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Installation Manual

Universal Top-of-Pole Mount

UNI-TP/10



Solar Mounting Solutions

Introduction

The Universal Top-of-Pole Mount UNI-TP/10 is a very sturdy and straightforward pole mounting solution for small area solar photo voltaic (PV) needs. With its user-adjustable angle settings, it can support installations in a wide range of locations.

In addition, the UNI-TP/10 supports:

- ◆ Up to ten PV panels (five panels in each of the two channels, with a combined width of up to 115 inches per channel).
- ◆ A pole diameter of 6.0 inches (requires a properly anchored schedule 40 pipe).

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 the selected mount can support the array under live load conditions
- ◆ Using only IronRidge parts and installer-supplied parts as specified by IronRidge. Substitution parts may void the warranty
- ◆ Ensuring safe installation of all electrical aspects of the PV array.

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 Top-of-Pole Mount:

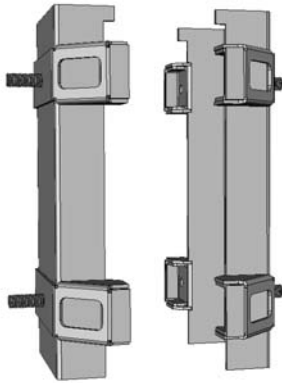
Tool	Use for
Wrenches Open-end wrench, Box-end wrench, or 3/8" or greater socket drive with sockets to support the following size hex heads: <ul style="list-style-type: none"> ◆ 3/8" ◆ 5/16" ◆ 1/4" 	<ul style="list-style-type: none"> ◆ 3/8 cap-end screws, 3/8 bolts ◆ 5/16 cap-end screws, 5/16 bolts ◆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

4. Component List

The Universal Top-of-Pole Mount UNI-TP/10 kit contains the following parts:

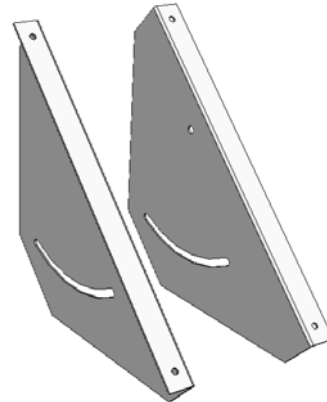
Brace Assembly (51-0626-400) x2

Attaches to the top of the 6-inch pole, providing the foundation for the mount



Tilt Plate, left (51-0627-027) and right (51-0627-027A)

Attaches to the brace, providing tilt adjustment for the panel assembly



Cross Rail (51-0627-030) x2

Attaches to the tilt plates and support the channel rails



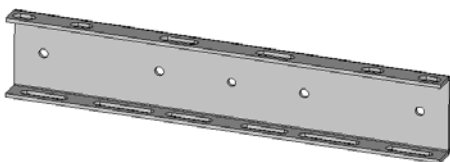
Channel rail (51-0570-001) x4 and (51-0545-001) x4

Attaches directly to the back of the PV modules



Connector (51-0627-021) x4

Connects the channel rails together, extending their usable length



Component List continued...

Part	Qty	Part Number
3/8-16 x 1" Kit	1	29-5006-005
3/8-16 x 1" SS hex-cap bolt	8	23-3118-021
3/8 flat washer, SS	16	25-3102-000
3/8 split lock washer, SS	8	25-3101-000
3/8 hex nut, SS	8	25-3118-440
Large Pole Bracket Kit	1	29-5008-001
Stud, 3/8-16 x 5.5" Zinc	4	27-1037-016
3/8 flat washer, Zinc	8	27-3702-001
3/8 split lock washer, Zinc	8	27-3701-001
3/8 hex nut, Zinc	8	24-3716-441
Large Tilt Plate Kit	1	29-5007-000
3/8 flat washer, Zinc	4	27-3702-001
3/8 split lock washer, Zinc	4	27-3701-001
3/8 hex nut, Zinc	4	24-3716-441
Cross Rail Kit	1	29-5010-000
5/16-18 x 2.50" hex-cap bolt, Zinc	4	23-3118-901
5/16 flat washer, Zinc	4	25-3102-001
5/16 med split lock washer, Zinc	4	25-3101-001
5/16-18 fin hex nut, Zinc	4	24-3118-441
Connector Kit	1	29-5000-000
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
1/4-20 fin hex nut, SS	8	24-2520-440
1/4 x 3/4" Kit	10	29-5000-000
1/4-20 x 3/4" SS hex-cap bolt	40	23-2520-050
1/4 flat washer, SS	40	25-2502-000
1/4 split lock washer, SS	40	24-2501-000
1/4-20 fin hex nut, SS	40	24-2520-440
Spares Kit	1	29-5002-100

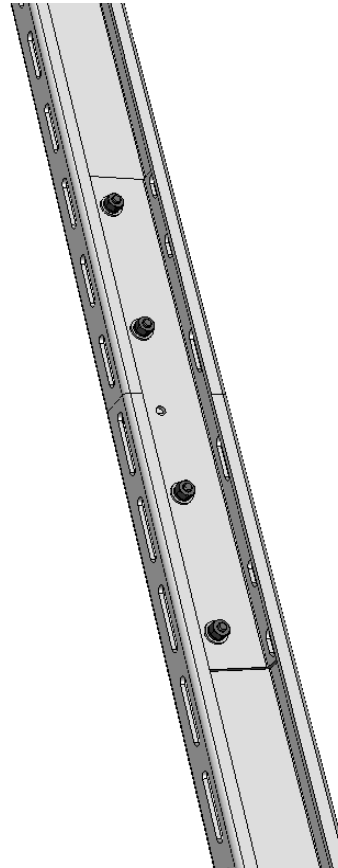
5. Assembly

Step 1 -connecting the channel rails together

Parts Required	Qty	Part Number
Connector	4	51-0627-021
Channel Rail	4	51-0570-001
Channel Rail	4	51-0545-001
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
1/4-20 fin hex nut, SS	8	24-2520-440

1. Lay a short (40") and long (70") channel rail end to end.
2. Using a connector, bolt the channel rails together.

Tighten the bolts to 7 ft-lbs.
3. Repeat with the remaining set of channel rails.



Step 2 -attaching the channel rails to the PV modules

Parts Required	Qty	Part Number
PV Module	up to 10	User-supplied
1/4-20 x 3/4" SS hex-cap bolt	40	23-2520-050
1/4 flat washer, SS	40	25-2502-000
1/4 split lock washer, SS	40	24-2501-000
1/4-20 fin hex nut, SS	40	24-2520-440

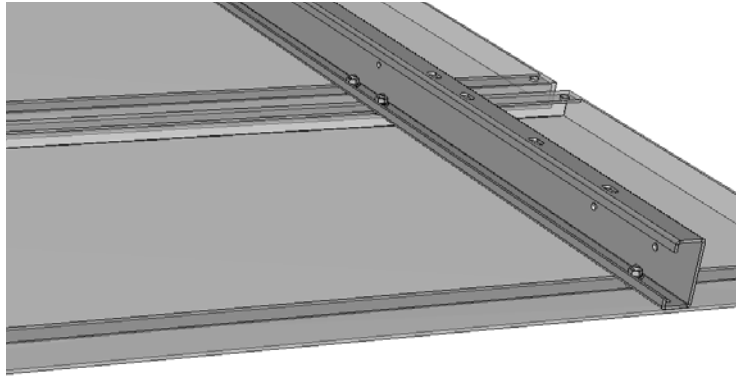
1. Lay the modules face down on a protected surface in the appropriate orientation -up to five modules per set of rails. Leave an inch or two between the panels.
2. Lay the channel rails on the back of the modules with the evenly-spaced holes down, so the flat side of the rails are facing towards the outside edges of the panels.



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

Tighten the bolts to 7 ft-lbs.

- Repeat, attaching the remaining PV modules to the two remaining channel rails.

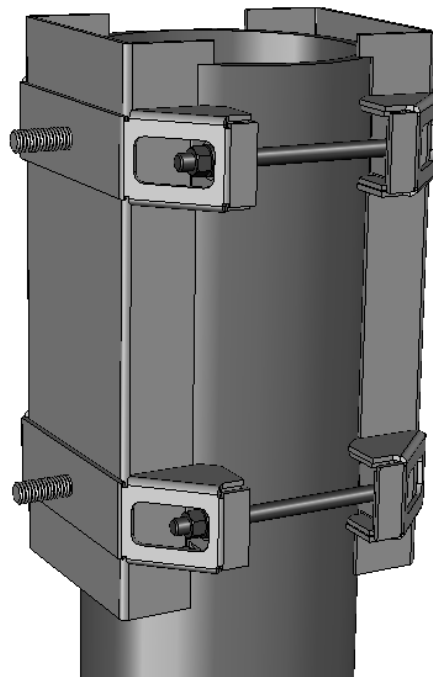


Step 3 - attaching the brace assembly to the pole

Parts Required	Qty	Part Number
Brace Assembly	2	51-0626-400
Stud, 3/8-16 x 5.5" Zinc	4	27-1037-016
3/8 flat washer, Zinc	8	27-3702-001
3/8 split lock washer, Zinc	8	27-3701-001
3/8 hex nut, Zinc	8	24-3716-441

- Place the brace assembly onto the pole so the "lip" catches the top of the pole.
- Install the studs and hardware as shown, using a washer and lock washer under each nut.
- Tighten the stud nuts evenly, making sure that all studs are tightened the same amount so the distance between braces is the same on the front and the back.

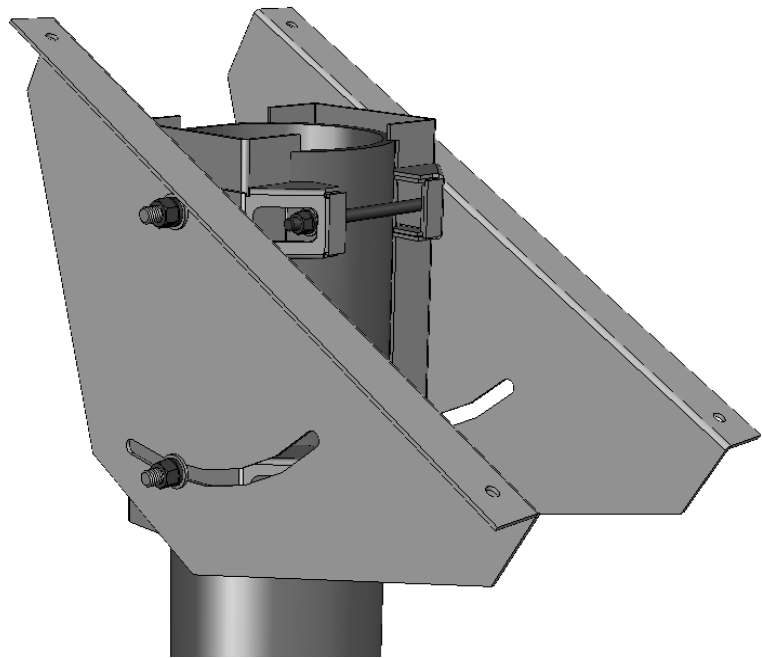
Tighten the studs to 12 ft-lbs.



Step 4 - attaching the tilt plates to the brace

Parts Required	Qty	Part Number
Tilt Plate, left	1	51-0627-027
Tilt Plate, right	1	51-0627-027A
3/8 flat washer, Zinc	4	27-3702-001
3/8 split lock washer, Zinc	4	27-3701-001
3/8 hex nut, Zinc	4	24-3716-441

1. Place the tilt plates on the brace assembly as shown.
2. Use a washer, lock washer and nut on each screw, and finger-tighten.



Step 5 - attaching the cross rails to the tilt plates

Parts Required	Qty	Part Number
Cross Rail	2	27-0627-100
5/16-18 x 2.50" hex-cap bolt, Zinc	4	23-3118-901
5/16 flat washer, Zinc	8	25-3102-001
5/16 med split lock washer, Zinc	4	25-3101-001
5/16-18 fin hex nut, Zinc	4	24-3118-441

1. Place the cross rails on the tilt plates with the open sides facing towards each other and attach using the specified hardware.
2. Tighten the bolts to 12 ft-lbs.

