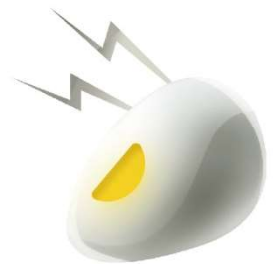


INSTALLATION INSTRUCTION

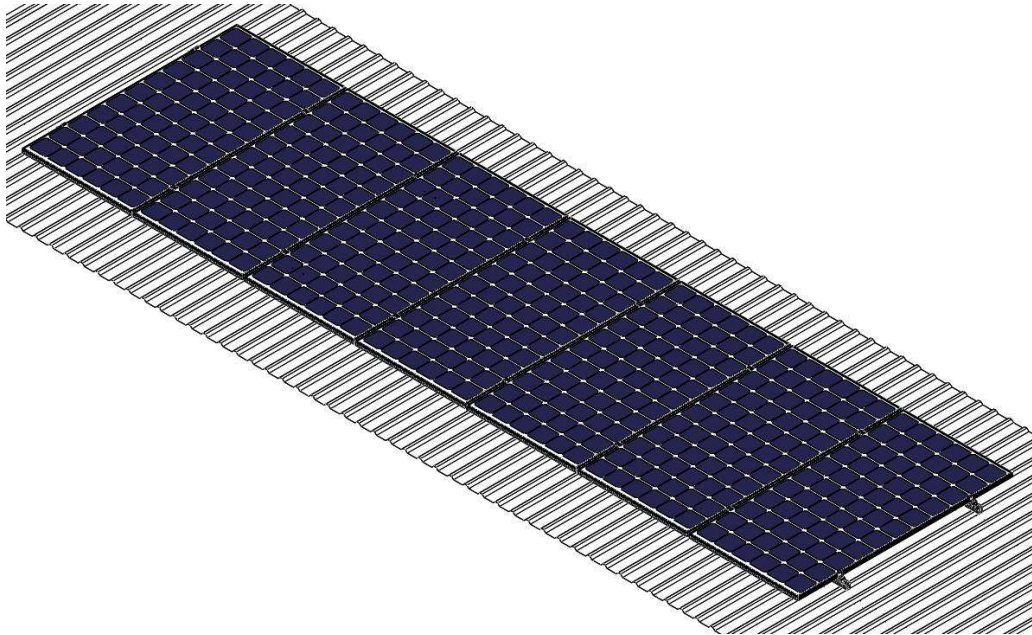


Installation Manual

L feet Solar roof mounting system



ANTAI
Aluminum & AI Tech for Solar



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I. Safety Precaution

Thank you for purchasing Antai solar mounting system products. Please refer to this installation manual before installation, operation, maintenance, and inspection.

● Cautions

- The installation is limited to those who have professional experience and can carry out construction according to the specified items.
- Please abide by national or local building regulations and environmental protection regulations.
- Please comply with the regulations on the prevention of industrial accidents and the relevant regulations of the insurance union.
- There must be at least 2 operators during installation to prevent accidents.
- Please wear safety clothes. (Especially protective helmets, boots and gloves)
- Please always prepare at least one installation manual while installing.

Please set up scaffolds while working at heights, and carry out construction after eliminating the danger of falling. Please use gloves and seat belts.

■ In order to prevent accidents and malfunctions, please do not arbitrarily change the product style.

■ Please be careful not to damage the cross section or sharp corners of the mold.

■ Please make sure fasteners are all tightened, like bolts, nuts, self-tapping screws, etc.

■ Please be careful not to touch the profile section while working on electrical wiring and grounding constructions, which may damage the wiring.

■ Please do not use damaged, malfunctioning or deformed products in case injury or accident happens.

Please use our designated products and do not arbitrarily transform and change them.

- Please avoid strong collisions in case any deformations and scratches occurred.
- This manual is related to the installation of the mounting system. Please consider the mounting system during the construction of the foundation, components, inverters, and electrical wirings.

II. Introduction

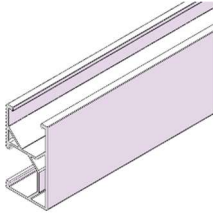
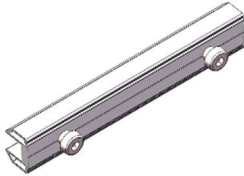
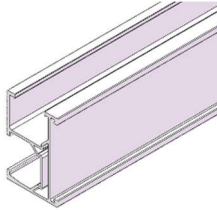
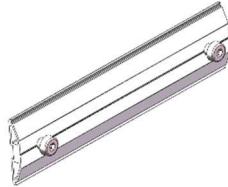
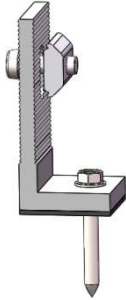
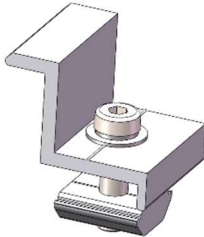
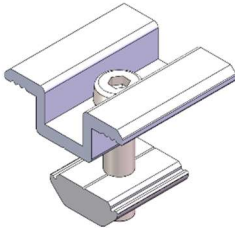
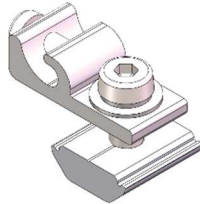
Antai's metal aluminum system is a roof photovoltaic support system applied to metal roof. Based on different types of metal roofs, every clamp is specially designed. In that case, each roof has its corresponding and fitting clamps to fix, which greatly improves the firmness of the connection between the system and the roof. Different types of high-quality clamps and rails not only can meet different demands in different countries and regions, but also improve the stability of the system. The whole system has fewer accessories, which saves the user's installation time and costs. It is an efficient solution for large-scale metal roof projects.

Please read this installation manual carefully before installation!

III. Installation Tool

			
8mm Inner Hexagon Spanner	Electric Drill	Tape Measure	Thin Marker
			
Torque Spanner	String	Adjustable Wrench	Socket wrench (M8)

IV. Component

Main List			
			
Rail 1 (Internal lock connection)	Rail splice 1	Rail 2 (External lock connection)	Rail splice 1
			
L feet	End clamp	Mid clamp	Grounding lug

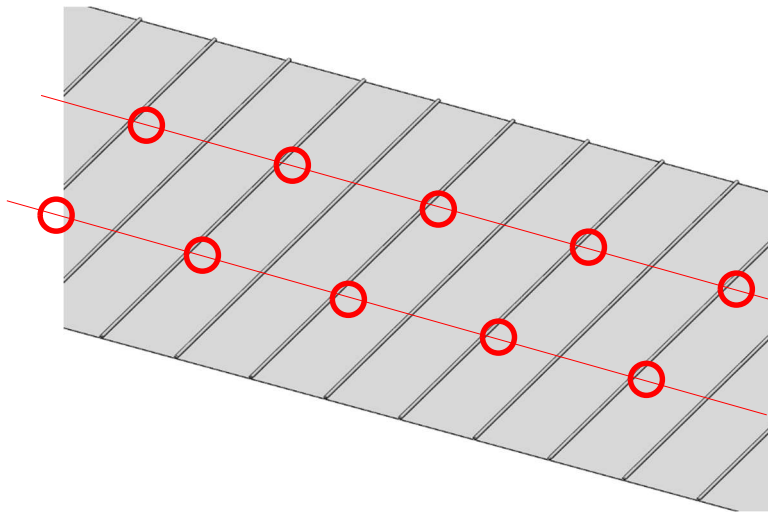
V. Installation Instruction

5.1 L Feet

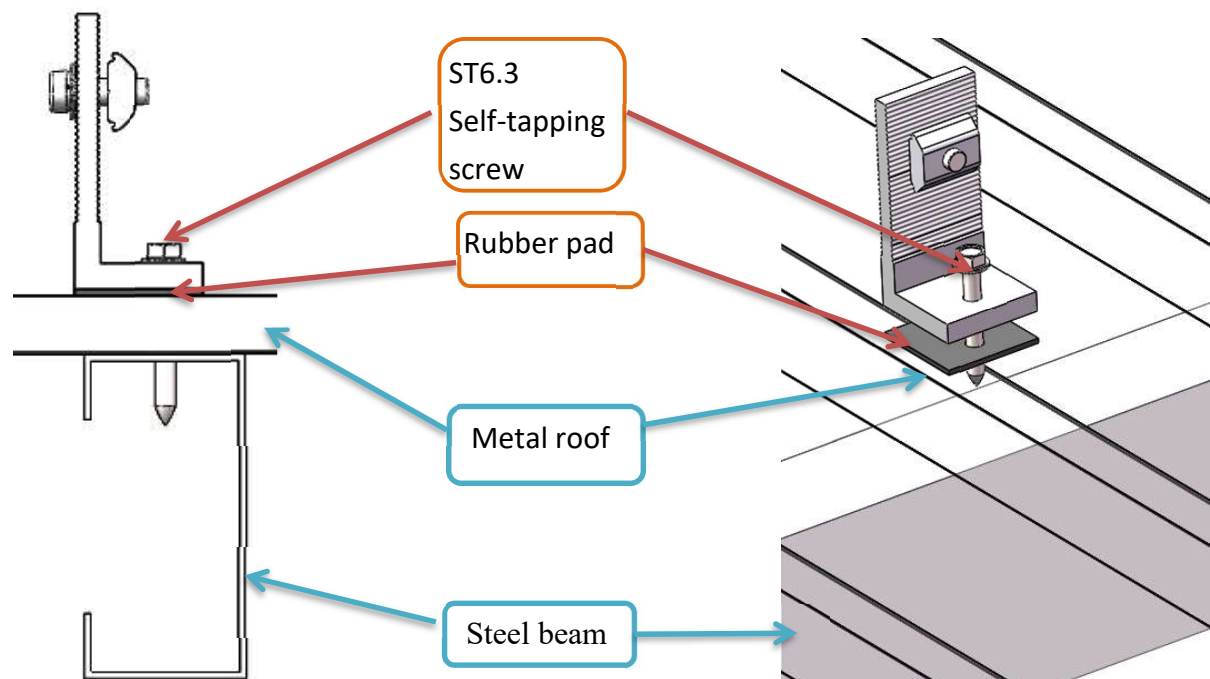
Marking the position of L feet according to drawings and making sure all L feet are installed on the same horizontal line. Install the L feet accordingly and fasten them to steel beams by self-tapping screws.

Shown as bellow:

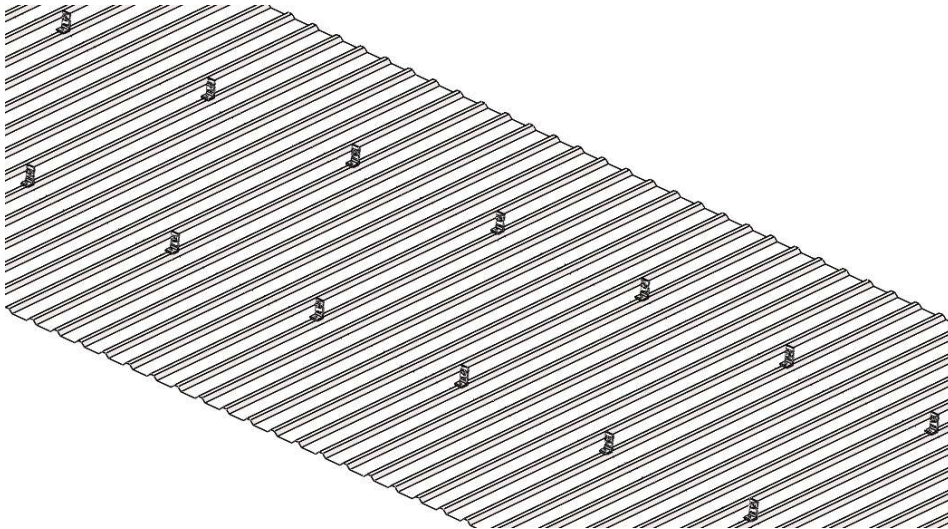
- 5.1.1 Mark the positions of L feet on metal roof and make sure they are at the same horizontal line.



L feet installation:



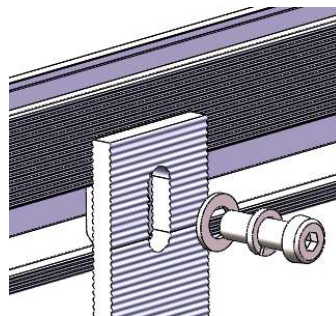
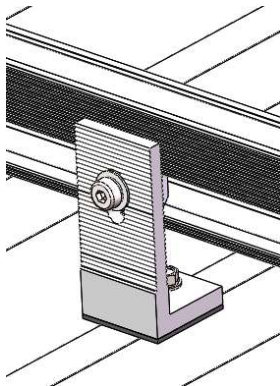
5.1.2 Install all L feet to the metal roof.



5.2 Rail

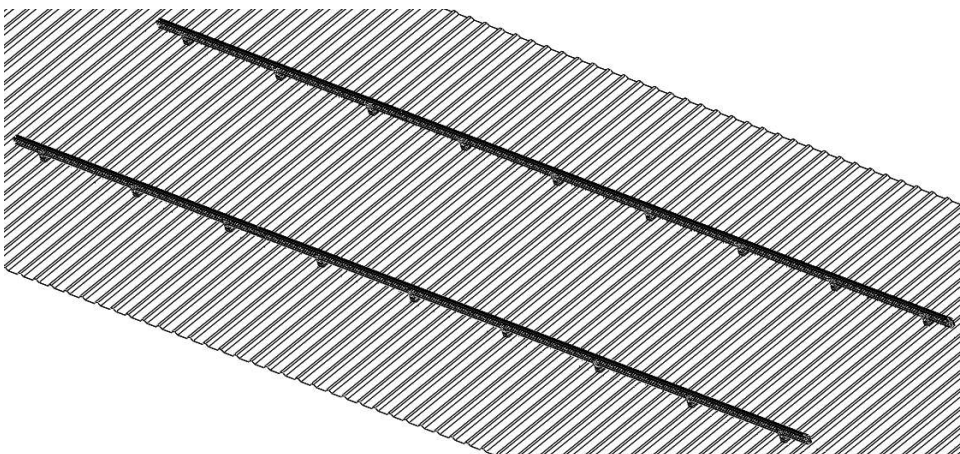
Fix rail to L feet after adjusting the length and height and tighten them by bolts.

5.2.1 Fix L feet and adjust the rail position, slide T module into specified rail (refer to drawings) and then tighten them by bolts.



M8 Hexagon socket bolt
Spring washer
Flat washer
T module

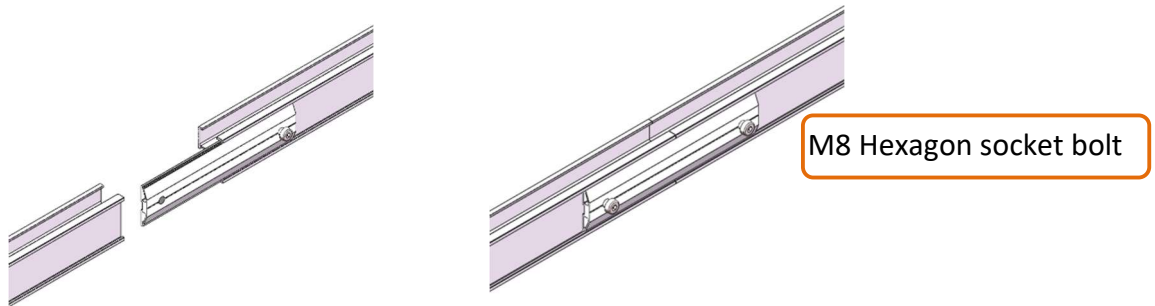
5.2.2 Install other rails accordingly.



5.3 Rail Splice

Rails should be connected by rail splice if needed, as shown below:

5.3.1 Slide half of the rail splice into the first rail, adjust the fixed position, and tighten the bolts. Then Slide the second rail into the rail splice, tighten them by bolts when leveled. Achieve the connection effect.

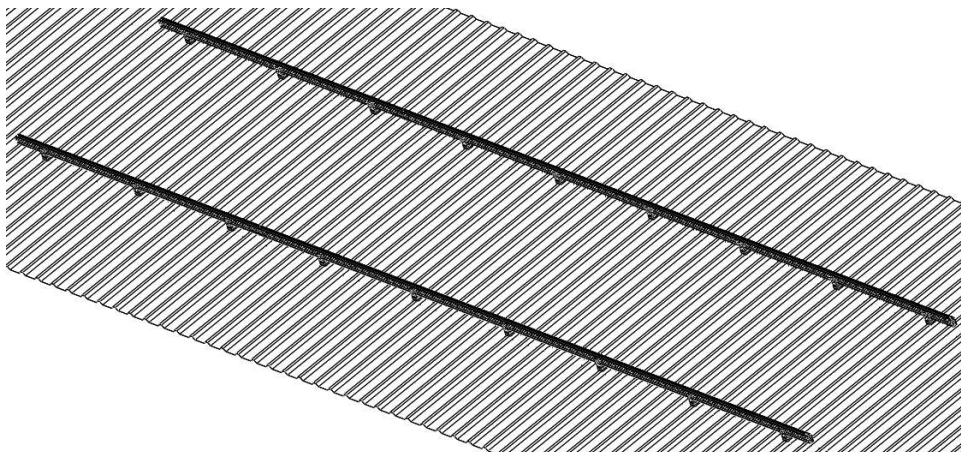


Used for TYN53、CG019、TYN28 and other external lock connection rails



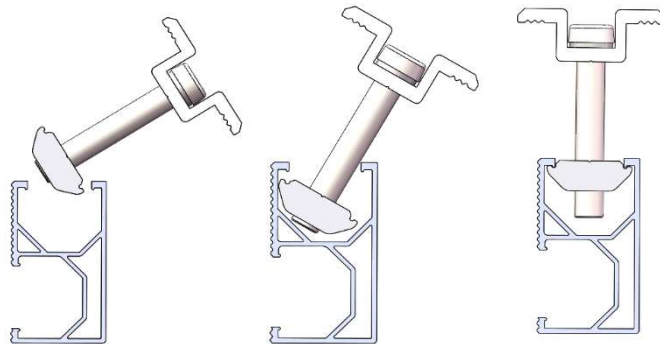
Used for CG010、TYN305、TYN355 and other internal lock connection rails

5.3.2 Completed installation is as the pic shown below

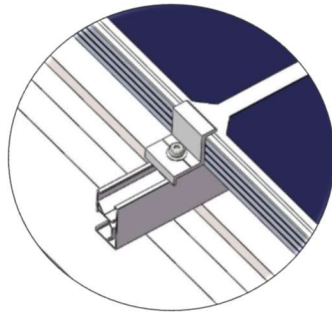


5.4 PV Module

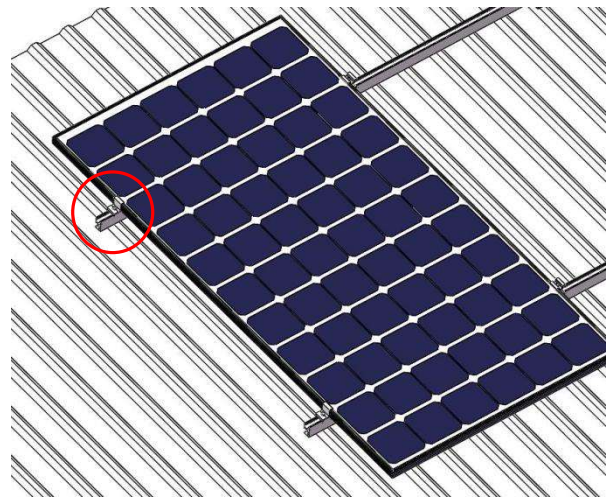
According to the installation dimensions of the drawings, place the PV module on the rail, and fix them with end clamps, mid clamps.



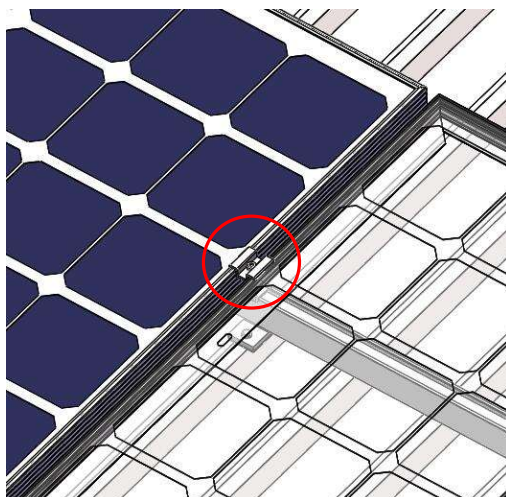
5.4.1 Place the PV module on the rail and adjust the position according to the drawing. then place the end clamp into the rail groove, and fix them with bolts.



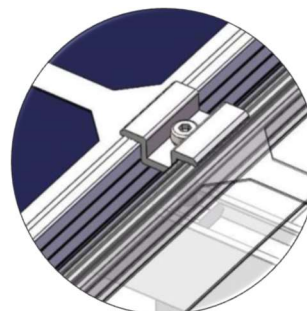
M8×30 Hexagon socket bolt
Flat washer
Spring washer
T module



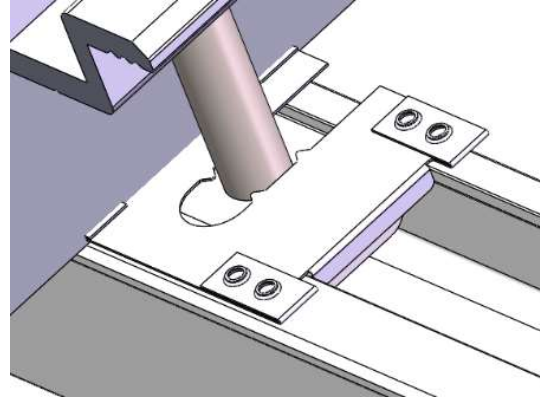
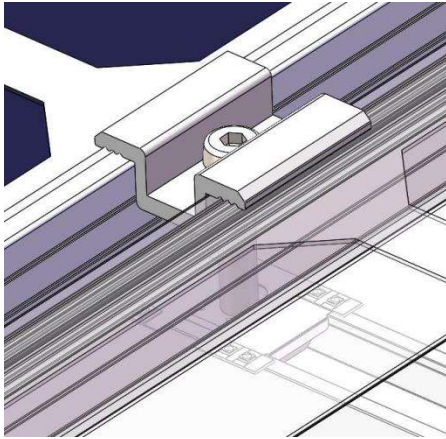
5.4.2 After fixing the end clamp of first PV module, please put the second PV module on the rail at proper position. Connecting firmly the first PV module and the second one with mid clamp and fixing tightly with bolts.



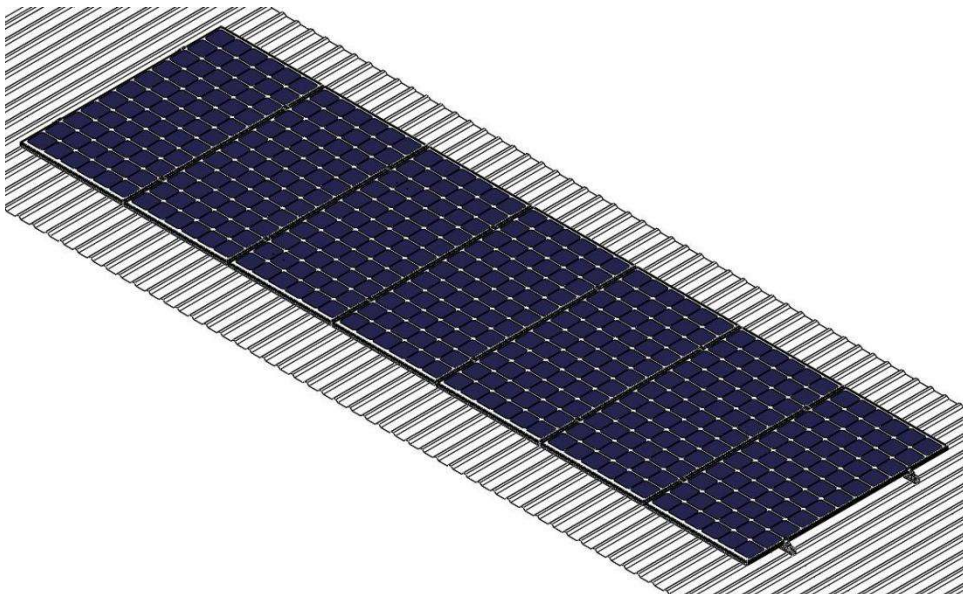
M8 Hexagon socket bolt
Spring washer
T module



5.4.3 If there are earthing clips needed, place them between the PV modules and rails while installing the mid clamps. Adjusting the position to ensure the sharp spikes on earthing clips are pressed by both PV modules. Then tighten the mid clamps by bolts.

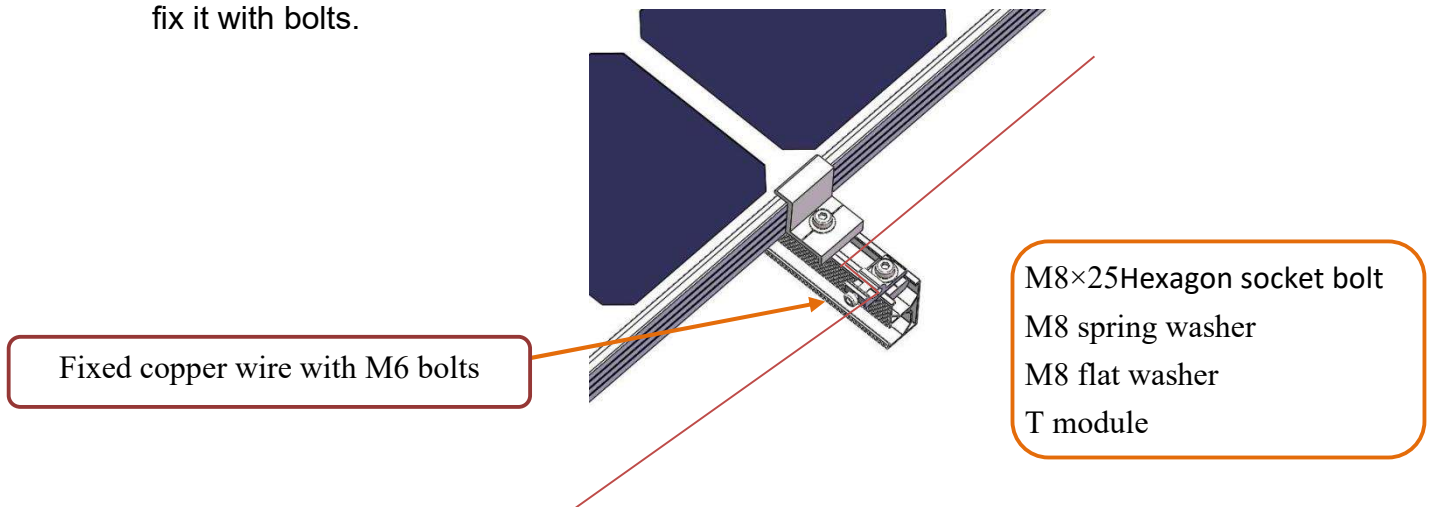


5.4.4 Repeat the steps above. When it comes to the last PV module, fix it with the end clamp and tighten it with bolts.

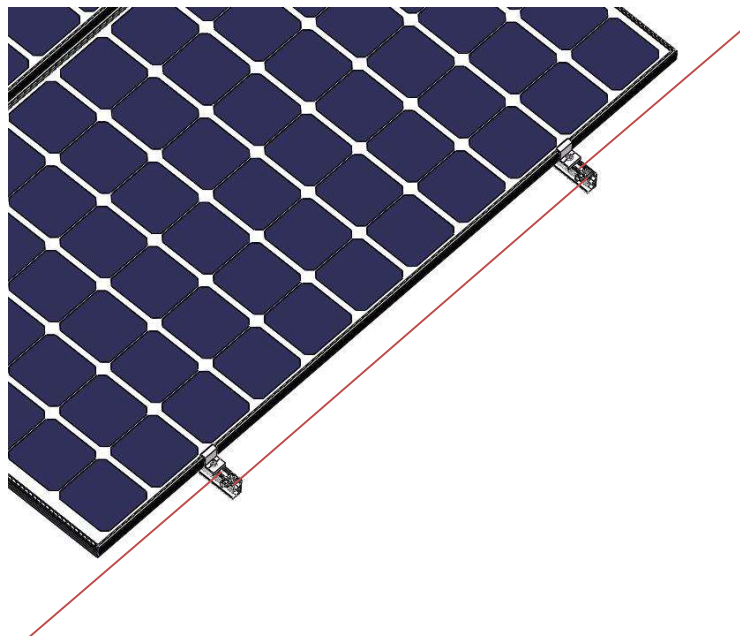


5.5 Grounding Lug (Skip this chapter if no GL needed)

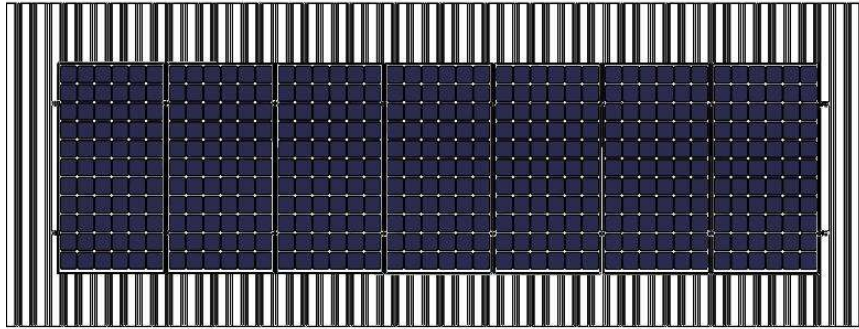
5.5.1 Install grounding lug at the end of the rail as the picture shown below and fix it with bolts.



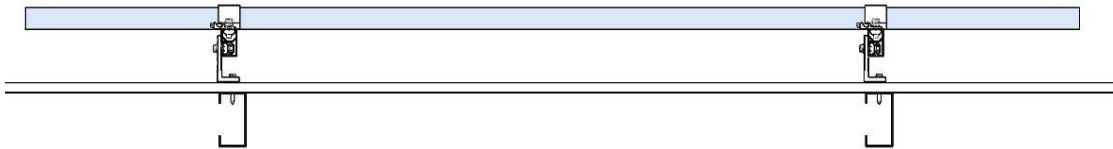
5.5.2 At the edge of the layout, connect each grounding lug with copper wire, fix the copper wire with M6 bolts, and ground the copper wire at the end.



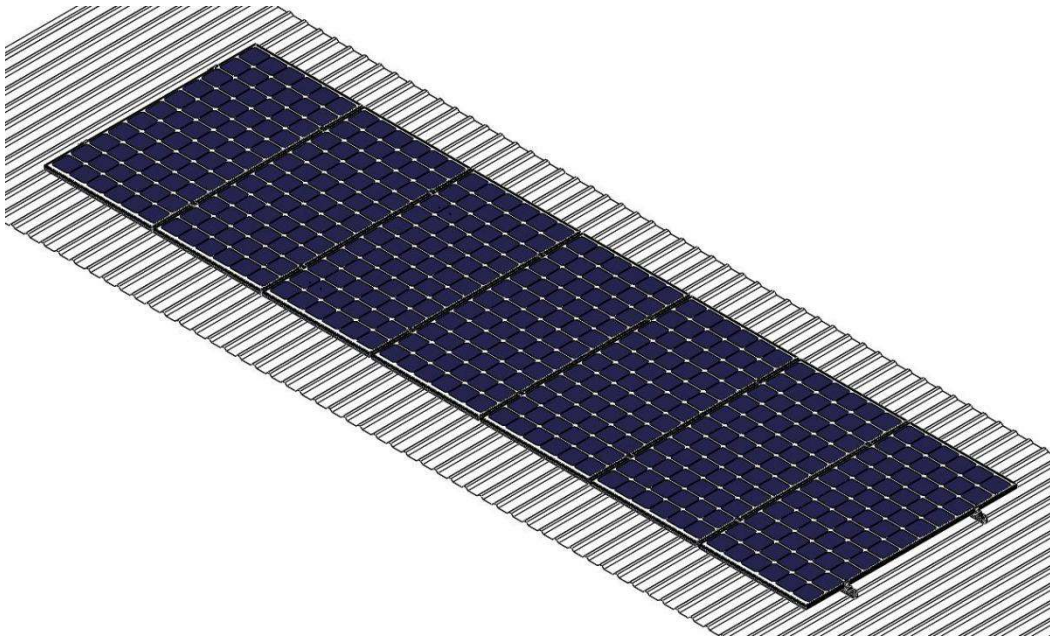
5.6 Installation diagram



Top view



Side view



Axonometric drawing

VI. Installation Precaution

6.1 Dimension

The specific dimensions of engineering installation shall be subject to the engineering construction drawings. This installation manual is only for the instruction of product installation method.

6.2. Fastener

Because of the good ductility for stainless steel, fasteners have big difference with carbon steel one in nature. If used in inappropriate way, it will result in bolts and nuts being locked-up. To avoid this situation, please follow the solutions below:

6.2.1.Reducing the friction coefficient:

- (1) Ensure that the screw thread surface is clean (no dust, gravel etc.)
- (2) Use wax or lubricant during installation. (Such as butter, 40 # engine oil);

6.2.2.Correct method of operation:

- (1) Must be perpendicular to the axis of the screw thread when screwing, can never be tilt.
- (2) During the tightening process, strength needs to be even.
- (3) Use torque wrenches or socket wrenches if possible, avoid using adjustable wrenches or electric wrenches. (If so, pls try to reduce the speed.)
- (4) Do not use it when the temperature is high. Do not use it with high speed spin to avoid being locked-up due to the rapid rise of temperature. (Such as electric wrench, etc.)

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