

POSTMOUNT 1-A

with ECO-Rail

Code-Compliant Planning and Installation Guide V3.1
Complying with AS/NZS 1170.2: 2021



Introduction

Outback Solar Pumps® PostMount 1-A is a ground mounting system suitable for large scale commercial and utility scale installations. Outback Solar Pumps® PostMount 1-A has been developed to fit any PV module in the outdoors and uneven ground areas. Outback Solar Pumps® 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.

The Outback Solar Pumps® PostMount 1-A parts, when installed in accordance with this guide, will be structurally adequate and meet the AS/NZS 1170.2: 2021 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 Outback via email on www.Outback.com.au or contacting your local distributor.

Product Warranty:

Please refer [Outback Solar Pumps® Product Warranty](#) on our website.

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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 Outback Solar Pumps® and other products are appropriate for the particular installation and the installation environment;
- Using only Outback Solar Pumps® parts and installer supplied parts as specified by Outback Solar Pumps® project plan (substitution of parts may void the warranty and invalidate the letter of certification);
- 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;
- Ensuring safe installation of all electrical aspects of the PV array, including providing adequate earth bonding of the PV array and Outback Solar Pumps® PostMount components as required in AS/NZS 5033:2021.

Tools and Components

Tools

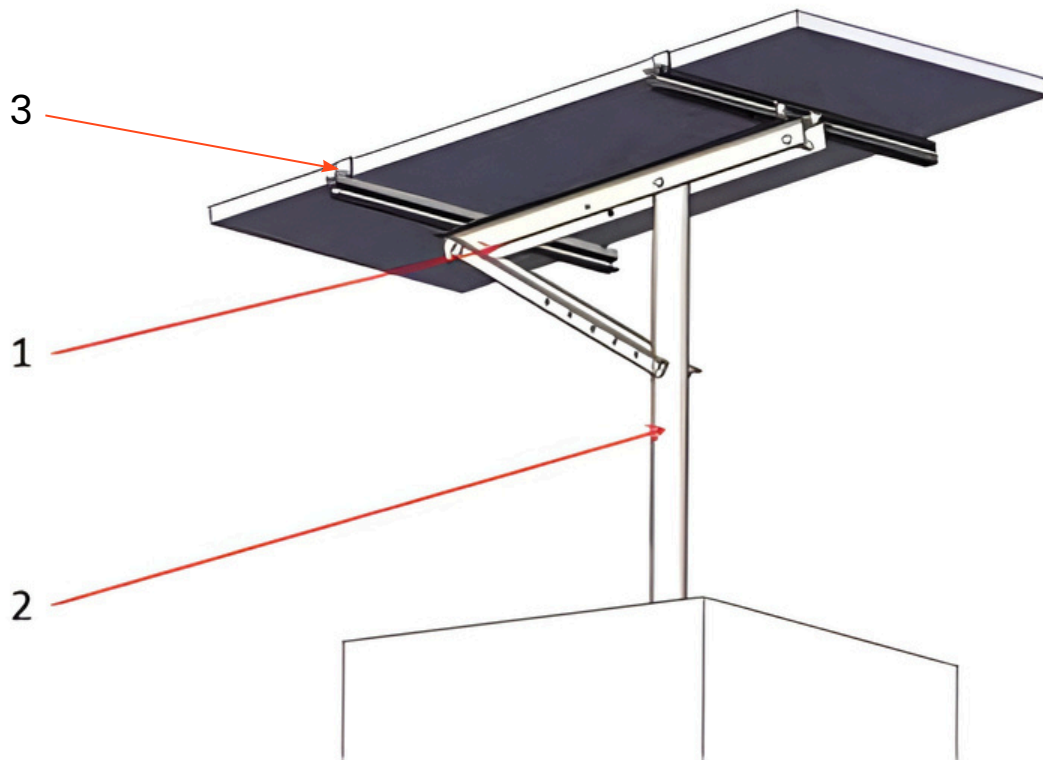
			
Allen Key 6 mm	Spanner	Torque Wrench	5m Tape

Components

		
COP-PMIA PMI-A Components Packx1	ER-P-83/2400 Pole for Post Mount I-A, Ø83x2400mmx1	ER-EC-ST End Clampx4

System Overview

1. PostMount 1-A

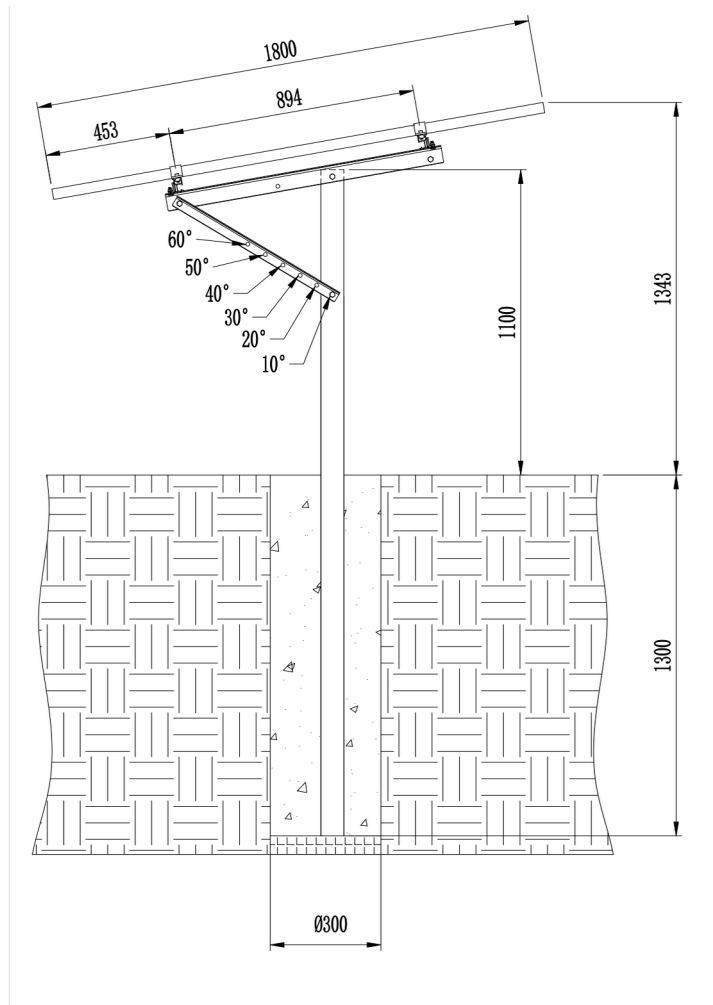


1. PM1-A Components Pack

2. PM1-A Pole, Ø83x2400mm

3. End Clamp

Side view drawing of Outback Solar Pumps® PostMount 1-A is shown below. The panels tilt angle and embedment depth below are for reference only. Please refer to Certificate Letter to obtain the certified max panels tilt angle and min embedment depth for different wind regions and different soil types.



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.

Reduce the friction coefficient

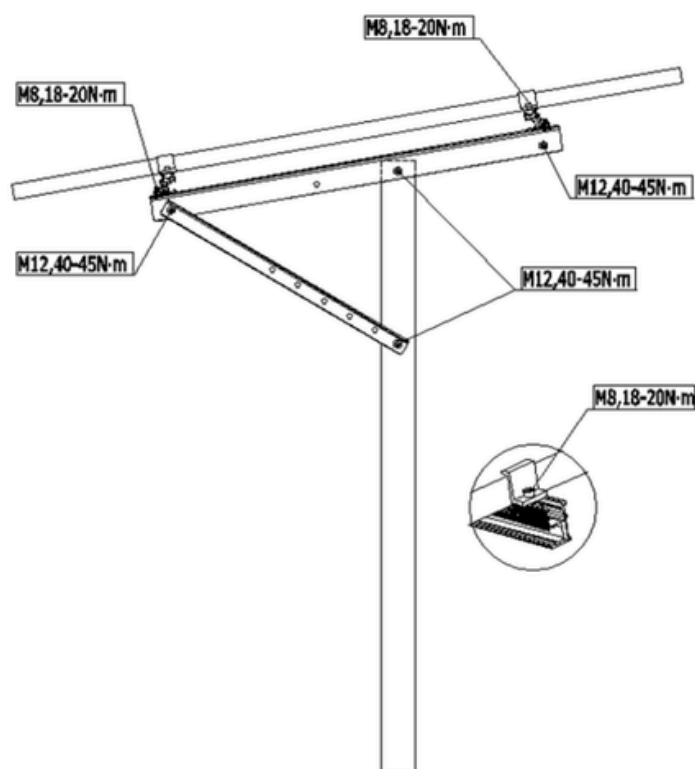
(1) Ensure that the thread surface is clean (no dirt or contaminant). (2) Apply lubricant (grease or 40# engine oil) to fasteners prior to tightening to avoid galling or seizing in the threads.

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.

Safe Torques

Please refer to safe torques defined in this guide as shown in the figure below. If power tools are required, Outback 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. Installation Dimensions

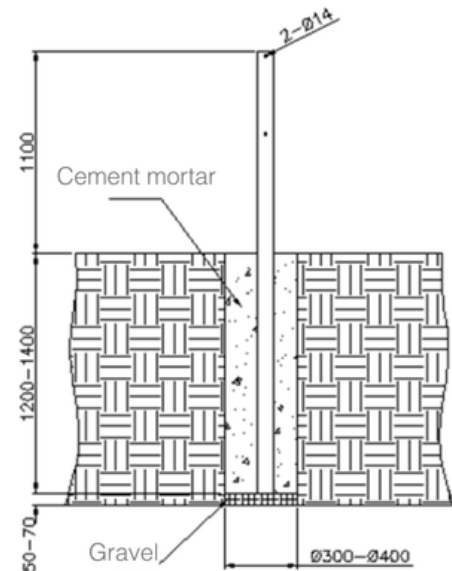
All drawings and dimensions in this installation guide are for generic reference. The Outback Solar Pumps® PostMount 1-A is to be optimized to suit specific conditions for each project and documented in engineering drawings. As a result, major components of the Outback Solar Pumps® PostMount 1-A may 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 Outback's review prior to modification for comment and approval.

Installation Instructions

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.



2. PostMount 1-A Kit Installation

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.

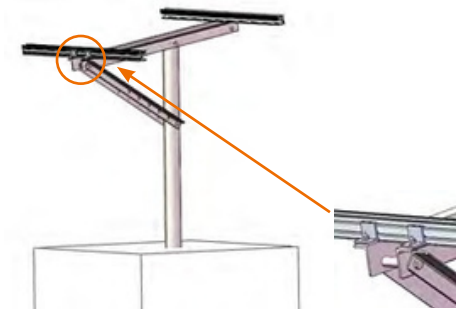
Note: supporting rod around multiple holes which can be adjusted by adjusting the mounting, adjustable angle of 10 °, 20 °, 30 °, 40 °, 50 ° and 60 °.

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



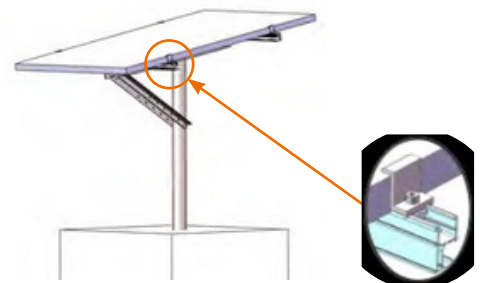
2) As show in figure on the right, place the ECO-Rail on Angle Steel. Use the Cross Connection Clamp, Cup head square neck bolts M8*25, Hexagon nut with flange M8 to lock on the Angle Steel 63 * 40 * 1010.

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



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





THANK YOU

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