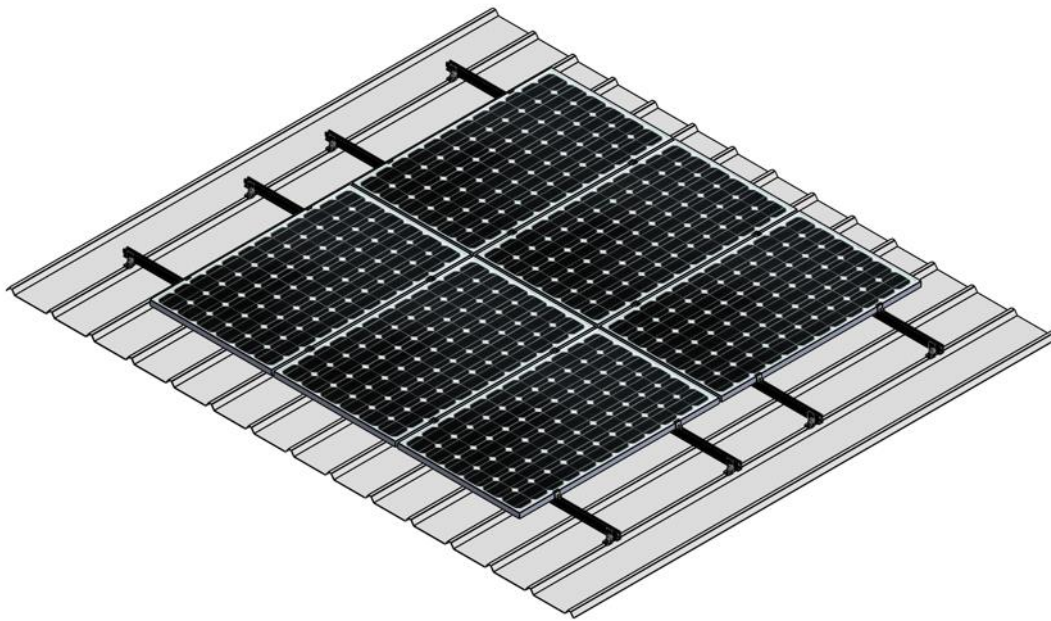


# **PV-ezRack SolarRoof**

## **Tin Interface and L feet with B50 Rail**

### **Installation Guide V1.0**



## 1. Introduction

B50 Rail and Accessories constitute a system that is widely used for PV Module mounting on tin roofs. To make it robust and longevity, it is manufactured from aluminium alloy and stainless steel. With unique design, Z-module, it provides high efficient installation and the compatibility with most of frame PV-Modules in the market.

Before system installation, please read the installation manual carefully. The manual provides the following content: (1) simple introduction of installation; (2) product installation specification;

Please use it according to the installation instruction manual. Please pay attention to safety when installing the product, and construct it according to local laws and regulations. You can confirm the latest installation manual on [www.clenergy.com](http://www.clenergy.com) if necessary.

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- Complying with all applicable local or national building codes, including any updates that may supersede this manual;
- Ensuring that PV-ezRack and other products are appropriate for the particular installation and the installation environment;
- Using only PV-ezRack parts and installer supplied parts as specified by PV-ezRack project plan (substitution of parts may void the warranty and invalidate the letter of certification);
- During installation, ensure that the self-tapping screws and metal screw have sufficient strength and shear force;
- Keep the roof waterproof system intact;
- Recycling: Recycle according to the local relative statute;
- Removal: Reverse installation process;
- Ensuring that there are no less than two professionals working on panel installation;
- Ensuring the installation of related electrical equipment is performed by licenced electricians;
- The upper and lower limit of the torque of the locking screws must be checked regularly at least once a year.
- Changes and deviations from the planning documents must be approved by Clenergy.

**The installer is solely responsible for:**




## 2. Tools & Components

### 2.1 Tools

Tools		
		
Marker Pen	Screw Driver	Torque Wrench
		
Allen Key 6mm for M8 Hexagon Socket Screw	Tape	String

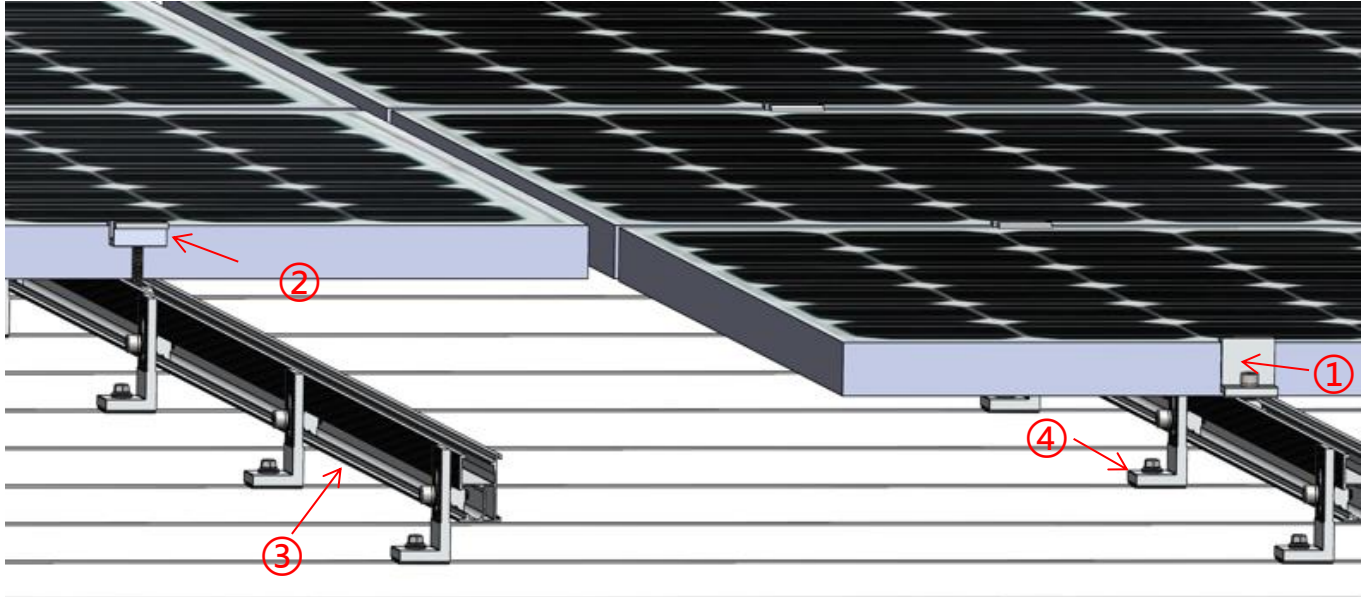
**Note:** The tools in the figure are only used for installation of rack system (not included in supply scope), please consult system installation personnel about installation of electronic parts.

## 2.2 Components

Components		
		
<b>ER-IC-ST35 (40) U18</b> U18 Inter Clamp	<b>ER-EC-ST30/35/40/45</b> End Clamp	<b>ER-R-B50</b> B50 Rail
		
<b>ER-SP-B50</b> Splice for B50 Rail	<b>I-05/6.3/85/CS</b> Tin Interface with Carbon Steel Self-drilling Screw 6.3x85 for Metal purlin	

## 3. System Overview

### 3.1 Overview of PV-ezRack SolarRoof



- ① End Clamp
- ② U18 Inter Clamp
- ③ B50 Rail
- ④ Tin Interface with Z-module

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## 3.2 Precautions during Stainless Steel Fastener Installation

Improper operation may lead to deadlock of Nuts and Bolts. The steps below should be applied to stainless steel nut and bolt assembly to reduce this risk.

### 3.2.1 General installation instructions:

- (1) Apply force to fasteners in the direction of thread
- (2) Apply force uniformly, to maintain the required torque
- (3) Professional tools and tool belts are recommended
- (4) In some cases, fasteners could be seized over time. As an option, if want to avoid galling or seizing of thread, apply lubricant (grease or 40# engine oil) to fasteners prior to tightening.

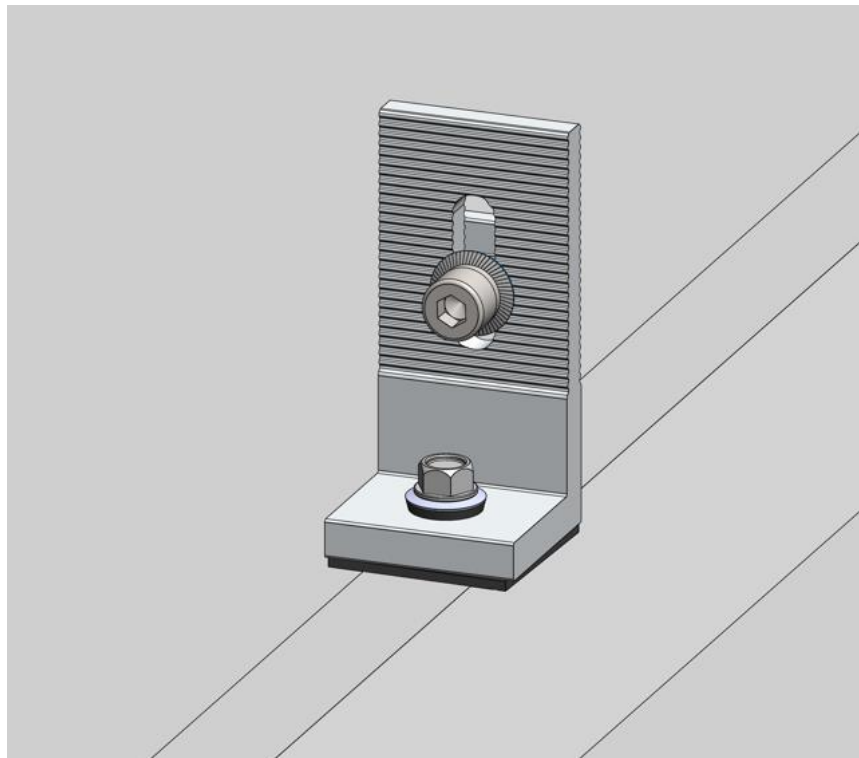
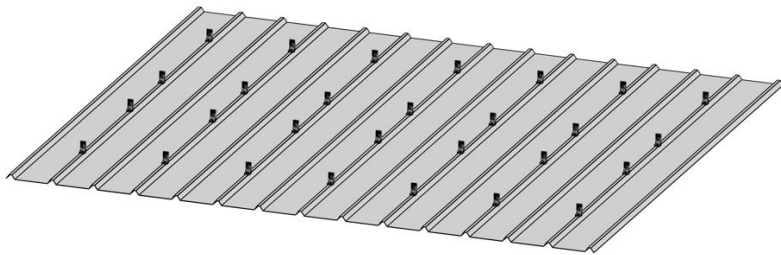
### 3.2.2 Safe Torques

Please refer to safe torques defined in this guide as shown in Installation Instructions. In case power tools are required, Clenergy recommends the use of low speed only. High speed and impact drivers increase the risk of bolt galling (deadlock) If deadlock occurs and you need to cut fasteners please make sure that there is no load on the fastener before you cut it. Avoid damaging the anodized or galvanized surfaces.

## 4. Installation Instructions

### 4.1 Tin Interface Installation

According your plan, mark the position of Tin Interface on the tin roof with Marker Pen and String. Place Tin Interface on the marked position and adjust its direction, as shown in figures on the right.



### 4.2 Rail Installation

#### 4.2.1

To connect multiple rails together, slide half of splices on the rear side of the pre-assembled rails. Fasten the first M8 Allen bolt firmly using the Allen key. Now

slide the next rail segment into the other half of splice.

#### 4.2.2

Tighten the second M8 Allen bolt using the Allen key. The connection is finished. An expansion gap at the rail joints is recommended. For this purpose, leave a gap about the same width as a finger between the rail joints and then loosely tighten the M8 Allen bolt.

Note:

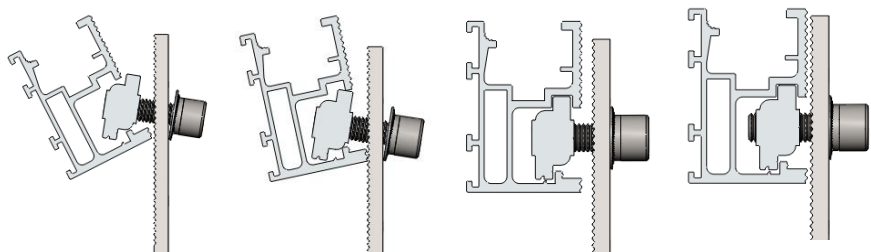
Skip this step if the rail is long enough and no need to splice.



#### 4.2.3

Affix the Rails and Tin Interface by Z-module. Do not fasten Z-module tightly, please leave two or three threads available as shown in right figure.

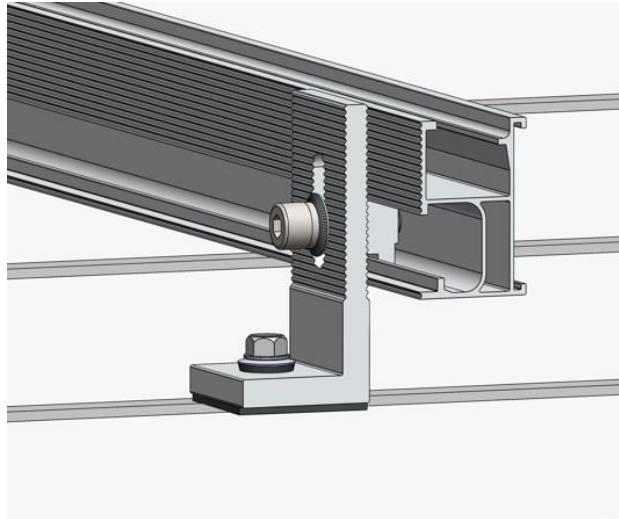
Recommend torque of M8 bolt is 18N.m





## 4.2.4

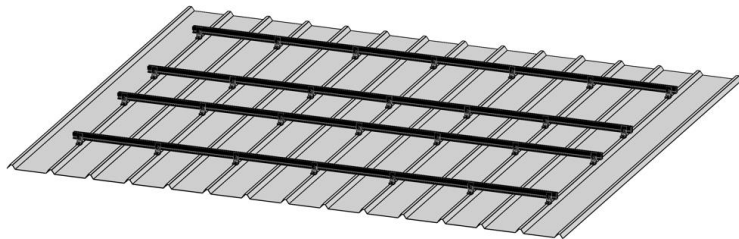
Repeat above steps and install the rest of Rails.  
Adjust Rails' position with String, and align all ends of Rails.



## 4.4 PV Module Installation

### 4.4.1

According to your plan, install all Rails.



### 4.4.2

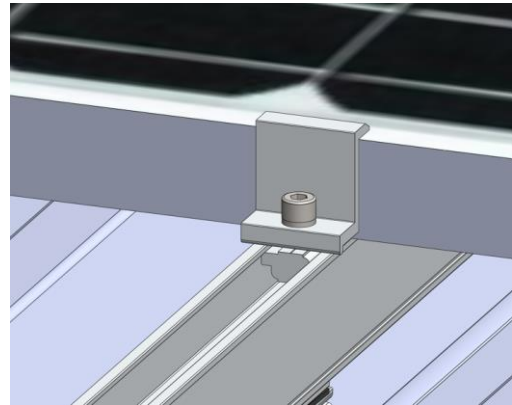
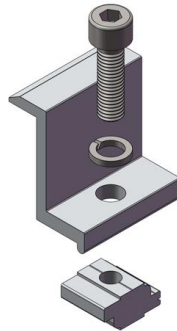
Mark the position of PV-Module on Rails with Marker Pen. Stretch a String as a reference to align PV-Module. Place the first PV-Module on the marked position.



#### 4.4.3

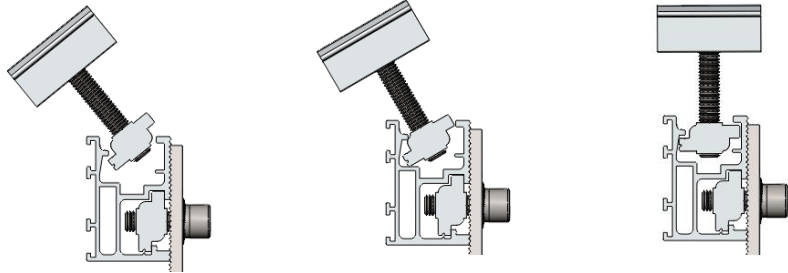
Slide and affix the End Clamp to the side face of PV-Module, as shown in the figures on the right. Fasten the bolt refer to below recommend torque.

Recommend torque of M8 bolt is 13N.m



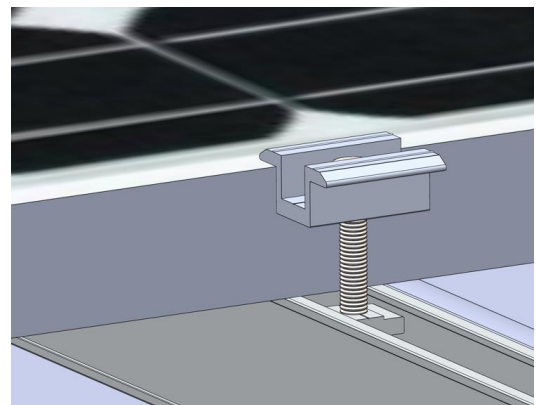
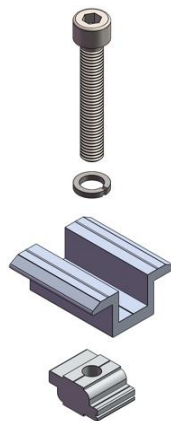
#### 4.4.4

To buckle to Clamps with Z-module, put one leg of Z-module into the channel of the Rail first, then press second leg of Z module into the channel.



#### 4.4.5

Buckle the Inter Clamp into the Rail and affix it to the side face of PV-Module. Don't fasten the bolt to make the installation of second PV Module easier.



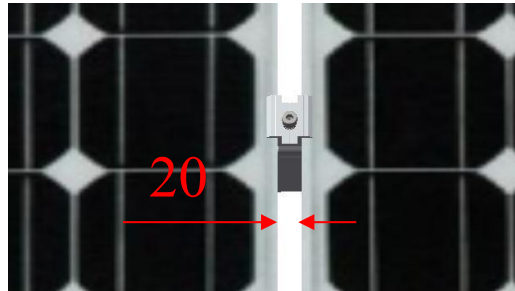
#### 4.4.6

Place the second PV Module, with its side face parallel to the stretched String, and fasten the Inter Clamp.

#### Note:

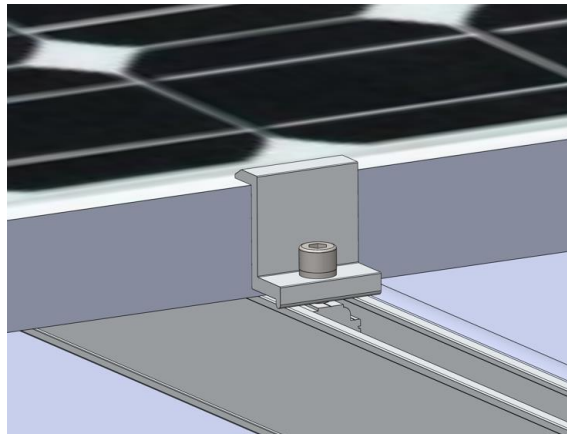
Pay attention not to touch the stretched String when placing the PV Modules

Recommend torque of M8 bolt is 13N.m



#### 4.4.7

Following the above steps to install other PV-Modules of this line and fasten the End Clamp at another side of end.



#### 4.4.8

Repeat above steps to install the rest PV-Modules. The distance of any adjacent face of PV-Module should be 20mm.

