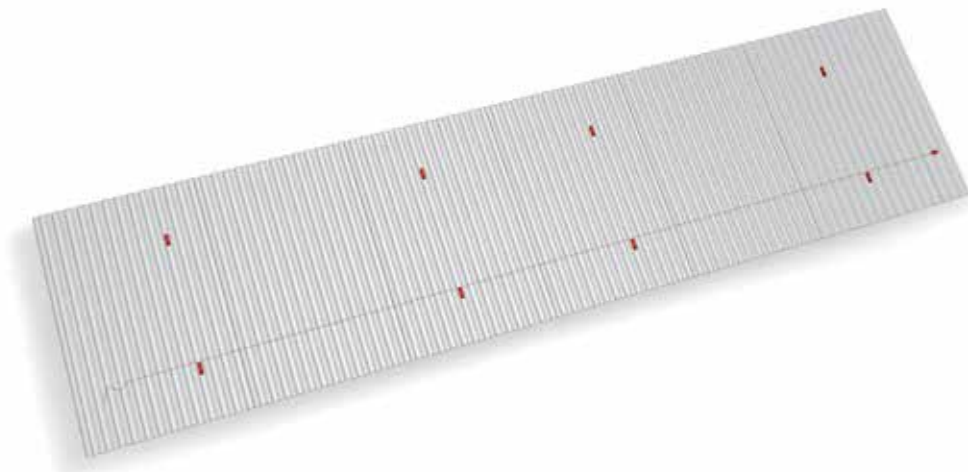
XPRESSRAIL-ASSEMBLY: STEP BY STEP

In order to ensure safe and correct assembly of the system, please first read through all of the steps. For each step, the materials required are listed. If you have problems or questions relating to the system, please contact:

EVEREST SOLAR AT : 760.301.5300

General Instruction:

- If the trapezoidal roof is to be fastened with calottes, do not bolt the XPressClips to the calottes!
Alternatively, mount all XPressClips staggered in this sequence on the trapezoidal roof.
- **The modules may never be attached over the thermal expansion joint.**
- The product is petty-patent-protected and **patent pending.**



1
of 16

MOUNT XPRESSCLIPS

Align XpressClips horizontally with each other using a chalk line, and mark the position of the rail on the roof. Mount each XpressRail onto the high bead. The K2 logo point in the direction of the roof ridge. The distance from the roof edge (aprox. 59 inch). The XPressClips are each fastened with two self-tapping hexagonal screws 6 x 36 mm with EPDM seal washers.

- No pre-drilling! – Except in the case of overlapping trapezoidal roof sheets, to avoid spaces.
- Thickness of steel trapezoidal sheet: min. 0.0239 inch, gauge 24 (assuming 52213 psi)
- Thickness of aluminium trapezoidal sheet: min 0.039 inch, gauge 18 (assuming 28282 psi)
- **Tightening torque based on flush fit.**

Materials required: XPressClip, tapping screws with sealing washer

See page 15 for instructions for special space-saving assembly.



2
of 16

PLACE XPRESSRAIL

Guide the XPressRail diagonally into the upper groove of the first two XPressClips attached on the roof and push upward until they can go no further.

Materials required: XPressRail



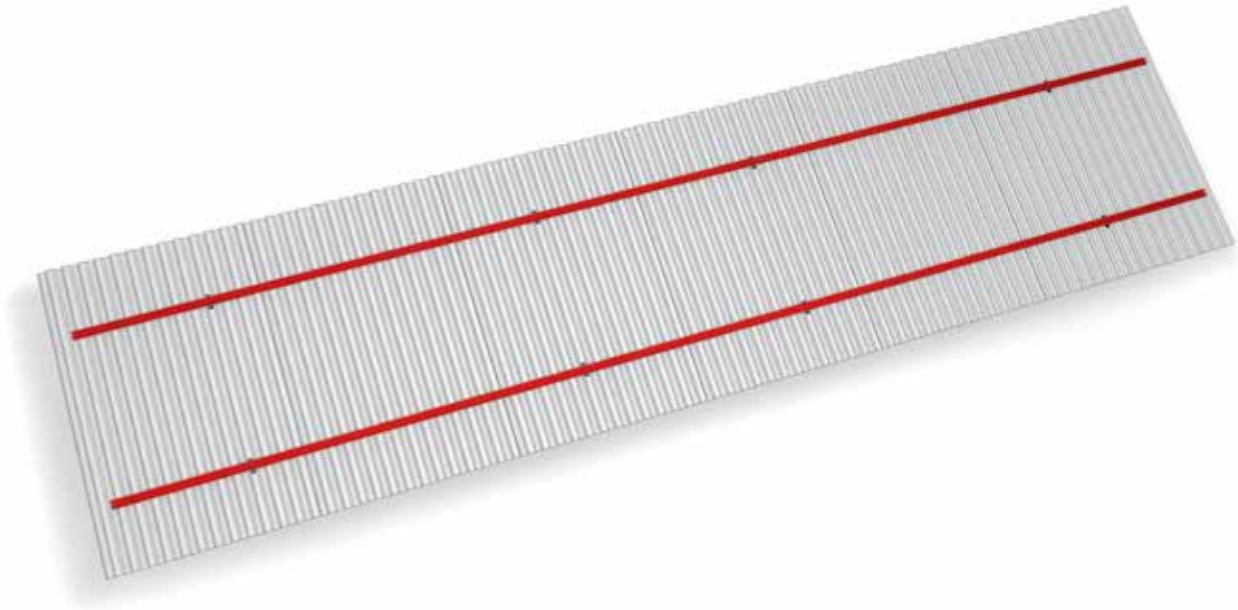
3
of 16

Lay XPressRail onto the supporting area of the XPressClips...



4
of 16

... and push into the lower groove.



5
of 16

PLAN IN THERMAL EXPANSION

The XPressRail must always be built in the clamping range approved by the module manufacturer. However, due to thermal expansion, we recommend that the rows be interrupted after 20 ft; they must be interrupted after a maximum of 27.6 ft (2 x 13.8 ft). The minimum spacing for thermal break is 1.2 - 2 inch between two rails.

The modules may never be attached over the thermal expansion joint.

Materials required: XPressRail



6
of 16

LOCK XPRESSRAIL IN PLACE WITH ADDITIONAL XPRESSCLIPS

In the low beads, add XPressClips onto the rail...

Materials required: XPressClip



7
of 16

...push the XPressClip up on the rail...



8
of 16

...then slide the XPressClip down until the top groove of the XPressClip is engaged in the flange of the rail...



9
of 16

...then slide the XPressClip sideways on the rail until it is positioned on the top bead of the trapezoidal roof.



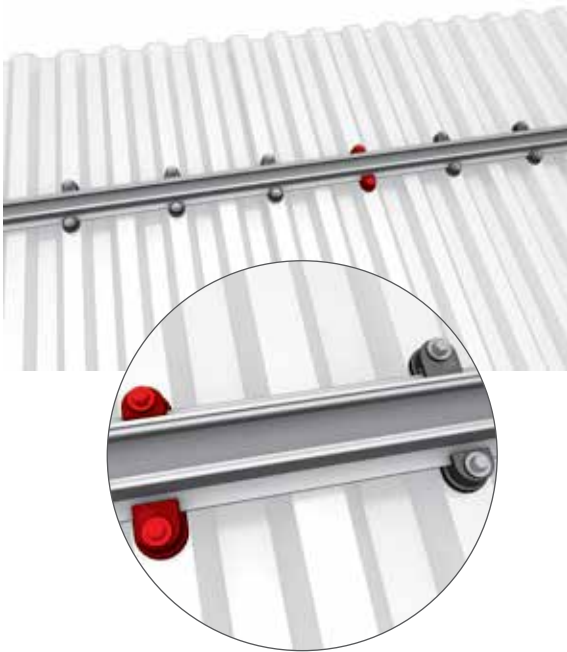
10
of 16

FASTEN XPRESSCLIPS

Attach each XPressClip with two self tapping screws 6 x 36 mm. The number of additional clips required depends on the wind and snow loads.

Screw the self-tapping screws flush.

Materials required: XPressClip, self tapping screws with sealing washer



11
of 16

ADHERE TO CLIP SEQUENCE AND SPACING

Insert every fourth clip with the K2 logo downward in order to prevent the rail from shifting in the direction of the roof edge.

Distances between two clips are project specific and can be calculated by our calculation software Everest Base:

- otherwise the maximum distance for:

- Roof edge area: 15.7 inch
- Roof middle area: 29.5 inch; for cross-bracing 19.6 inch

For reasons of seating stress and tightness, **never** attach **two** XPressClips at a top bead!

For rail joints **directly** on a top bead: always fasten XPressClips to the **respective** closest top bead of the rails.

Important! At the end of each rail, a XPressClip must be fastened to the last top bead! The cantilever of the rail must be no more than 9.8 inch.

Materials required: XPressClip, self tapping screws with sealing washer

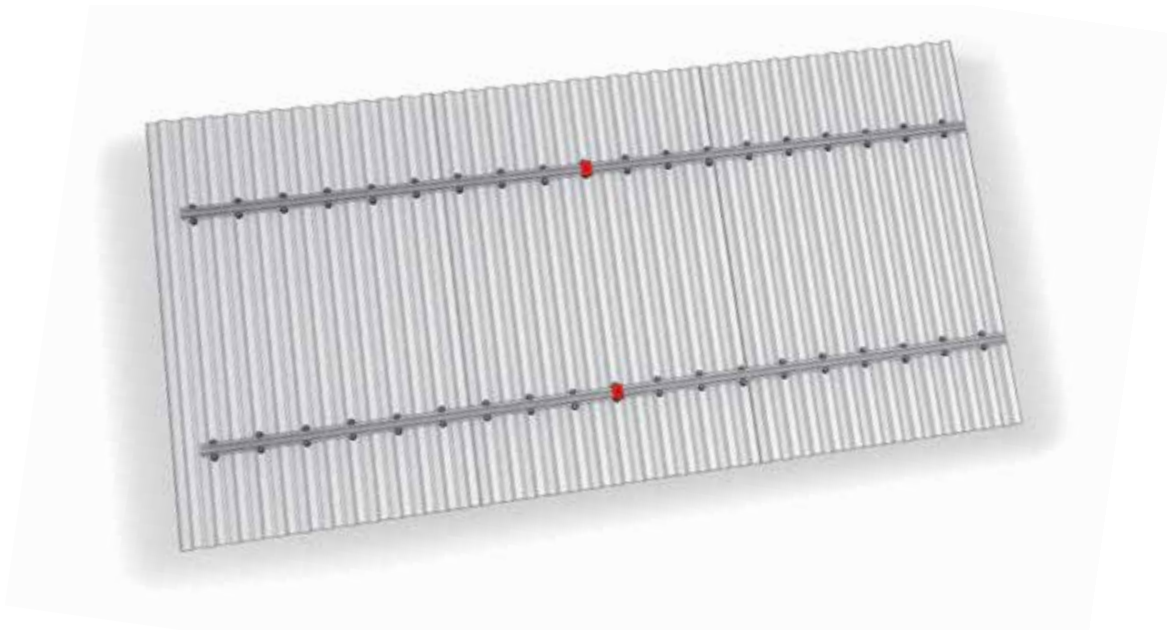


12
of 16

ASSEMBLY SPEEDLOCK

The XPressLock must always be mounted in the middle of the rail. First insert an M K2 slot nut level with a XPressClip and turn it clockwise by 90°. Screw the XPressLock over the XPressClip with the M K2 using an M8 x 20 countersunk head screw. Tightening torque 10.3 lbf-ft (14 Nm). The XPressClip fastens the XPressLock and therefore the row of rails.

Materials required: M K2, XPressLock, Hexagon socket countersunk head screw M8 x 20



13
of 16

IMPORTANT INFORMATION

- These assembly instructions must also be followed for space-saving assembly (see page 15).

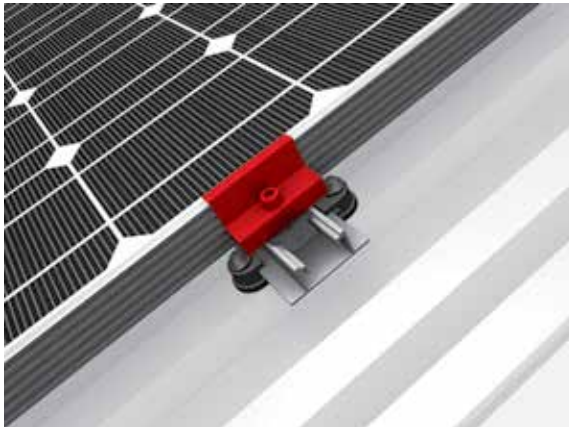


14
of 16

FASTEN MODULES

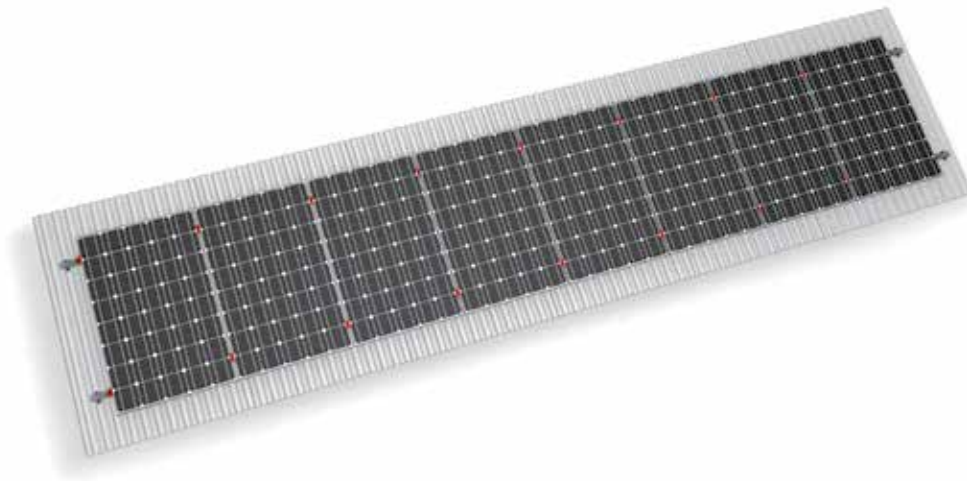
First, insert the slot nut M K2 in the XPressRail and turn 90° clockwise. If the end and middle clamps are supplied as a set, please attach the whole set in the rail. Clamp the solar modules onto the rails according to the manufacturer's information. Tightening torque moment 10.3 lbf-ft (14 Nm).

Materials required: M K2 slot nuts, end clamps, Allen bolt M8, locking washer S8



15
of 16

Each module at the end of a row is to be fastened with end clamps and Allen bolts M8 and slot nuts.

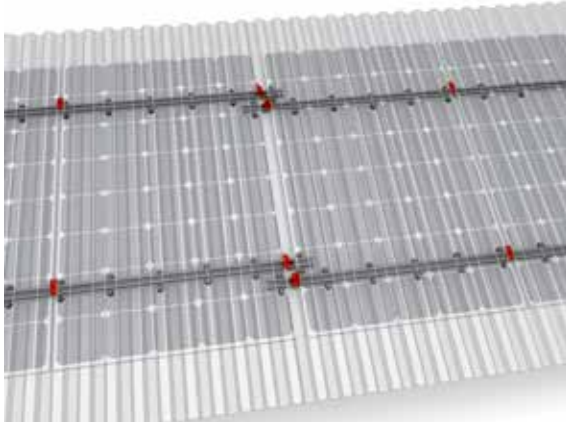


16
of 16

IMPORTANT INSTRUCTIONS FOR ASSEMBLY

- Slot nuts at butt joints of the rails must be avoided!
- Never mount middle or end clamps directly onto the rail joint or rail end!
(Distance: min. 0.8 inch from end clamp)
- The modules may never be fixed over the thermal expansion joint.

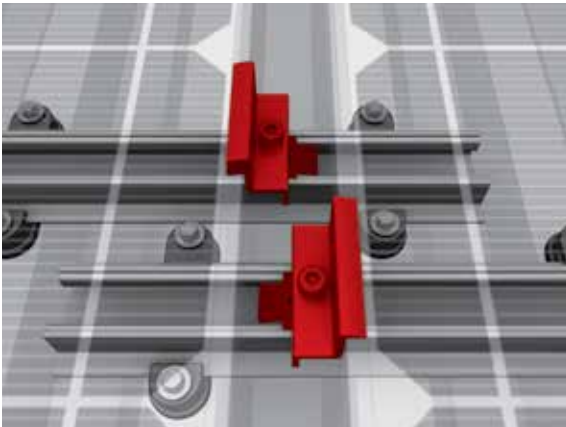
ALTERNATIVE SYSTEM ASSEMBLY



1
of 2

SPACE-SAVING ASSEMBLY

You can offset every second row of rails to save space when assembling the XPressRail. The space between the rails is the space required for mounting the XPressClips. The next rail is laid at the same height as the first. This assembly method reduces the distance between the modules at the end of the rail to 1,6 inch. Module edges should be aligned. The total length of a row of rails may not exceed 27.6 ft.



2
of 2

RAIL PROJECTION

How far the rail projects depends on the width of the modules. It must be at least 0.8 inch from the end clamp. **Please note that the clearance between two clips on a seam have to be at least 0.4 inch.**

Ready!

THANK YOU FOR CHOOSING AN EVEREST SOLAR SYSTEMS MOUNTING SYSTEM.

Systems from Everest Solar Systems are fast and simple to install. Please contact us if you have any questions or suggestions for improvements. We are looking forward to receive your call on our

Service-Hotline +1 760.301.5300

TERMS AND CONDITIONS

Product images are for illustrative purposes only. Specifications are subject to change without notice. All sales of our products shall be subject to Everest Solar Systems terms and conditions, including the exclusive limited warranty set forth therein. The terms and conditions can be found at

<http://www.everest-solarsystems.com/us/downloads/technical-information.html>

Mounting systems for solar technology



Everest Solar Systems, LLC
3809 Ocean Ranch Blvd.
Suite 111
Oceanside, CA 92056
Tel. +1.760.301.5300
info@everest-solarsystems.com
www.everest-solarsystems.com

K2 Systems International:

World headquarters
K2 Systems GmbH, Germany

K2 Systems SARL, France
K2 Systems SRL, Italy
K2 Solar Mounting Solutions Ltd., UK

Montageanleitung XPressRail | US1 | 1212
Product images are for illustrative purposes only. Specifications are subject to change without notice. All sales of our products shall be subject to Everest Solar Systems terms and conditions, including the exclusive limited warranty set forth therein.