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Installation Manual

Universal Side-of-Pole Mount

UNI-SP/01



Solar Mounting Solutions

Introduction

The Universal Side-of-Pole Mount UNI-SP/01 is a simple and straightforward pole mounting solution for small area solar photovoltaic (PV) needs. With its user settable angle adjustment, it can support installations in a wide range of locations.

In addition, the UNI-SP/01 supports:

- ◆ A single PV panel up to 25 inches in width.
- ◆ Pole diameters from 2.0 inches to 4.5-inches.

1. Installer Responsibility

The installer is solely responsible for:

- ◆ Complying with all applicable local or national building codes, including any that may supersede this manual;
- ◆ Ensuring that IronRidge and other products are appropriate for the particular installation and the installation environment;
- ◆ Ensuring that all structural support members, including the roof, its rafters, and connections, can support the array under all code level loading conditions;
- ◆ Using only IronRidge parts and installer-supplied parts as specified by IronRidge. Substitution parts may void the warranty;
- ◆ Ensuring that anchoring devices including lag screws have adequate pullout strength and shear capacities as installed;
- ◆ Maintaining the waterproof integrity of the structural support or roof, including selection of appropriate flashing;
- ◆ Ensuring safe installation of all electrical aspects of the PV array; and
- ◆ Ensuring correct and appropriate design parameters are used in determining the design loading used for the specific installation. Parameters, such as snow loading, wind speed, exposure and topographic factor should be confirmed with the local building official or a licensed professional engineer.

2. Customer Support

IronRidge makes every effort to ensure your mounting kit is easy to install. If you need assistance at any point with your installation or have suggestions on how we can improve your experience, call IronRidge customer support: (800) 227-9523

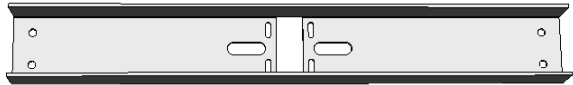

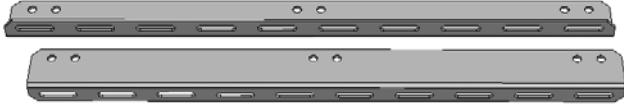
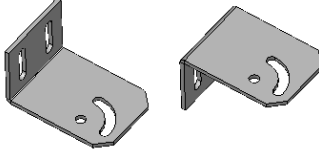
3. Tools Required For Assembly

The following tools are required to assemble the Universal Side-of-Pole Mount:

Tool	Use for
<p>Wrenches</p> <p>Open-end wrench, Box-end wrench, or 3/8" or greater socket drive with sockets to support the following size hex heads:</p> <ul style="list-style-type: none"> ◆ 5/16" ◆ 1/4" 	<ul style="list-style-type: none"> ◆ 5/16-18 cap-end screws ◆ 5/16-18 bolts ◆ 1/4-20 cap-end screws ◆ 1/4-20 bolts ◆ Cap-end screws on hose clamps
<p>Screwdriver</p> <p>Slotted, 1/4"</p>	<ul style="list-style-type: none"> ◆ Cap-end screws on hose clamps

4. Component List

The Universal Side-of-Pole Mount UNI-SP/01 kit contains the following parts:

<p>Bucket (51-3517-200)</p> <p>Attaches to the pole with the hose clamps, providing the link between the pole and the module/rail assembly</p> 	<p>Hose Clamps (27-5000-010) x2</p> <p>Attach to the pole, holding the Bucket. These hose clamps are compatible with poles ranging from 2.0 inches to 4.5 inches</p> 
<p>Rails (51-0525-001) x2</p> <p>Attach directly to the back of the module</p> 	<p>Clips (51-3517-243 / 51-3517-244)</p> <p>Hold the panel rails, allowing adjustment of the panel angle</p> 

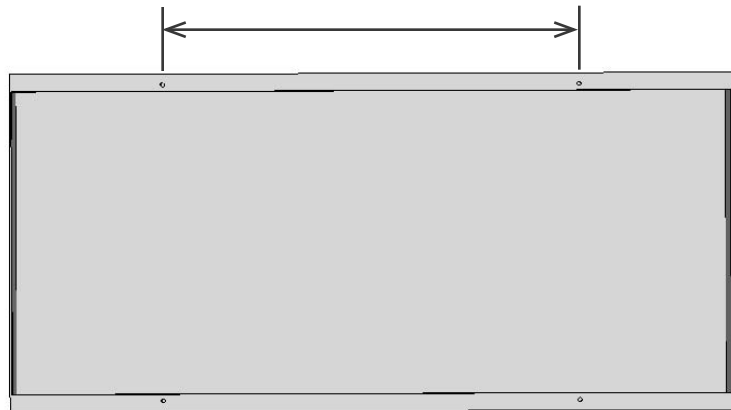
Part	Qty	Part Number
1/4-20 Kit	1	29-5001-000
1/4-20 x 3/4" SS hex-cap bolt	8	23-2520-050
1/4 flat washer, SS	16	25-2502-000
1/4 split lock washer, SS	8	24-2501-000
1/4 hex nut, SS	8	24-2520-440
5/16-18 Kit	1	29-5005-000
5/16-18 x 3/4" SS hex-cap bolt	4	23-3118-021
5/16 flat washer, SS	8	25-3102-000
5/16 split lock washer, SS	4	25-3101-000
5/16 hex nut, SS	4	25-3118-440
5/16 and 1/4 x 3/4" spare hardware kit	1	29-5002-000

5. Assembly

Step 1 - measuring the distance between mounting holes on the PV module

Parts Required	Qty	Part Number
PV Module	1	User-supplied

1. Lay the PV Module face down on a protected flat surface.
2. Measure the distance between the inside mounting holes on the back of the PV module as shown and make a note of it.

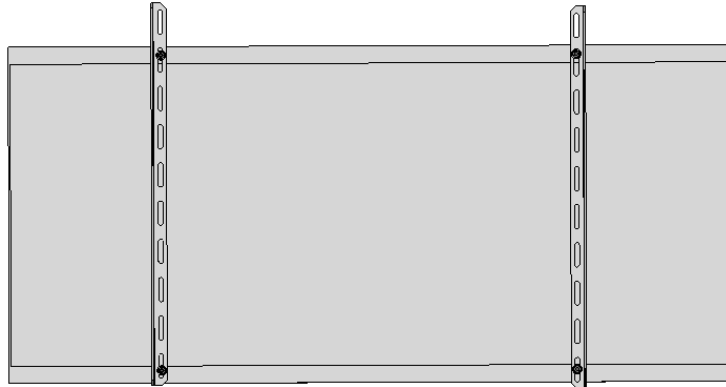


Step 2 - mounting the rail supports on the PV module

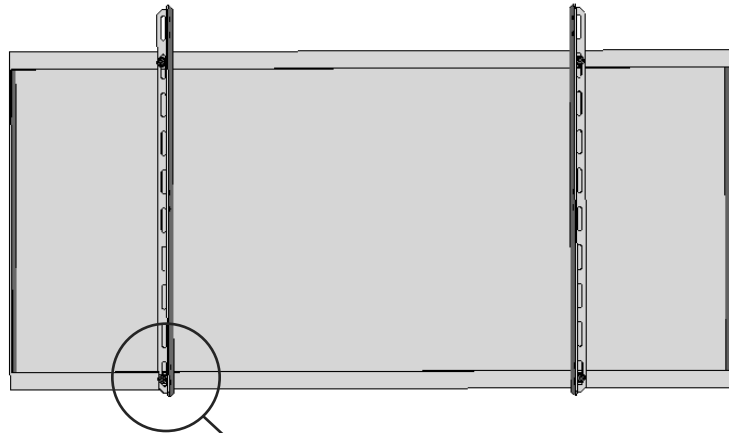
Parts Required	Qty	Part Number
PV Module	1	User-supplied
Rails	2	51-0525-001
1/4-20 x 3/4" SS hex-cap bolt	4	23-2520-050
1/4 flat washer, SS	4	25-2502-000
1/4 split lock washer, SS	4	24-2501-000
1/4 hex nut, SS	4	24-2520-440

1. Do one of the following:

- ◆ If the distance between the PV module mounting holes is less than 26.9", place the rails on the back of the panel so the lip of the rail containing the module mounting holes is facing towards the **center** of the module.

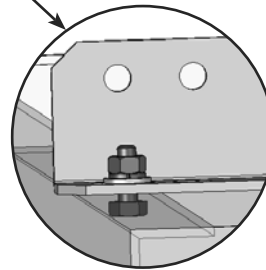


- ◆ If the distance between the PV module mounting holes is 26.9" or more, place the rails on the back of the panel so the lip of the rail containing the module mounting holes is facing toward the **outside edges** of the module.



2. Secure the rails with a bolt, lock washer and hex nut in each of the 4 mounting holes.

Tighten the bolts to 7 ft-lbs.

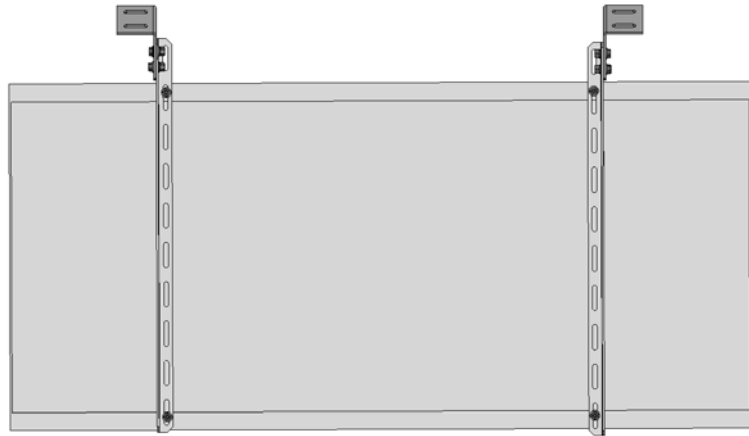


Step 3 - attaching the clips to the rails

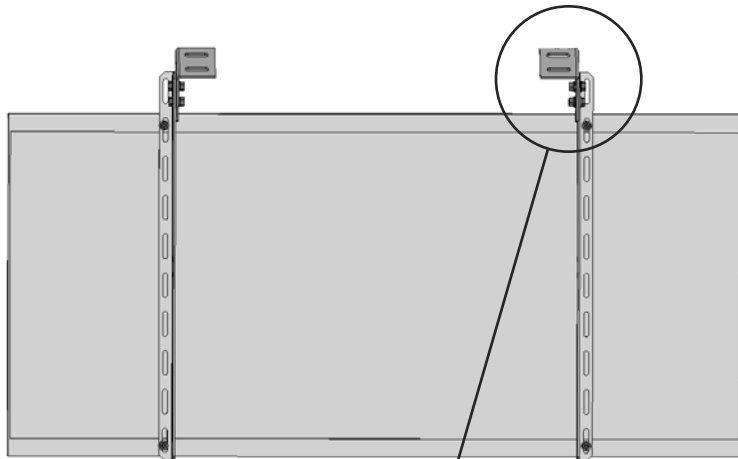
Parts Required	Qty	Part Number
Left Clip	1	51-3517-243
Right Clip	1	51-3517-244
5/16-18 x 3/4" SS hex-cap bolt	4	23-3118-021
5/16 flat washer, SS	8	25-3102-000
5/16 split lock washer, SS	4	25-3101-000
5/16 hex nut, SS	4	25-3118-440

1. Do one of the following:

- ◆ If the distance between the PV module mounting holes is less than 26.9" attach the clips to the rails so the protruding end of the clips are facing the outside **edges** of the module.

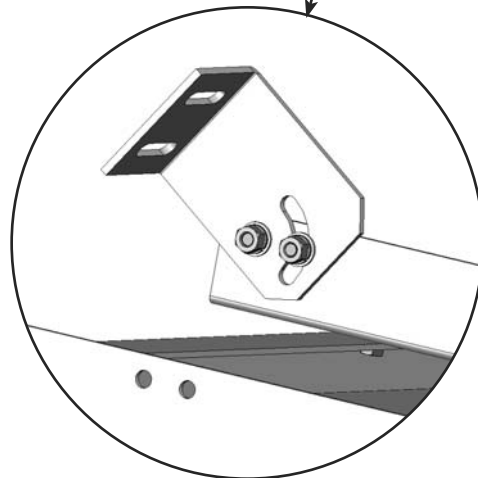


- ◆ If the distance between the PV module mounting holes is 26.9" or more, attach the clips to the rails so the protruding end of the clips are facing the the **center** of the module.



2. Attach the clips to the rails. In each of the mounting holes, use a bolt and flat washer on one side, and a flat washer, lock washer and nut on the other.

Tighten the bolts to 8.3 ft-lbs.

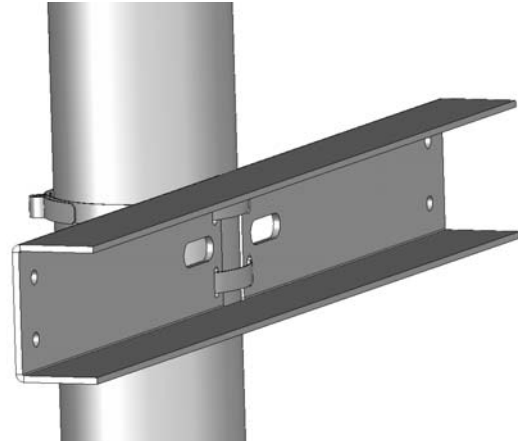


Step 4 - attaching the bucket to the pole

Parts Required	Qty	Part Number
Hose Clamp	2	27-5000-010
Bucket	1	51-3517-200

1. Thread each hose clamp through one of the sets of narrow center holes in the bucket as shown and place at the desired location on the pole.

I This hose clamp is only compatible with poles ranging from 2.0" to 4.5"



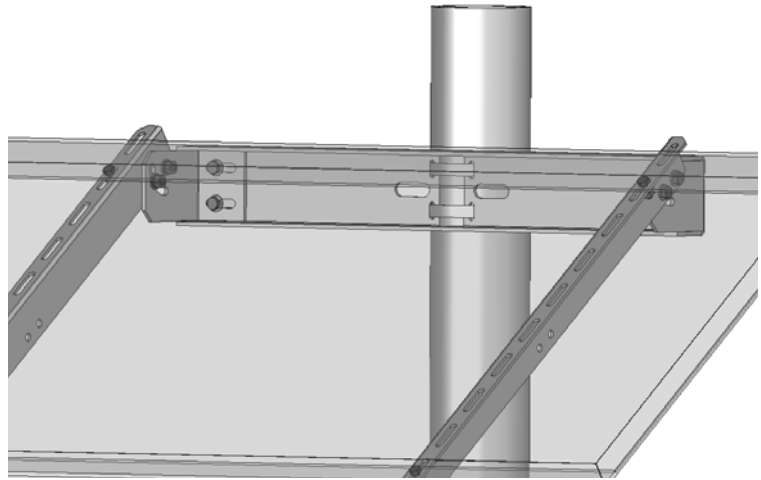
2. Tighten the hose clamp screws to 70 inch-lbs.

Step 5 - mounting the PV assembly on the pole

Parts Required	Qty	Part Number
1/4-20 x 3/4" SS hex-cap bolt	4	23-2520-050
1/4 flat washer, SS	8	25-2502-000
1/4 split lock washer, SS	4	24-2501-000
1/4 hex nut, SS	4	24-2520-440

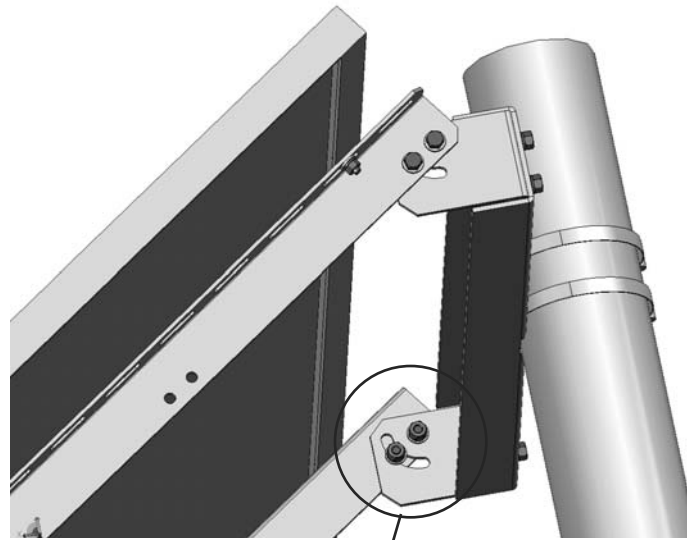
1. Place the PV module assembly so the holes on the clips line up with holes in the inside of the bucket.

Note: depending on the size of the panel you started with, your assembly may look different than this picture, with the clips and rails facing in the opposite direction.



2. Attach the clips to the bucket. In each of the 4 mounting holes, use a bolt and flat washer on one side, and a washer, lock washer and nut on the other.

Tighten the bolts to 8.3 ft-lbs.



3. If desired, loosen the bolts holding the rails to the clips, and adjust the tilt of the panel as required.

Tighten the bolts to 8.3 ft-lbs.

