

# 15 Watt Solar Panel Installation Instructions (SOLAR-15W)

## Items Included

- 15 watt solar panel with adjustable bracket mounting hardware (tilt arm, bracket, clamps, bolts, lock washers, washers, and nuts; additional optional hardware may be included that is not required for this installation)
- Two U-bolts with saddle and two flanged nuts for mounting solar panel to a 4.1 cm (1.63 in.) diameter mast

## Tools Required

**Note:** Both Metric and English sizes are required.

- One 10 mm wrench
- Two ½ inch wrenches

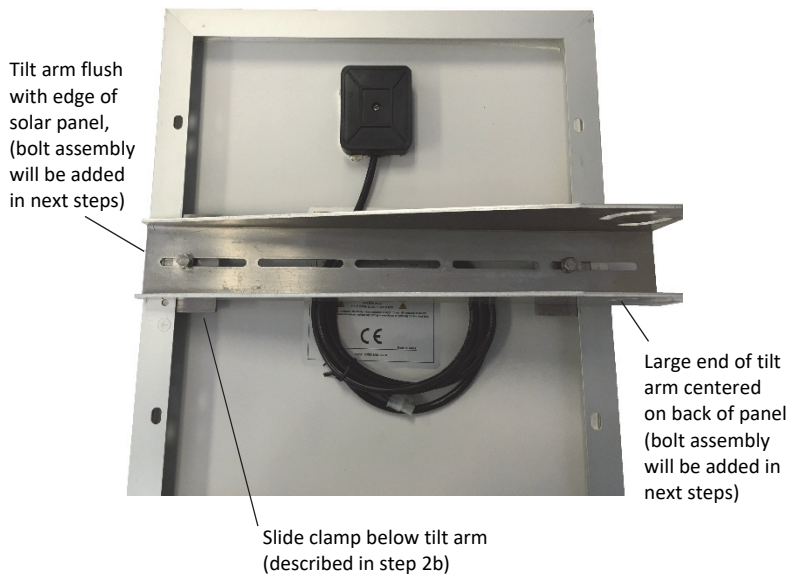
**Important:** The solar panel **must** be mounted where it will receive full sunlight or performance will be severely degraded.

## Specifications

<b>Power</b>	15 Watts
<b>Operating Temperature Range</b>	-40° to 85°C (-40°F to 185°F)
<b>Materials</b>	Polycrystalline silicon solar cell; aluminum frame and mounts; zinc-coated steel bolts, nuts, washers, and U-bolts
<b>Dimensions</b>	428 x 357 x 30 mm (16.85 x 14.06 x 1.18 in)
<b>Weight</b>	2.2 kg (4.85 lb)
<b>Cable Length</b>	2 m (6 ft)
<b>Environmental Rating</b>	Weatherproof when mounted properly, not waterproof
<b>CE</b>	The CE Marking identifies this product as complying with all relevant directives in the European Union (EU).

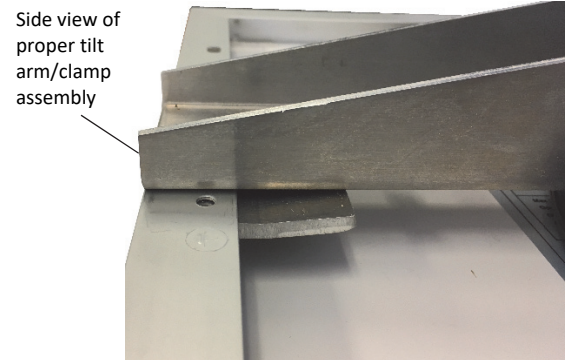
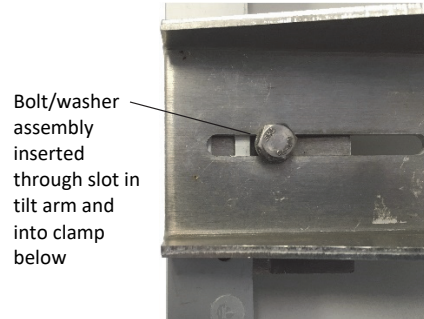
**1** Remove any plastic on the solar panel or hardware. It is recommended that you lubricate all nuts and bolts with multi-purpose or protective lithium grease to facilitate easy removal at a later date. Two people may be needed to perform some of these installation steps.

**2** a. With the cable side of the solar panel facing up, center the tilt arm on the solar panel, oriented as shown with the shorter end of the tilt arm flush against the edge of the solar panel frame.



b. Working on the flush edge first, slide a clamp under the edge of the frame, lining up the hole in the center of the clamp with the slot in the tilt arm.

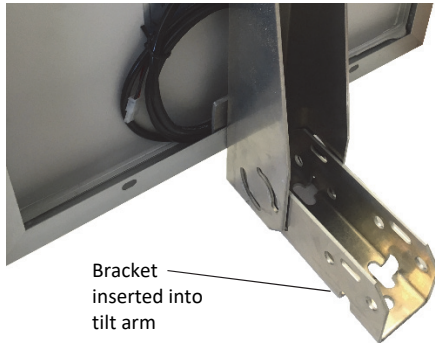
c. Place a lock washer, small washer, and medium washer on the 20 mm (0.79 in.) bolt with the 10 mm head (the lock washer is closest to the bolt head). Insert the bolt/washer assembly through the slot in the tilt arm and into the hole in the clamp as shown. Use a 10 mm wrench to loosely tighten the bolt.



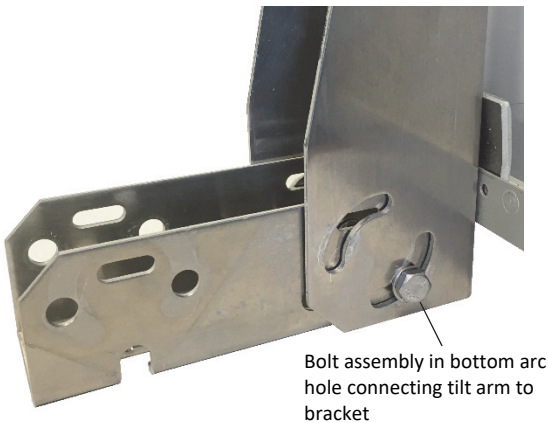
d. Repeat steps 2b through 2c with the opposite side of the tilt arm.

e. Tighten both bolts with the 10 mm wrench. Do not overtighten the bolts.

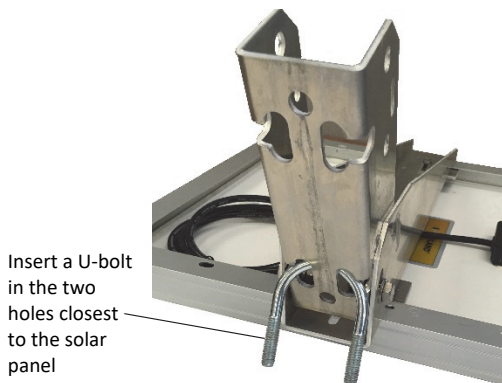
- 3** Insert the bracket into the larger end of tilt arm as shown. The solar panel may not stand on its own; be sure to support it.



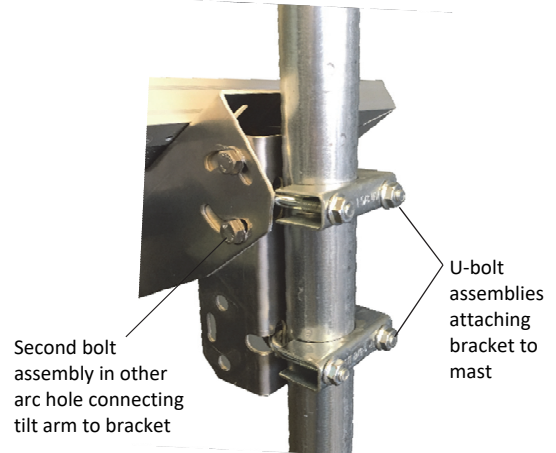
- 4** Insert the larger bolt and medium washer into the bottom arc hole on the tilt arm, making sure it protrudes through the hole in the bracket. Place a medium washer and large lock washer on the end of the bolt inside of the bracket and finger tighten. Repeat with one other bolt in the bottom arc hole on the opposite side of the tilt arm. Do not install the two other bolts in the remaining arc holes yet because you will need the bracket to be moveable when inserting the U-bolt in the next step.



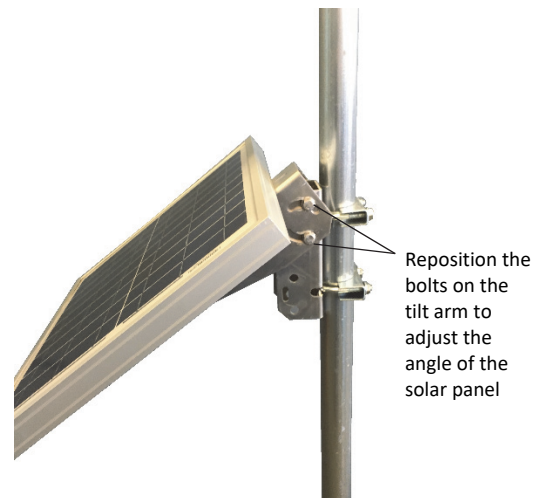
- 5** Insert a U-bolt through the bottom two holes in the bracket as shown below. Adjust the bracket as necessary to fit the U-bolt through the holes. Return the bracket to its perpendicular position against the tilt arm once the U-bolt is in place.



- 6** Insert the remaining two larger bolts and medium washers into the other arc hole on the tilt arm as done in step 4. Place a medium washer and large lock washer on the end of the bolts inside of the bracket and finger tighten. Insert the other U-bolt through the bracket and attach it to the mast as shown. Attach the U-bolt saddles and move the bracket to the desired position on the mast. Use a ½ inch wrench to tighten the flanged nuts on the U-bolt assemblies.



- 7** To adjust the angle of the solar panel, loosen the bolts on the tilt arm and reposition them in the arc holes. Adjust the angle to maximize the amount of light directed at the solar panel during periods of the shortest duration of daylight. Once the solar panel is at the desired angle, use two ½ inch wrenches to tighten the bolts (one to hold the bolt head steady, the other to tighten the lock washer inside the bracket).



- 8** Make sure the battery is connected in the HOBO station and then plug the solar panel cable into the station's charging port. Refer to the HOBO station user's manual at [www.onsetcomp.com/support/manuals](http://www.onsetcomp.com/support/manuals) for the location of the charging port on the station. Use zip ties to secure the cable against the mast.