Solar Panel Kit for Battery Plus Installation Guide

Package Inclusion

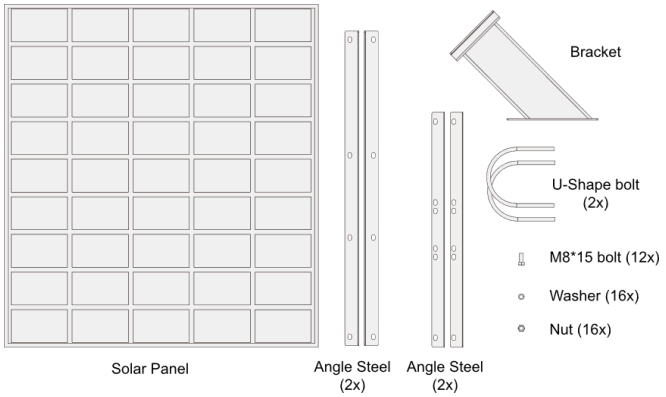

Figure 1: Package inclusion

Solar Panel Orientation

The placement and orientation of solar panels are as important as the type of solar panel used in a given situation. A solar panel will harness most energy when the sun's rays strike its surface perpendicularly. Proper orientation and tilt of solar panels help ensure that they generate maximum energy by exposing them to the highest intensity of sunlight for the longest possible period of time.

- **Direction** - In the Northern Hemisphere, the general rule is that solar panels should face south (and north in the south). This is usually the best orientation because the solar panels receive direct light throughout the day. However, a difference between magnetic south and true south must be considered. Magnetic south is the "south" indicated when using a compass, and this south points to the earth's magnetic south pole. However, solar modules must be oriented according to the solar or geographic south, that is, in the direction of the south pole. If the solar module is located in the southern hemisphere, it should be oriented according to the same principle in the direction of the true north.

- **Angle** - The angle or tilt of a solar panel is also an important consideration. The angle at which a solar panel should be placed to produce the most energy in a given year is determined by latitude. A general rule for optimal annual energy production is that the tilt angle of the solar module should correspond to the geographic latitude. For example, if the location of the solar module is at a latitude of 50°, the optimal tilt angle is also 50°. Basically, the closer a solar module is to the equator, the more it should point straight up. The closer the modules are to the poles, the more they should be tilted toward the equator.

Installation Guide

> **NOTE**
>
> The pole's diameter supported by the brackets is 76-140 mm. RAK does not offer brackets for wider poles, so if the pole diameter is less than this value, rubber pads can be added to it.

1. Fix the short-angle steel pieces on the back of the solar panel with two M8*15 bolts each.

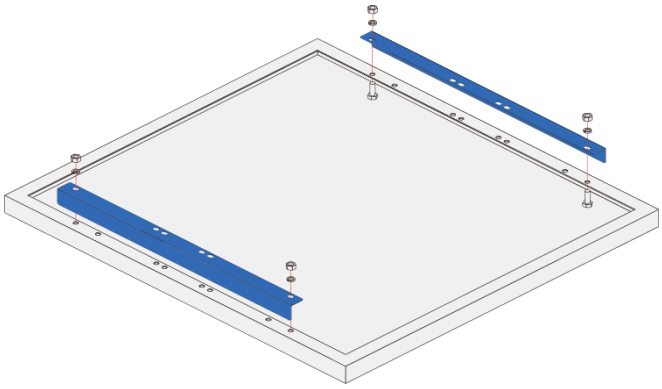

Figure 2: Fixing the short angle steel pieces

2. Fix the long-angle steel pieces on the back of the solar panel with two M8*15 bolts each.

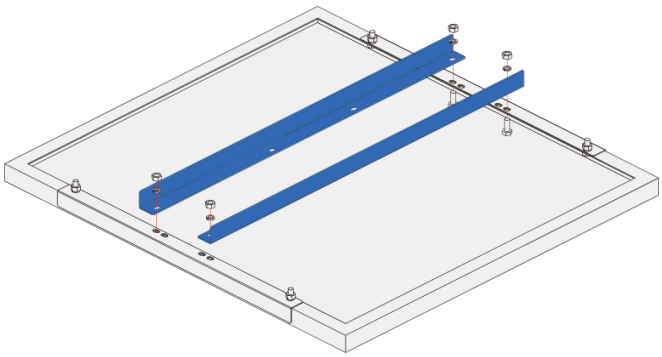

Figure 3: Fixing the long angle steel pieces

3. Fix the bracket on the back of the solar panel using four M8*15 bolts.

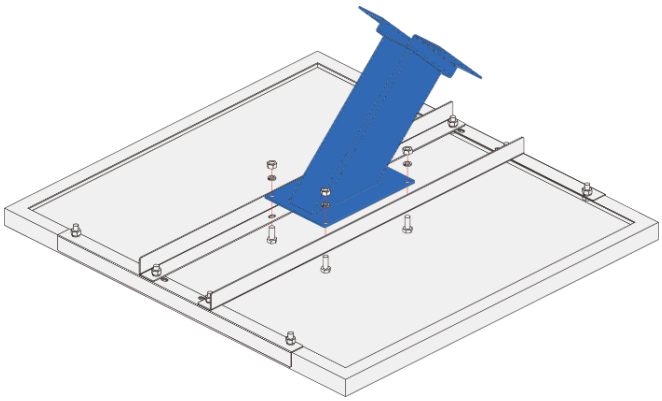

Figure 4: Fixing the bracket

4. Install the solar panel on the pole using the U-shape bracket bolts and nuts.

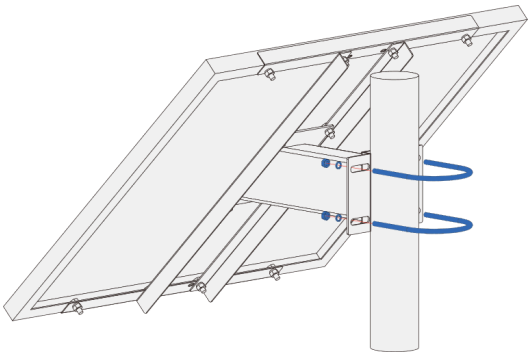

Figure 5: Installing the panel on the pole

5. This is how it looks like once the installation of the Solar Panel Kit for Battery Plus is completed.

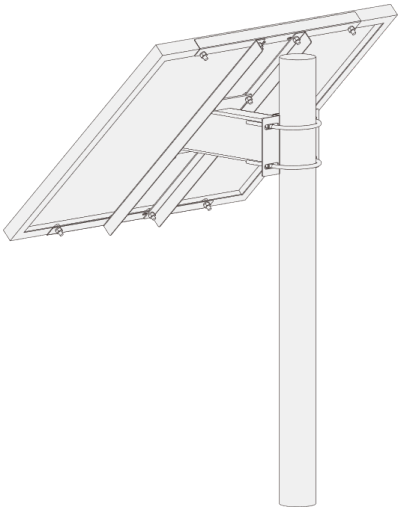

Figure 6: Completed installation

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