ALL TRAFFIC SOLUTIONS
SINGLE-ARM SOLAR PANEL MOUNTING BRACKET
INSTALLATION GUIDE

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Overview

The SPBRAC100-ASB Solar Panel Mounting Bracket is designed to allow you to mount a 60/90/100W solar panel on a pole. You can adjust the angle according to your needs for your location and the mount can be installed on poles with ideally a 3.5- to 5-inch diameter.

About this Guide

This guide is intended for anyone who needs to assemble and install the SPBRAC100-ASB Solar Panel Mounting Bracket along with the accompanying solar panel.

However, as the installer you are responsible for the following:

- Making sure that the installation complies with any applicable building codes
- Making sure that you heed any and all warnings of electrical hazards related to the installation of the solar panel

Components

The major components of the SPBRAC100-ASB Mounting Bracket are as follows:

- **Pole bracket** - Attaches to the pole with the banding straps and provides support for the arm/panel assembly.
- **Arm** - Attaches to the pole bracket and supports the solar panel.
- **Solar panel clamps** - Attach the solar panel to the arm.
- **Banding straps** - Attaches the pole bracket to the pole. The included banding straps can be used with poles up to 5 inches in diameter.
- **Support rails** - Attach to the pole bracket and the arm.

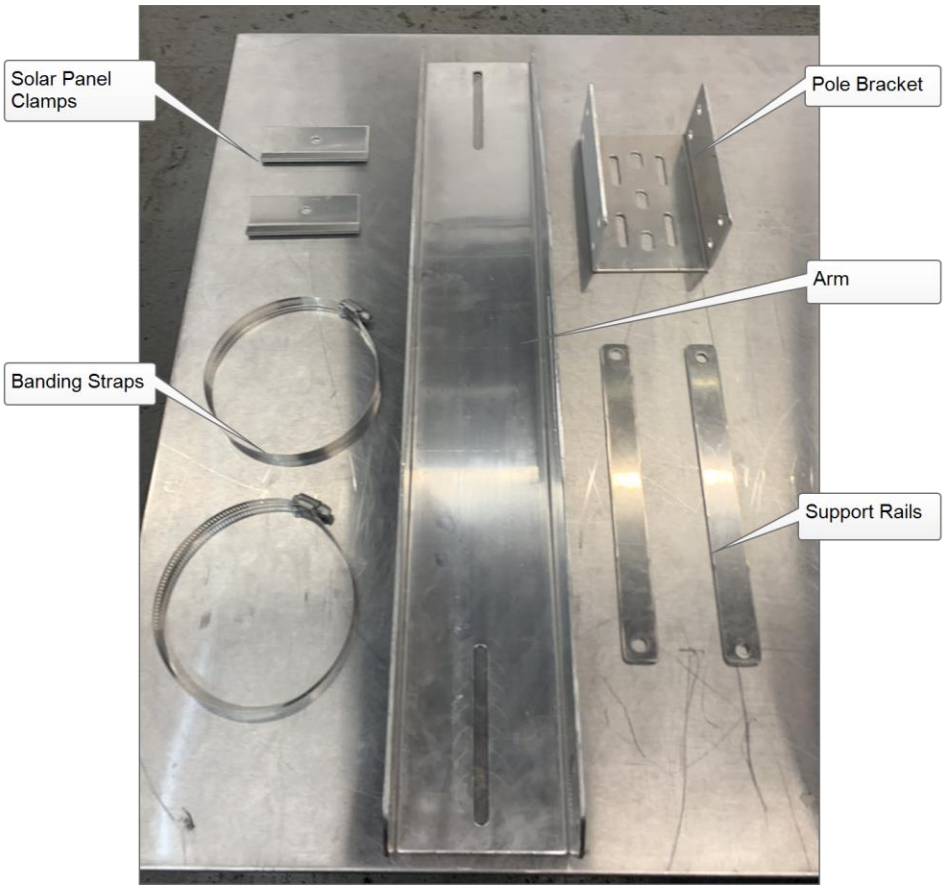


Figure 1: SPBRAC100-ASB Mounting Bracket Components

In addition the mount contains the following mounting hardware:

Item	Quantity
Solar panel clamp hardware	
1/4"-20 x 3/4" stainless steel hex-cap bolt	2
1/4" stainless steel flat washer	4

Item	Quantity
1/4" stainless steel split lock washer	2
1/4"-20 stainless steel hex nut	2
Arm, bracket, and support rail fastening hardware	
5/16"-18 x 1" stainless steel hex-cap bolt	8
5/16" stainless steel flat washer	16
5/16" stainless steel split lock washer	8
5/16"-18 stainless steel hex nut	8

Figure 2: Mounting hardware for the SPBRAC100-ASB Mounting Bracket

Required Tools

You will need the following tools to assemble and mount a solar panel with the SPBRAC100-ASB Mounting Bracket.

Tool	Description
Wrenches / Nut driver	Open-end wrench, Box-end wrench, or 3/8-inch or greater nut driver with sockets to support the following size hex heads: • 5/16-inch • 7/16-inch • 1/2-inch
Screwdrivers	One 1/4-inch flat head screwdriver. One 1/2-inch flat head screwdriver.

Figure 3: Required Tools

Assembling the Bracket

This section describes how to use the SPBRAC100-ASB Mounting Bracket to mount a 100-watt solar panel to the side of a pole.

TIP: We recommend that you first assemble the bracket and panel then mount the entire bracket/panel assembly on the pole.

Step 1 - Mount the Solar Panel on the Arm

You will need the following items to complete this procedure:

- Arm
- Solar panel
- Solar panel clamp
- Solar panel clamp hardware

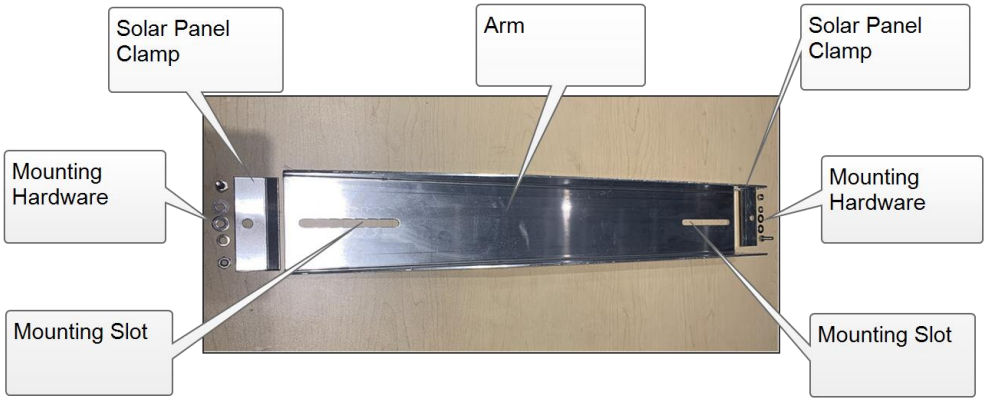


Figure 4: Arm, Clamps, and Clamp Hardware

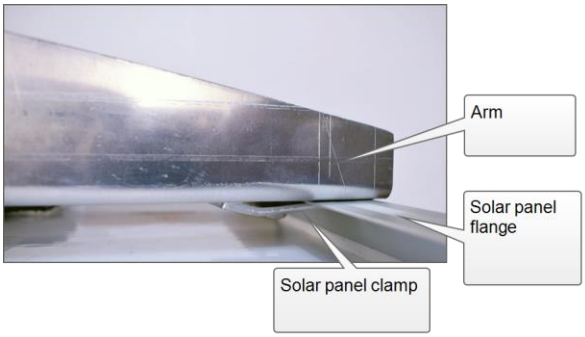
To mount the solar panel on the arm of the bracket:

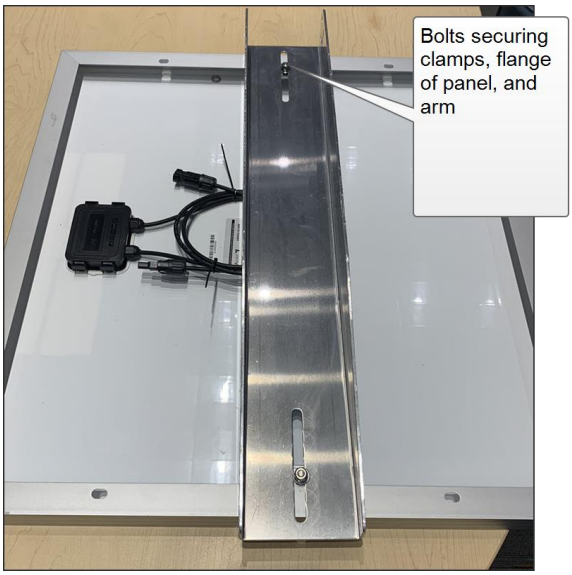
1. Lay the solar panel face-down on a flat surface.

2. Center the arm on the back of the panel and position the clamps under the edges of the panel's flange.
3. Attach a solar panel clamp to one of the slots of the arm as follows:
   A. Insert a 1/4" bolt, washer and solar panel clamp through one of the slots in the arm.

NOTE: Pay close attention to the orientation of the solar panel clamp.

   B. Place a washer, split lock washer and hex nut on the other end of the bolt and tighten loosely.
4. Repeat the previous step to attach the other solar panel clamp to the other slot in the arm.
5. Make sure that the clamps are resting against the flange then tighten the bolts to hold the solar panel in place.





NOTE: The image above shows the arm installed lengthwise on a 50W panel. For a 100W solar panel, install the arm widthwise.

Step 2 - Attach the Arm and Solar Panel to the Pole Bracket

You will need the following items to complete this procedure:

» Arm and solar panel assembly

- Pole bracket
- Arm and bracket fastening hardware

To attach the arm and solar panel to the pole bracket:

1. Place the pole bracket on the solar panel and arm assembly and align the holes as shown in the following image.

NOTE: Orient the bracket so that the flat back plane is facing up and the open side is facing down. Also, use the bolt holes that are further from the back plane to connect the bracket to the arm.

2. Do the following for each of the four holes:
   A. Insert the 5/16" bolt and flat washer on one side.
   B. Place another flat washer, split lock washer and hex nut on the other side, then tighten.

3. Attach the support rails in the position shown below; the nuts and bolts on the pole bracket can be tightened, but the bolts going through the arm should remain loose.

Step 3 - Attach the Mounting Bracket to the Pole

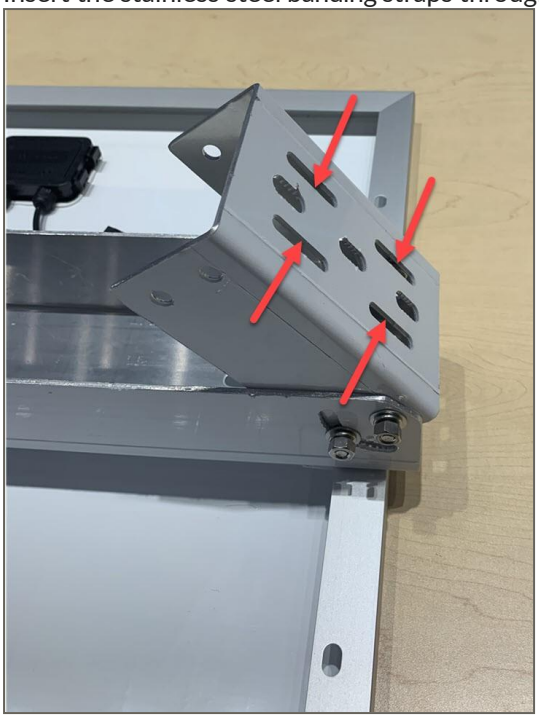
You will need the following items to complete this procedure:

» Solar panel and bracket assembly

» Banding straps

To attach the mounting bracket to the pole:

1. Insert the stainless steel banding straps through the slots on the back of the bracket.



2. Place the bracket against the pole and fasten the banding straps to the pole.

3. Tighten the straps with a nut driver until secure.

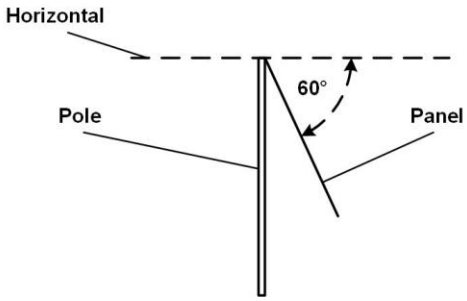
4. Loosen the arm/bracket and support rail mounting nuts and bolts to adjust the angle of the panel then tighten again when you are finished.

Setting The Solar Panel Angle

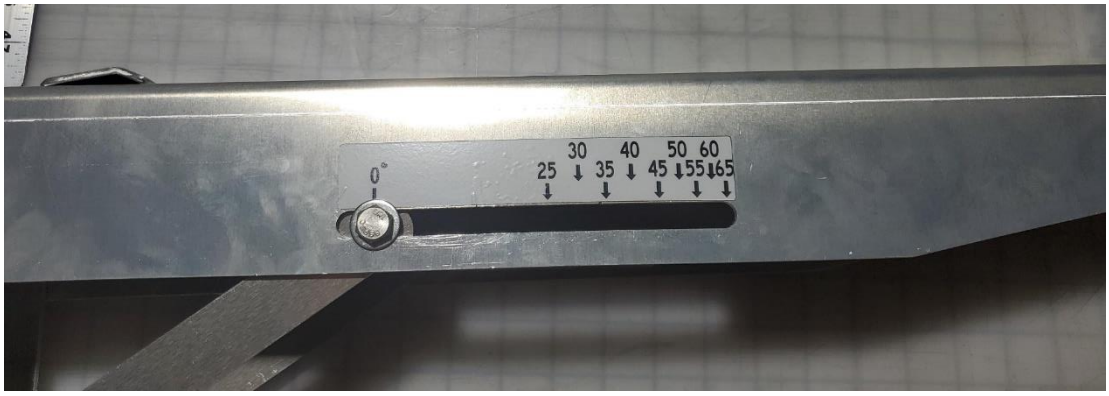
The bracket allows for full adjustment in order to best position the panel towards the sun. It is optimal to position your solar panel towards due Solar South (not magnetic South), if you are in the northern hemisphere and towards due Solar North (not magnetic North) if you are in the southern hemisphere.

Regardless of whether you are in the northern or southern hemisphere, Solar North/South is the position of the sun in the sky at exactly the midpoint between sunrise and sunset.

The solar panel should be angled 15 degrees above the latitude of the installation site. For example, if the latitude of the installation site is 45 degrees then the solar panel should be installed at an angle of 60 degrees, as shown.



You can easily obtain the latitude of the installation site from mapping software or for free by doing an internet search for "latitude *your_city*" where *your_city* is the name of the city or region where the panel is being installed.



NOTE: Use the angle guide on the bracket to determine the correct angle of the bracket installation.