



PV-ezRack PostMount 1-A with ECO Rail

Code-Compliant Planning and Installation Guide V2.0



Introduction

1. Introduction

Clenergy PV-ezRack PostMount 1-A is a ground mounting system suitable for large scale commercial and utility scale installations. PV-ezRack PostMount 1-A has been developed to fit any PV module in the outdoors and uneven ground areas. PV-ezRack PostMount 1-A have good compatibility for the different region via the angle adjustment (10°~60°). Using high quality engineered components PostMount 1-A saves developers and installers, time and money when delivering large scale projects.

Please review this manual thoroughly before installing PostMount 1-A. This manual provides the following contents:

- (1) Installation planning;
- (2) Installation instructions.

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The PV-ezRack PostMount 1-A parts, when installed in accordance with this guide, will be structurally adequate and meet the GB50009-2012, JIS8955, EN 1990/1991/1993, ASCE7-10, ISO 14713 standard. During installation, and especially when working on the ground, please comply with the appropriate occupational health and safety regulations. Please also pay attention to other relevant regulations in your local region. Please check that you are using the latest version of the installation manual by contacting Clenergy via email on www.clenergy.com.cn or contacting your local distributor.

The installer is solely responsible for:

- 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;
- Recycle: Recycling according to the local relative statute;
- 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;

Tools & Components

2. Tools & Components

2.1 Tools

Tools



Allen Key 6 mm



Spanner



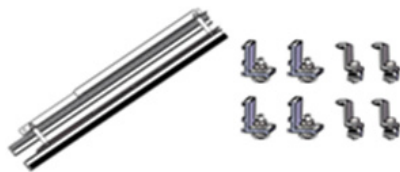
Torque Wrench



5m Tape

2.2 Components

Components



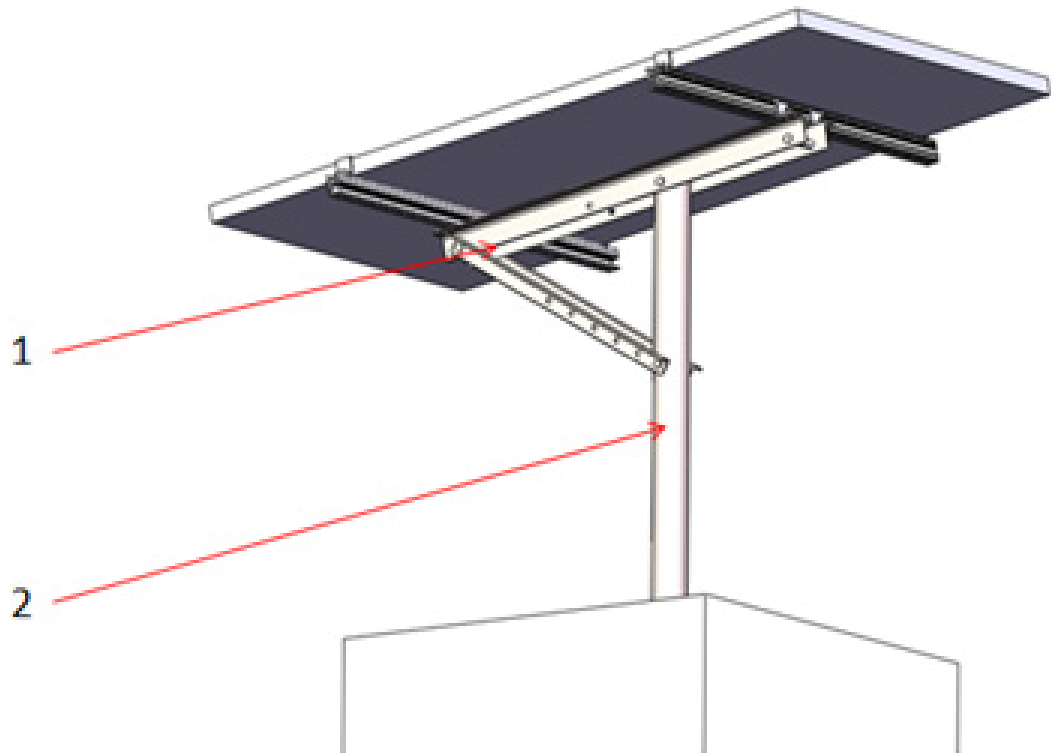
PM1-A Components Packx1



Pole for PostMount 1-A
83x2400mmx1

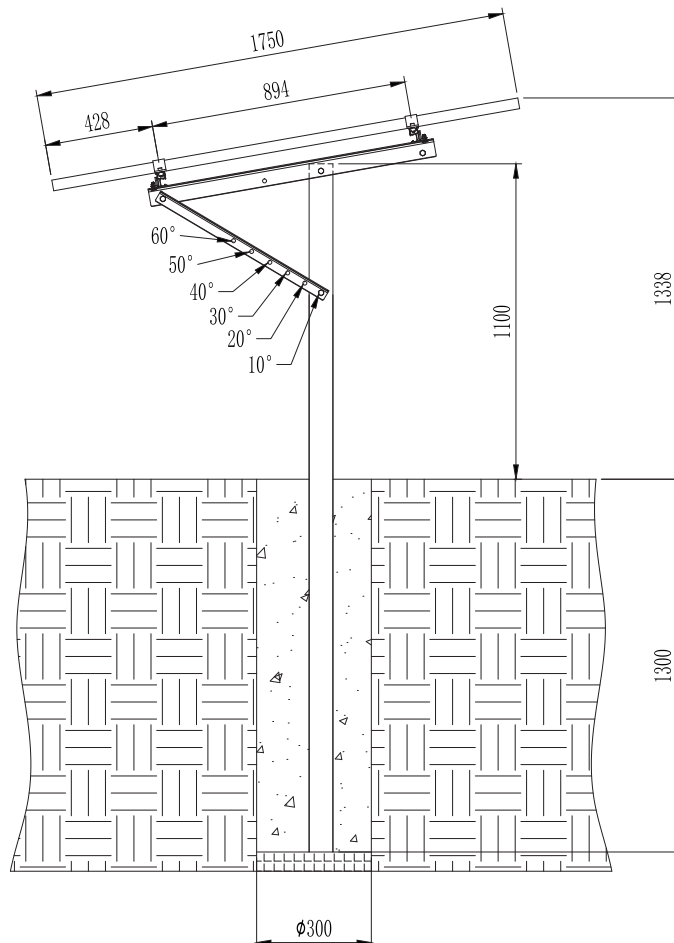
3. System Overview

3.1 Overview of PV-ezRack PostMount 1-A



- ① PM1-A Components Pack
- ② PM1-A Pole, Ø83x2400mm

Side view drawing of PV-ezRack PostMount 1-A is shown below. The panels tilt angle and embedment depth below are for reference only.



3.2 Precautionary Measures for Stainless-Steel Fastener Installation

Improper operation may lead to the deadlock of bolts and nuts. Follow the steps below to reduce this risk.

3.2.1 Reduce the friction coefficient

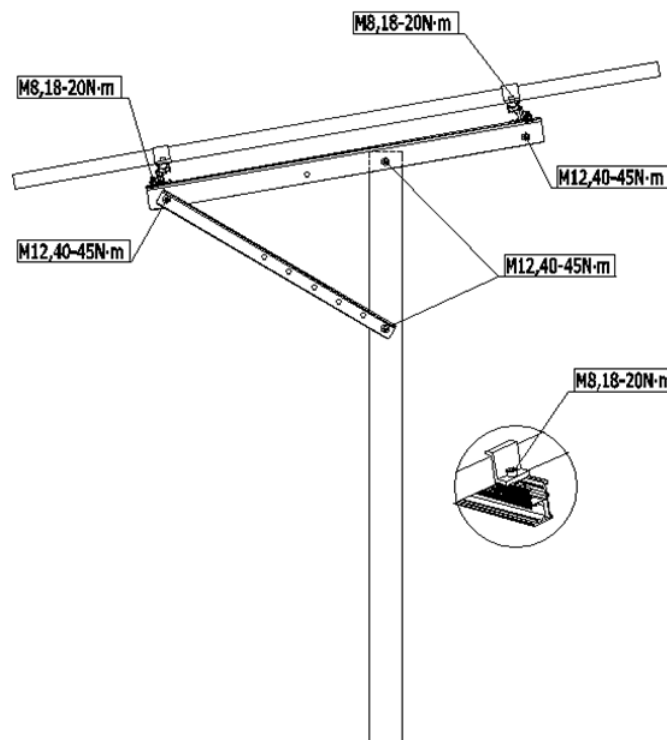
- (1) Ensure that the thread surface is clean (no dirt or contaminant).
- (2) Apply lubricant (grease or 40# engine oil) to fasteners prior to tightening to avoid galling or seizing in the threads.

3.2.2 General installation instructions

- (1) Apply force to fasteners in the direction of thread.
- (2) Apply force uniformly to maintain required torque.
- (3) Professional tools and tool belts are recommended.
- (4) Avoid using electric tools for final tightening.
- (5) Avoid working at high temperatures.

3.2.3 Safe Torques

Please refer to safe torques defined in this guide as shown in the figure below. If 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.



3.3 Installation Dimensions

All drawings and dimensions in this installation guide are for generic reference. The PV-ezRack PostMount 1-A is to be optimized to suit specific conditions for each project and documented in engineering drawings. As a result, major components of the PV-ezRack PostMount 1-A may be provided in sectional sizes and lengths that vary from those shown in this guide. The installation operations detailed in this instruction guide remain the same regardless of the component size. In case you need to do any on-site modifications or alteration of the system in a way that would be different from engineering drawings, please provide marked up drawings/sketches for Clenergy's review prior to modification for comment and approval.

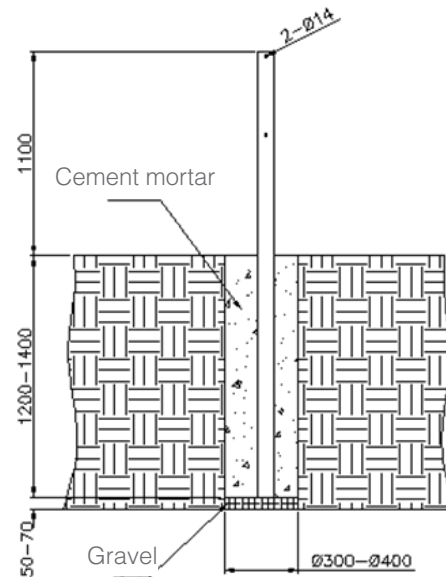
Installation Instruction

4. Installation Instruction

4.1 Pole 83*2400 Installation

Dig a hole to the diameter 300-400mm and depth 1200-1400mm highlighted in the PM1-A engineering letter. Cover the bottom of the hole with 50-70mm gravel.

Place the pole into the middle of the hole and fill it with concrete. Maintain the position of the post. The allowed vertical tolerance is $\pm 2^\circ$. Keep the axle of the 2- $\varnothing 14$ holes parallel to East-West; keep the vertical angle deviation within $\pm 5^\circ$. For more than one system on one site maintain all the axles of 2- $\varnothing 14$ holes aligned.



4.2 PostMount 1-A Kit Installation

4.2.1 As show in figure on the right, with M12 * 120 hex bolts and nuts to lock Angle Steel 63*40*1010 on the Pole. And then use M12 * 120 hex bolts and nuts to lock supporting rod 40 * 40 * 682 on the Pole.

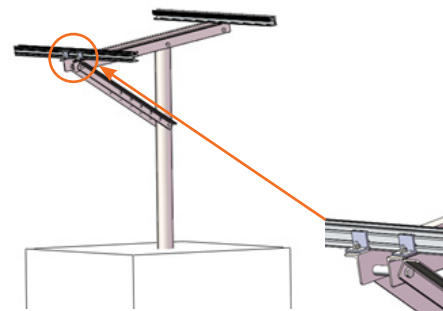
Note: supporting rod around multiple holes which can be adjusted by adjusting the mounting, adjustable angle of 10° , 20° , 30° , 40° , 50° and 60° .

Recommended torque for M12 bolts is 40~45 N·m



4.2.2 As show in figure on the right, place the ECO Rail on Angle Steel. Use the Cross Connection Clamp, Cup head square neck bolts M8*25, Hexagon nut with flange M8 to lock on the Angle Steel 63 * 40 * 1010.

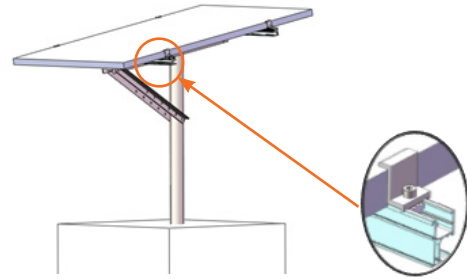
Recommended torque for M8 bolts is 18~20 N·m



Installation Instruction

4.2.3 Position the PV Panel landscape by aligning the centre line with the ECO Rail. And fix the PV Panel to the Rails by using End Clamps.

Recommended torque for M8 bolts is 18~20 N·m





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