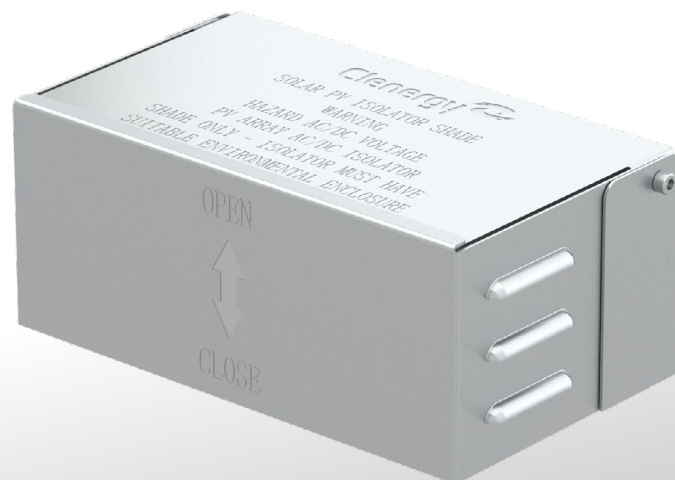


SolarRoof Isolator Shade with Side Plates

Installation Guide V1.0



Introduction

Clenergy PVezRack® SolarRoof Isolator Shade with Side Plates is an accessory in the PVezRack® rooftop PV mounting system, suitable for PV array AC/DC isolators. Utilising our patented Z-Module technology, the Isolator Shade can be fixed easily to the rail.

When correctly installed, the Isolator Shade with Side Plates is designed to function as a shroud to protect the isolator from direct exposure to sunlight and rain, as required by AS/NZS 5033:2021.

Please review this guide thoroughly before installing PVezRack® SolarRoof Isolator Shade with Side Plates.

Product Warranty:

Please refer [PV-ezRack® Product Warranty](#) on our website.

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The installer is solely responsible for:




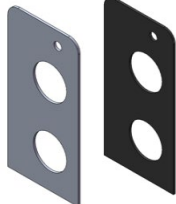
- Complying with all applicable local or national building codes, including any that may supersede this manual
- Ensuring that PVezRack® and other products are appropriate for the particular installation and the installation environment
- Using only PVezRack® parts and installer-supplied parts as specified by the PV-ezRack project plan. (substitution of parts may void the warranty and invalidate the letter of certification)
- Recycling according to the relevant local statutes
- Removal by reversing the 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
- Ensuring safe installation of all electrical aspects of the PV array. This includes adequate earth bonding of the PV array and PVezRack® components, as required in AS/NZS 5033: 2021.

Tools and Components

Tools

		
<p>Power Tool (for M8 Hexagon Socket Screw)</p>	<p>Marker Pen</p>	<p>Torque Wrench for M6 and M8 bolts</p>

Components

			
<p>IS-SR265/111 Isolator Shade</p>	<p>AB-SR/IS/260 Angle Bracket</p>	<p>IP-SR/IS P-SR/IS/BA Isolator Shade Side Plate</p>	<p>P-2CI-SR/IS P-2CI-SR/IS/BA Isolator Shade Side Plate with Two Conduit Inserts</p>

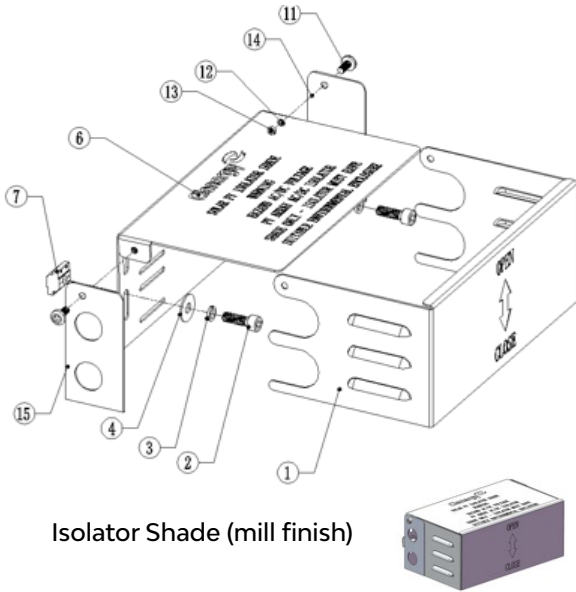
Note:

Angle Bracket is an optional component when fixing the Isolator Shade at the end of the rail.

System Overview

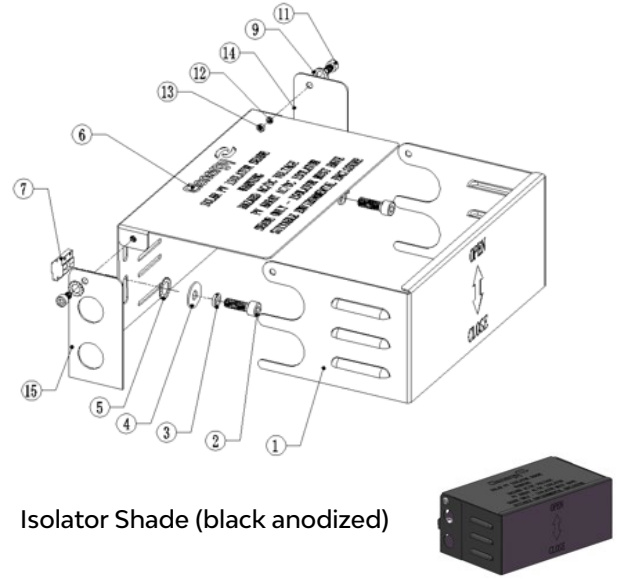
Overview of Isolator Shade- To be fixed along the rail

a) Isolator Shade (mill finish)



Isolator Shade (mill finish)

b) Isolator Shade (black anodized)



Isolator Shade (black anodized)

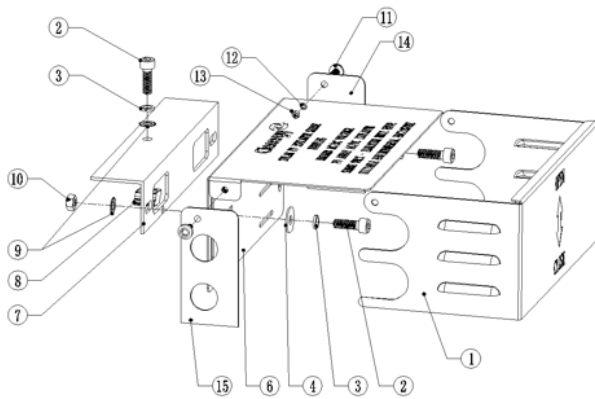
Item	Part Name	Spec. (mm)
1	Isolator Cover, 280*155.5*114mm	280*155.5*114
2	Hexagon socket head cap screw M8*25	M8*25
3	Washer 8	8
4	Plain washer large 8*24	8*24
5	External Teeth Lock Washer 12	12
6	Isolator Bracket, 265*155*111.5mm	265*155*111.5
7	Z Module(grounding)	L20
11	Hexagon socket head cap screw M6*14	M6*14
12	Washer 6	6
13	Hexagon nut M6	M6
14	Isolator Shade Side Plate	111.5*55*1.5
15	Isolator Shade Side Plate with Two Conduit Inserts	111.5*55*1.5

Note:

For the Isolator Shade (black anodized), lock washers (no. 5 in the image above) are required to achieve earthing continuity.

To be fixed at the rail end

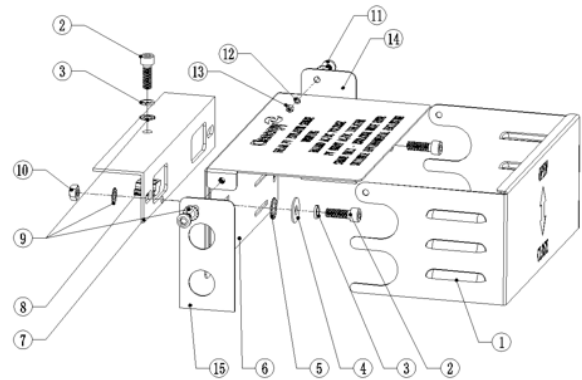
a) Isolator Shade (mill finish)



Isolator Shade (mill finish)



b) Isolator Shade (black anodized)



Isolator Shade (black anodized)



Item	Part Name	Spec. (mm)
1	Isolator Cover, 280*155.5*114mm	280*155.5*114
2	Hexagon socket head cap screw M8*25	M8*25
3	Washer 8	8
4	Plain washer large 8*24	8*24
5	External Teeth Lock Washer 12	12
6	Isolator Bracket, 265*155*111.5mm	265*155*111.5
7	Angle Bracket for Isolator Shade, 260 mm Length	260*50.8*2.8
8	Z Module(grounding)	L20
9	External Teeth Lock Washer 8	8
10	Hexagon nut M8	M8
11	Hexagon socket head cap screw M6*14	M6*14
12	Washer 6	6
13	Hexagon nut M6	M6
14	Isolator Shade Side Plate	111.5*55*1.5
15	Isolator Shade Side Plate with Two Conduit Inserts	111.5*55*1.5

Note:

For the Isolator Shade (black anodized), lock washers (no. 5 in the image above) are required to achieve earthing continuity.

Precautions During Stainless Steel Fastener Installation

Improper operation may lead to a deadlock of nuts and bolts. The steps below should be applied to every stainless steel nut and bolt assembly to reduce this risk.

Reduce the friction coefficient

1. Ensure that the thread surface is clean (no dirt or contaminant);
2. Apply lubricant to fasteners prior to tightening them to avoid galling or seizing of threads;

General installation instructions

1. Apply force to fasteners in the direction of the thread;
2. Apply force uniformly, to maintain the 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 the safe torques defined in this guide.

Installation Instructions

To be fixed along the rail

Assemble 2x Z-Module sets on the isolator bracket, as shown in Figure 1.

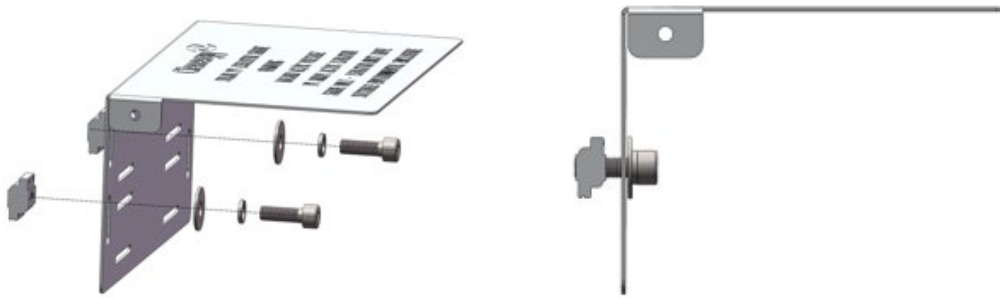


Figure 1

Assemble side plates with isolator bracket and cover. Side plates can be placed either on the outside of the cover or the inside of the cover, as shown in Figures 2-1 and 2-2, respectively.

Note: When using Isolator Shade (black anodized), please apply External Teeth Lock Washers between the Plain washer and Isolator Bracket, as highlighted in 3.1 (Overview of Isolator Shade).



Figure 2-1 Plates Installation on Outside of Cover

Below uses plates installation on the outside of the cover to describe the rest of the installation steps.

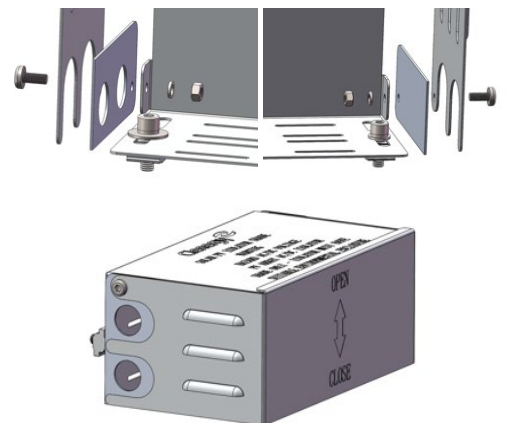


Figure 2-2 Plates Installation on Inside of Cover

Ensure that the bolts and nuts fixed on the side plates are not very tight to allow the cover to open for isolator installation (please refer to the installation manual from the isolator manufacturer), as shown in Figure 3.

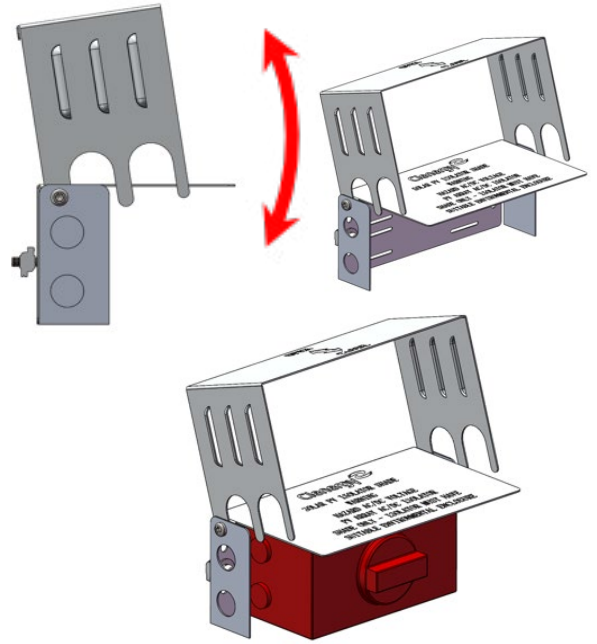


Figure 3

Side plates are positioned as shown in Figure 4 to allow cable conduits to go through easily to connect to the isolator.

After installing the isolator shade on the ECO rail (recommended torque for M8 bolts is 4-5 N.m.), fit conduits through side plate holes and fix with isolator properly.

Tighten up M6 bolts (recommended torque: 4-5N·m) for optimal opening and closing of the isolator cover.

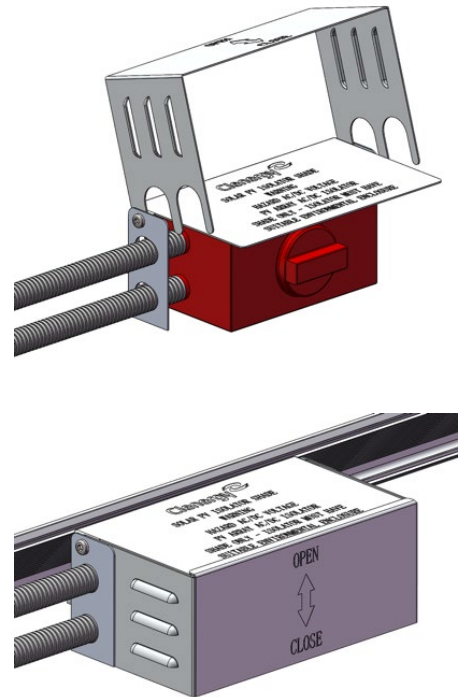


Figure 4

For installation scenarios requiring a single conduit or a different hole position or size, the installer can make a hole on the closed-end side plate, as shown in Figure 5.

Repeat the steps in Figures 1-3 to assemble side plates with isolator shade and isolator. Fix the isolator shade on the ECO rail and connect the conduit with the isolator, as shown in Figure 6.

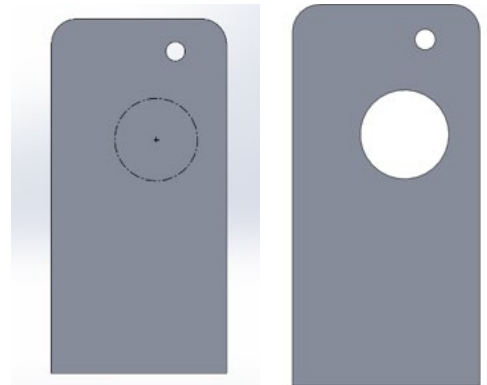


Figure 5

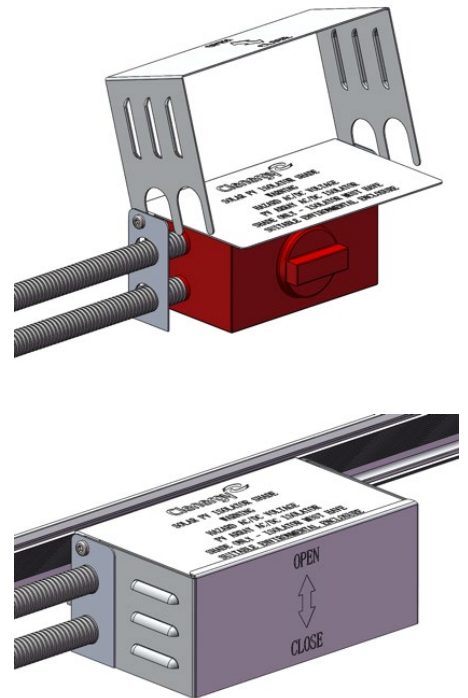


Figure 6

To be fixed at the rail end (optional)

An alternative option for fixing the isolator shade is at the end of the rail, using the Angle Bracket.

Assemble side plates with isolator bracket and cover, as shown in Figure 7

Note: When using Isolator Shade (black anodized), please apply External Teeth Lock Washers between the Plain washer and Isolator Bracket as highlighted in 3.1 (Overview of Isolator Shade).

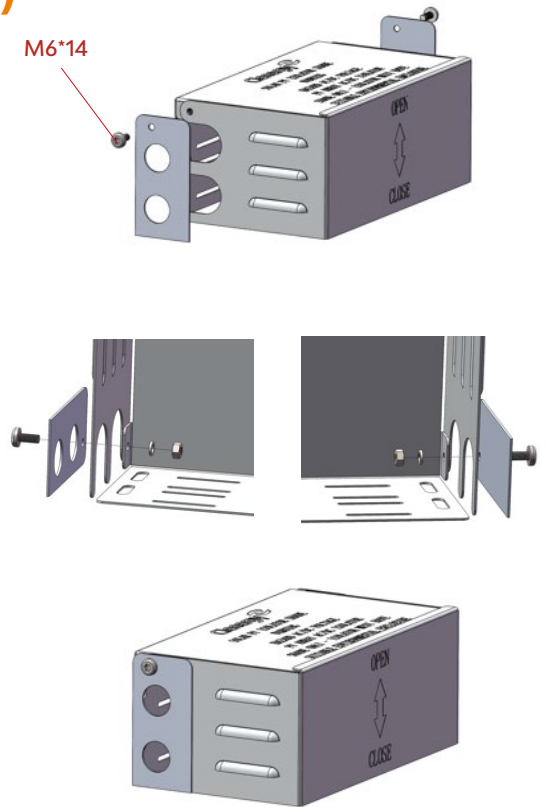


Figure 7

Keep the bolts and nuts fixing side plates not very tight to allow the cover to open for isolator installation (please refer to the installation manual from the isolator manufacturer), as shown in Figure 8.

Fix the Angle Bracket to the Isolator Shade, as shown in Figure 8.

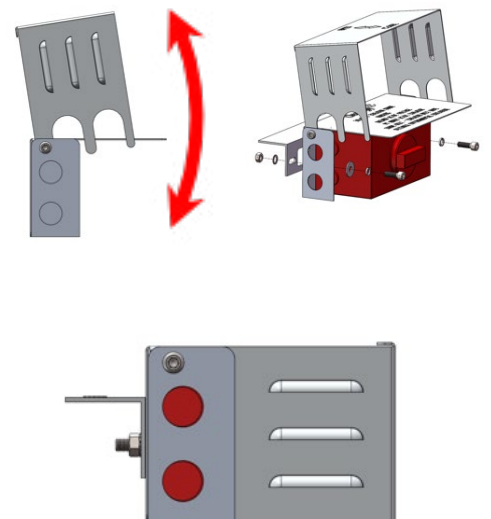


Figure 8

Recommended torque for M8 Bolts for fixing Angle Bracket on Isolator Shade is 8-10 N·m.

Fix assembled Isolator Shade at the end of the rail with the Z-module set, as shown in Figure 9. Recommended torque is 16-20N·m.

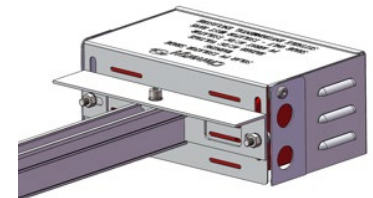
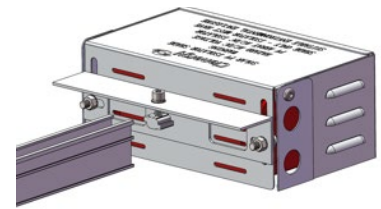


Figure 9

Fit cable conduits through side plate holes to connect the isolator properly as shown in Figure 10.

Tighten up M6 bolts (recommended torque: 4-5N·m) for optimal opening and closing of the isolator cover.

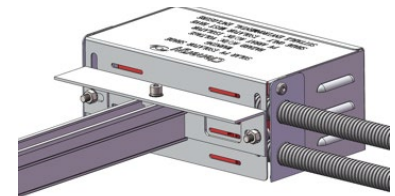


Figure 10






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