Clenergy
Innovating renewable energy

PV-ezRack PostMount 4-A

Introduction

Clenergy PV-ezRack PostMount 4-A is a ground mounting system suitable for large scale commercial and utility scale installations. PV-ezRack PostMount 4-A has been developed to fit any PV module in the outdoors and uneven ground areas. PV-ezRack PostMount 4-A have good compatibility for the different region via the angle adjustment(10°~60°). Using high quality engineered components PostMount 4-A saves developers and installers, time and money when delivering large scale projects.

Please review this manual thoroughly prior to installing PV-ezRack PostMount 4-A. This manual provides supporting documentation for building permit applications relating to PV-ezRack PostMount 4-A Mounting system.

The PV-ezRack PostMount 4-A parts, when installed in accordance with this guide, will be structurally adequate and will meet the AS/NZS1170.2:2011 Admt 2-2012 standard. During installation and espe-cially when working on the ground please comply with the appropriate occupational health and safety regulations. Please also pay attention to other relevant regulations of your local region. Please check that you are using the latest version of the installation manual, which you can do by contacting Clenergy via email on sales@clenergy.com.au, or contacting your local distributor.

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Tools and components

2.1 Tools

Allen key 6mm

Spanner
(19mm) adjustable

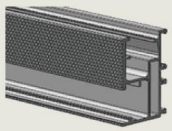
Torque Wrench (with socket and also Hex key attachment)

Tape Measure(5m)

Tools & Components

2.2 Components list

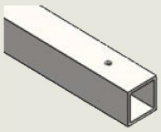
ER-R-ST
Standard Rail



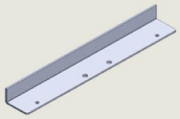
ER-EC-ST
End Clamp Standard

ER-IC-ST
Inter Clamp
Standard

ER-RT-70
PM4 ,
Rectangular
Tube-Master



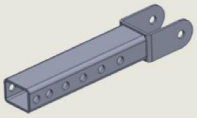
ER-AB-75/45/550
PM4-A,
Angle Bracket 75*45*550



ER-P-102
Pipe Diameter
φ102(PM4-A Pole)/

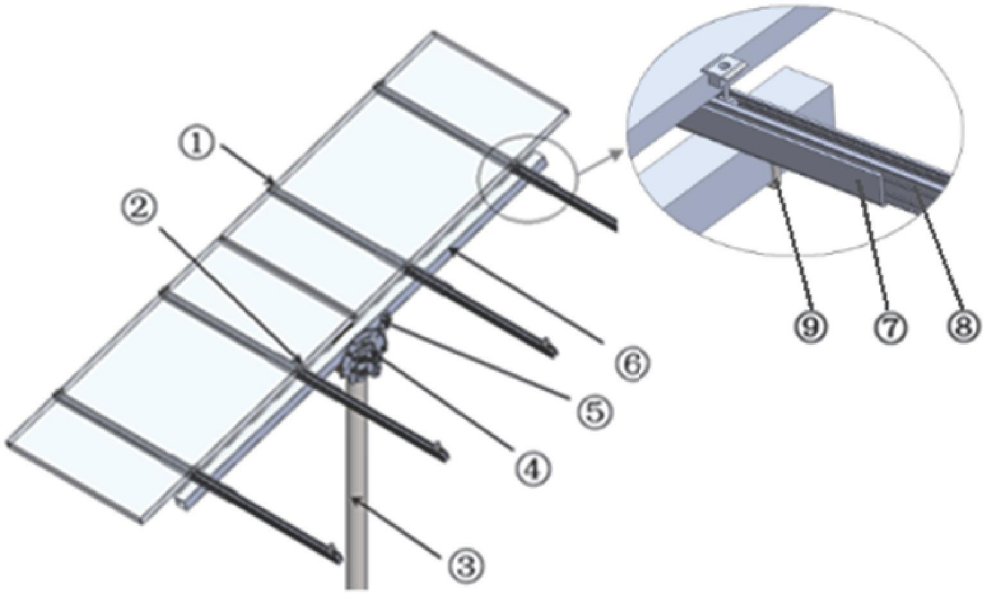
ER-SC-PM3/PM4
(PM3-A,PM4-A)
Steel Cap Assembly

ER-RT-70/394
(PM3-A,PM4-A),
Adjustable
Tube 70*50*394



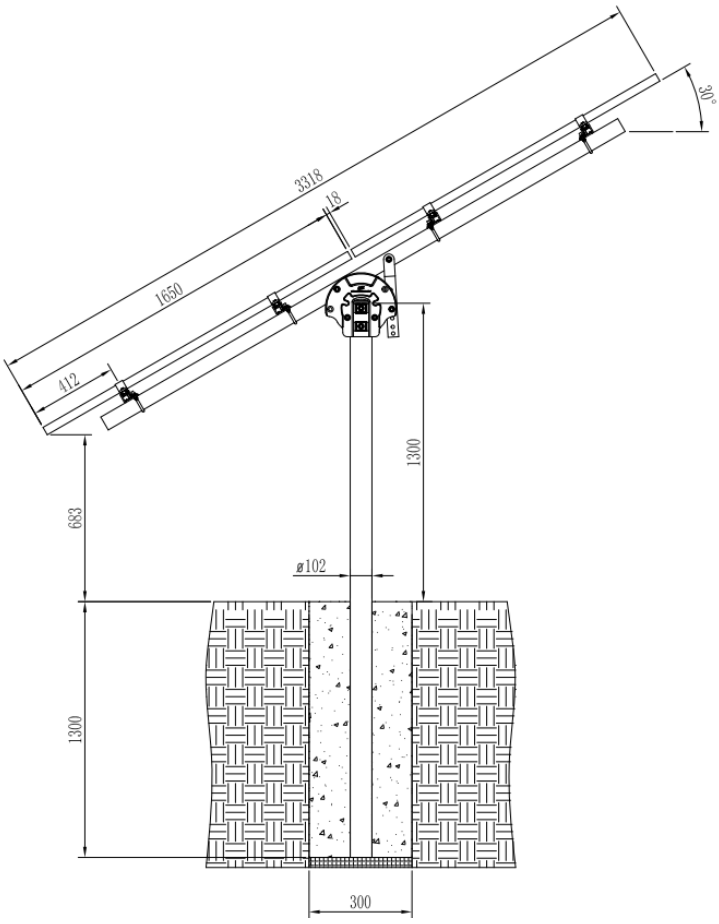
System Overview

1. End Clamp Standard
2. Inter Clamp Standard
3. PM4-A Pole
4. (PM3-A,PM4-A)Steel Cap Assembly
5. (PM3-A, PM4-A), Adjustable Tube
6. PM4， Rectangular Tube-Master
7. PM4-A,Angle Bracket
8. Standard Rail
9. U bolt for Tube110



Installation Steps

PM4-A Pole Installation



Maximum tilt angles, footing options and conditions.

	Wind Region			
	Region A	**Region B**	**Region C**	**Region D**
Wind speed (m/s)	41	48	59	73
Maximum tilt angle (°)	40	20	10	10
Soil Type	**Post embedded in concrete pier: 300 mm diameter concrete piers minimum depth (m)**			
Hard class soil	1.20	1.00	0.75	0.85
Very Firm class soil	1.30	1.05	0.80	1.05
Firm class soil	1.40	1.15	1.00	1.60
Soft class soil	1.70	1.85	1.70	2.60

- Wind Loads to AS/NZ1170.2:2011, Amendment 3-2012;
- Wind Terrain Categories 2, 3 & 4;
- Wind average recurrence interval of 100 years — for ultimate state, 20 years — service-ability;
- Wind region A, B, C & D;
- Max. Solar Panel length 1.65m, width 1m;
- Steel yield strength 300 MPa, aluminium 240 MPa;

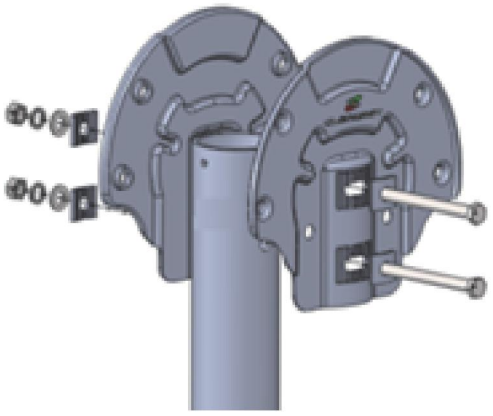
For further assitance and customised specifications please contact Clenergy.

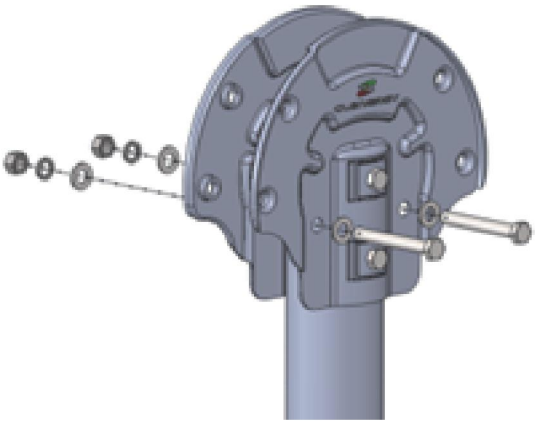
Installation Guide

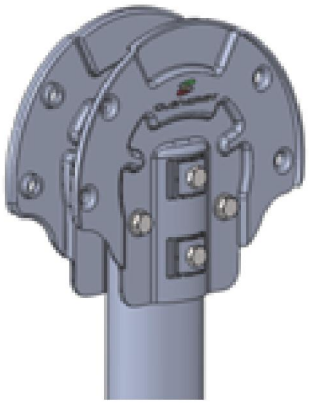
PM3/4-A Steel Cap Assembly Installation

Connect the pole and PM3/4-A Steel Cap Assembly with M14*150 Hex Bolt, Washer 14、Spring Washer 14、M14 Nut.
Combine two Steel Cap with M14*110 Hex Bolt, Washer 14、Spring Washer 14、M14 Nut.

Note:
1.Do not fasten the M14 Bolt prior to complete the assembly of PM4-ARectangular Tube-Master。
2. Keep all the Bolt head aligned.







Installation Guide

PM4-A Rectangular Tube-Master& PM4-A Adjustable Tube Installation

3a.Fix the PM4-A Rectangular Tube-Master at PM3/4-A Steel Cap Assembly with M14*120 Hex Bolt, Washer 14、Spring Washer 14、M14 Nut. See the mark ①.

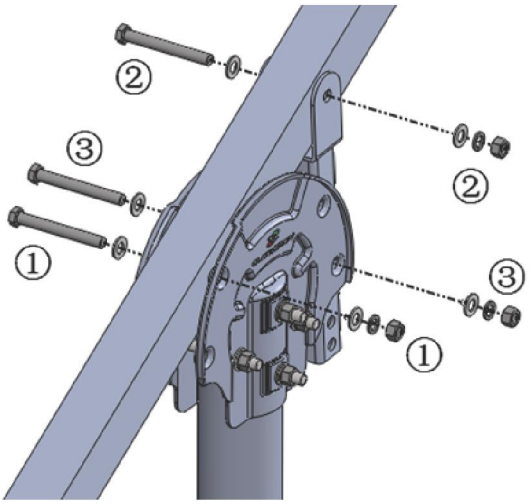
3b.Fix the PM4-A Adjustable Tube at PM4-A Rectangular Tube-Master with M14*120 Hex Bolt, Washer 14、Spring Washer 14、M14 Nut. See the mark ② .

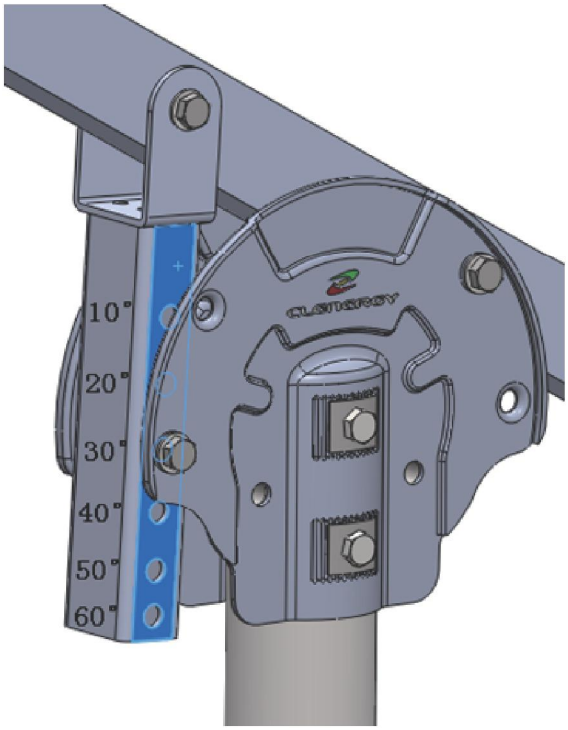
3c.Fix the PM4-A Rectangular Tube-Master at PM3/4-A Steel Cap Assembly with M14*120 Hex Bolt, Washer 14、Spring Washer 14、M14 Nut. See the mark ③.
Realized the angle adjustment by position the bolt in the different holes.

3d.Fasten the PM3/4-A Steel Cap Assembly to pole with M14*150 Hex Bolt&M14*110Hex Bolt, keep the rectangular Tube-Master parallel to the south-west via adjust the Steel Cap Assembly.

Recommended Torque:
M14: 95~100N • m

Note:
1:Adjust the angle of the rectangular Tube-Master with 10° in order to make the assembly process run smooth.
2: Using the adjustable washer to avoid the gap between the rectangular Tube-Master and the PM3/4-A Adjustable Tube, Unreliable connection is forbidden.

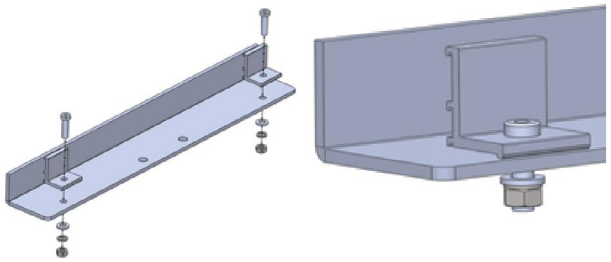




Installation Guide

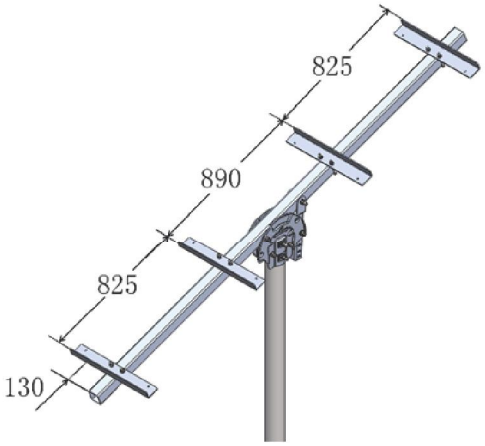
PM4-A Rectangular Tube Landscape Installation

4a.Preassemble the cross connection clamp at the Angle Bracket with 2pcs M8*28 Hex Bolt, 2pcs Washer, 2pcs Spring Washer, 2pcs M8 Nut.(See the figure right).

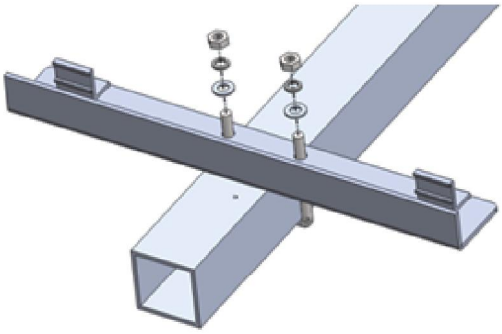


Note: Do not tighten the nut in order to make other Standard Rail well.

4b. Connect the Angle Bracket to Rectangular Tube-Master with 4pcs U bolts, 8pecs M10 Bolt,8pcs M10 Nut,8pcs spring washer,8pcs washer .(Acc. to the figure right).

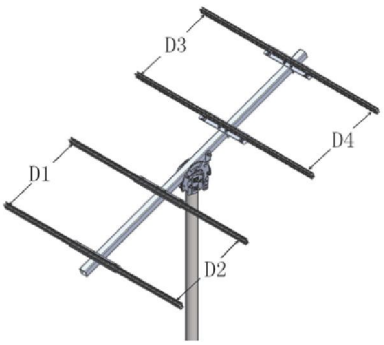


Note: Do not tighten the nut unit all the Angle Bracket aligned.



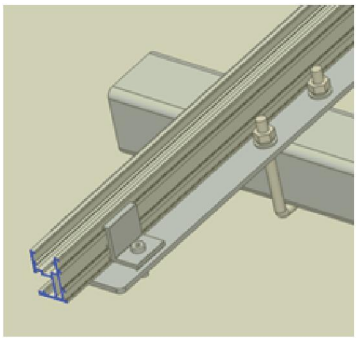
Installation Guide

Uplift the cross connection clamp in the certain angle, Click the clamp into the Standard Rail, Position the Standard Rail in the middle of the rectangular Tube-Master.and then fasten the M8*28 bolt.



Recommended Torque:
M8: 18~20N m

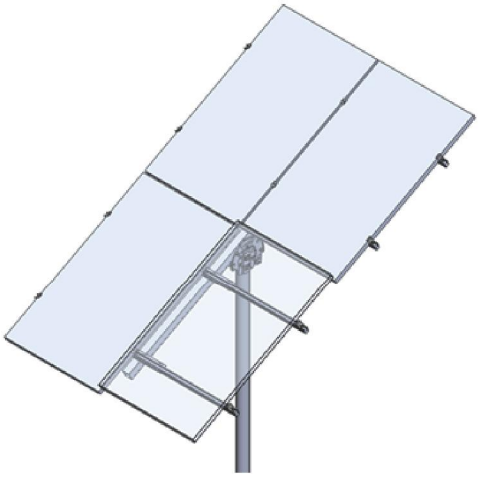
Adjust the Rectangular Tube Landscape until the dimension D1=D2.D3=D4.
Tighten the U bolt.



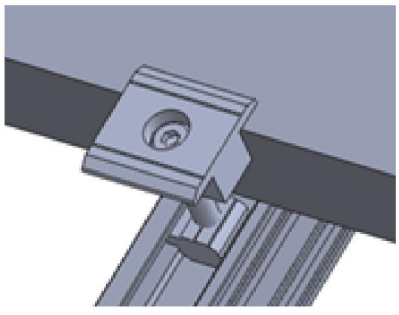
Recommended Torque:
M10: 35~40N m

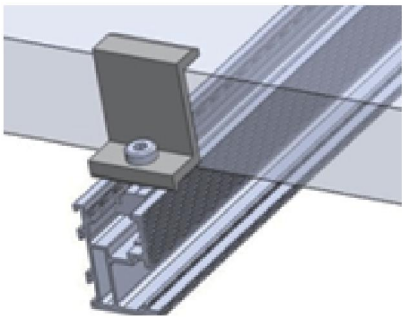
Install Module

Fix the PV panel to Standard Rail via Inter Clamps and End Clamps step by step until all the panels complete.



Recommended Torque:
M8: 18~20N • m





5.1Notices during Stainless Steel Fasteners Installation：

Improper operation may lead to deadlock of Bolts and Screws

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 tightening to avoid galling or seizing in the threads;

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 working at high temperatures,

（5）Avoid using electric tools for final tightening;

3．Safe Torques

Please refer to safe torques defined in this guide; For the project over MW, recommend a low speed torque when a power tool is used.

．If deadlock occurs and you need to cut fasteners please make sure that there is no load on the fasteners before you cut it. Avoid damaging the anodised or galvanised surfaces

This should be applied for every stainless steel nut and bolt assembly.

5.2 Installation Dimensions

All drawings and dimensions in this installation guide are for a generic reference. The Clenergy PostMount 4-A is to be optimized to site specific conditions for each project and documented in a construction drawing. As a result, major components of the Clenergy P PostMount 4-A may be provided in section sizes and lengths that vary from those shown in this guide. The installation process detailed in this manual hereinremains the same regardless of the component size. In case you need to do any on-site modifications or alteration of the system in the way that it would be different from the construction drawing please provide marked up drawings/sketches for Clenergy's review prior modification for comment and approval.

Service

10 year limited Product Warranty, 5 year limited Finish Warranty

Clenergy co. Ltd warrants to the original purchaser (“Purchaser”) of product(s) that it manufactures (“Product”) at the original installation site that the Product shall be free from defects in material and workmanship for a period of ten (10) years, except for the anodised finish, which finish shall be free from visible peeling, or cracking or chalking under normal atmospheric conditions for a period of five (5) years, from the earlier of 1) the date the installation of the Product is completed, or 2) 30 days after the purchase of the Product by the original Purchaser (“Finish Warranty”).

The Finish Warranty does not apply to any foreign residue deposited on the finish. All installations in corrosive atmospheric conditions are excluded. The Finish Warranty is VOID if the practices specified by AAMA 609 & 610-02 – “Cleaning and Maintenance for Architecturally Finished Aluminum” (www.aamanet.org) are not followed by Purchaser. This Warranty does not cover damage to the Product that occurs during its shipment, storage, or installation.

This Warranty shall be VOID if installation of the Product is not performed in accordance with Clenergy’s written installation instructions, or if the Product has been modified, repaired, or reworked in a manner not previously authorized by Clenergy IN WRITING, or if the Product is installed in an environment for which it was not designed. Clenergy shall not be liable for consequential, contingent or incidental damages arising out of the use of the Product by Purchaser under any circumstances.

If within the specified Warranty periods the Product shall be reasonably proven to be defective, then Clenergy shall repair or replace the defective Product, or any part thereof, in Clenergy’s sole discretion. Such repair or replacement shall completely satisfy and discharge all of Clenergy’s liability with respect to this limited Warranty. Under no circumstances shall Clenergy be liable for special, indirect or consequential damages arising out of or related to use by Purchaser of the Product.

Manufacturers of related items, such as PV modules and flashings, may provide written warranties of their own. Clenergy’s limited Warranty covers only its Product, and not any related items.