UBIQUITI

SolarBeam™

Off-Grid 716Wh Battery

Models: SB-700-1, SB-700-2, SB-700-3

QUICK START GUIDE

Introduction

Thank you for purchasing the Ubiquiti Networks® SolarBeam™. This Quick Start Guide is designed to guide you through installation and also includes warranty terms.

Package Contents

The SolarBeam is available in three models: SB-700-1 (single panel), SB-700-2 (two panels), SB-700-3 (three panels).

Component	SB-700-1 Quantity	SB-700-2 Quantity	SB-700-3 Quantity
Panel 	1	2	3
Mounting Bracket	1	2	3
Strut 	1	2	3
Bracket Screws 	6	12	18
M8 Flat Washers 	6	12	18
Pole Clamps	3	6	9
Carriage Bolts 	6	12	18
Hex Nuts 	6	12	18
M10 Flat Washers 	6	12	18
Split Lock Washers 	6	12	18
DC Cable 	1	1	1
NTC Thermistor 	1	1	1
Single-Cable Grommet 	1	1	1
PV Cable 	N/A	1	1
Splice Kit 	N/A	1	1
Set Screws	N/A	8	8
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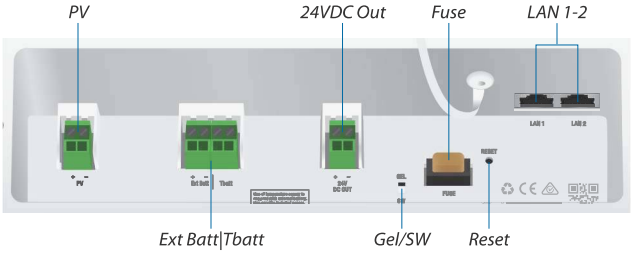
Hardware Overview

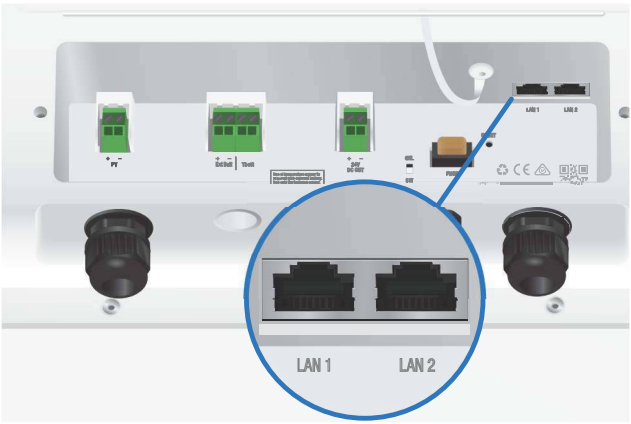
Electronics Compartment

The compartment is located on the back of the main solar panel.



Components	Description
PV	Connects to PV cabling.
Ext Batt|Tbatt	Optional: Connect an external battery and the included *NTC Thermistor*. The programmable charge voltage is 25.1 - 30.6V (power-on default: 27.9V) or 27.2V (gel).
24VDC Out	Optional: You can connect a 24VDC device (40W maximum). Enable 24VDC output through the Configuration Interface.
Gel/SW	You have two options: • **Gel** Select if you use a gel-type battery. • **SW** Use the Configuration Interface to switch between battery types: AGM/flooded or gel.
Fuse	Overcurrent protection for 24VDC. The ATM fuse is rated at 5A.
Reset Button	There are two functions: • **Restart** Press and hold for three seconds while the SolarBeam is powered on. • **Reset to Factory Defaults** Press and hold for more than eight seconds while the SolarBeam is powered on.

Components	Description
LAN 1-2	Dual RJ45 ports support 10/100 Ethernet and passive 24V PoE output (40W maximum). Enable PoE output through the Configuration Interface.

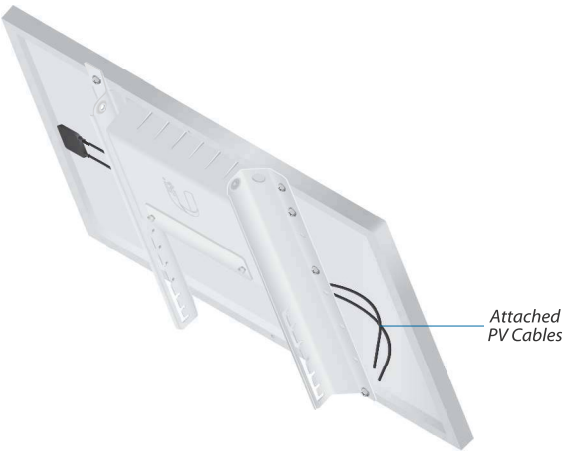


Note: You can connect your load(s) to either the *24VDC Out* or *LAN* ports, or all ports, as long as the total power consumption is less than or equal to 40W.

Note on battery lifetime: Regularly discharging your battery beyond 20% capacity will shorten its lifespan. We recommend that you add batteries or panels to help avoid deep discharges and preserve battery life.

PV Cabling

Every solar panel has two *Attached PV Cables*, positive (+) and negative (-).



Installation Requirements

- Ratchet wrench with 13 and 17 mm sockets
- 13 mm combination wrench
- 3 mm hex wrench (*Splice Kit* for SB-700-2 or SB-700-3 only)
- Shielded Category 5 (or above) cabling with drain wire should be used for all wired Ethernet connections and should be properly grounded to the earth/chassis ground.

  We recommend that you protect your networks from harmful outdoor environments and destructive ESD events with industrial-grade, shielded Ethernet cable from Ubiquiti Networks. For more details, visit **www.ubnt.com/toughcable**

Installation Guidelines

Orient the panel towards the south (or towards the north if in the southern hemisphere). If you prefer to set the angle just once, we recommend to use the adjustment angle for your latitude in winter.

Angle of Adjustment	Latitude (Winter)	Latitude (Summer)
10°	<13°	<30°
20°	13-20°	30-40°
30°	20-27°	40-50°
40°	27-34°	50-60°
50°	34-41°	60-70°
60°	41-47°	70-80°
70°	>47°	>80°

Note: These are approximate values to optimize energy generation in the given season. Local weather patterns, shading, or other environmental factors may require different adjustments and affect performance.

To use the 60° or 70° angle of adjustment, first configure the main solar panel as follows:

1. Remove the four screws securing the electronics compartment.
2. Lower the compartment to the bottom set of mounting holes, and secure it using the four screws.

Installation Overview

Installation includes the following:

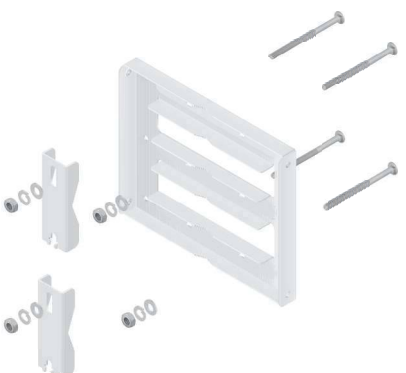
- **Hardware Installation** Mount the solar panel(s).
- **Connecting the SolarBeam** Connect the cables.
- **Accessing the Configuration Interface** Configure settings.

Hardware Installation

If you have SB-700-2 or SB-700-3, install the main solar panel first before installing the other panels. You have two options, pole or wall mounting. Proceed to the instructions for your option.

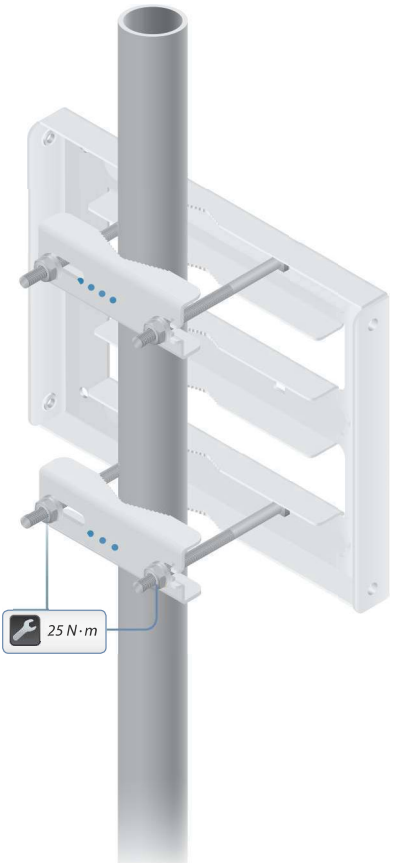
Pole Mounting

1. Attach two *Pole Clamps* to the top and bottom of the *Mounting Bracket*. For each clamp:
   a. Hold the *Mounting Bracket* with its clamps facing you and the *Angle Indicators* towards the bottom.
   b. Insert the two *Carriage Bolts* through the holes of the *Mounting Bracket*.
   c. Slide the hole of the *Pole Clamp* over one bolt of the *Mounting Bracket*.
   d. Place one *Flat Washer*, *Split Lock Washer*, and *Hex Nut* on each bolt.



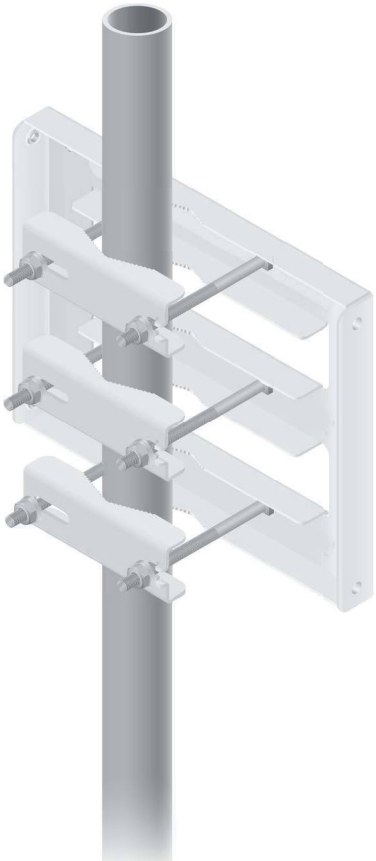
Note: In high-wind environments, you can add support with a *Pole Clamp* (also included) in the middle.

2. Mount the *Mounting Bracket* on the pole and secure it.
   a. Place the *Mounting Bracket* against the pole.
   b. Slide the slot of each *Pole Clamp* over the adjacent *Carriage Bolt*.
   c. Tighten the *Hex Nuts* of the bolts to 25 N·m to secure the *Mounting Bracket* to the pole.

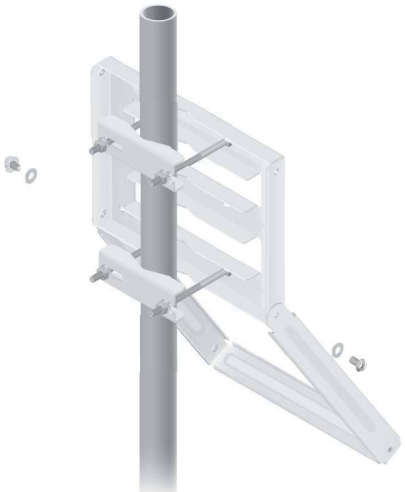


Note: The mounting assembly can accommodate a Ø 38.1 - 101.6 mm (1.5" - 4.0") pole.

If you added the third *Pole Clamp* for additional support in high-wind environments, then the finished mounting assembly with three *Pole Clamps* will look like this:



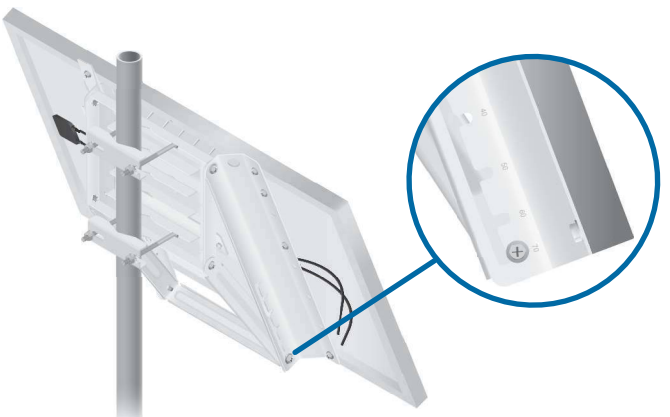
3. Attach the *Strut* to the *Mounting Bracket* using two *Flat Washers* and *Bracket Screws*. Hand-tighten only.



4. Insert the *Panel* into the *Mounting Bracket* and *Strut*.

5. Attach the *Panel* to the *Mounting Bracket* and *Strut* using four *Flat Washers* and *Bracket Screws*. Hand-tighten only.

6. Adjust the angle of the *Panel* based on your latitude (refer to the *Installation Guidelines* section on page 5). Then tighten the six *Bracket Screws* to 17 N·m.



Connecting the SolarBeam

Before you begin, unscrew the thumbscrews to remove the port cover.

When you have finished your connections, hand-tighten the grommets and replace the port cover.

Connecting to an External Battery (Optional)

You can use flexible conduit or an optional cable gland (not included) for your connection to an external battery.

1. Punch out the ½" NPT (M20) cutout on the bottom of the electronics compartment to allow the cable feed.

2. Feed a DC cable (not included, maximum size: 14AWG) through the hole and wire to the *Ext Batt* terminal block.

WARNING: We strongly recommend that you add an appropriate DC breaker (interrupter) between the *Ext Batt*|*Tbatt* terminal block and external battery to increase safety during installation or maintenance. Suggested breaker rating: 30VDC/10A.

3. Wire the other end to an external battery.
4. Feed the included *NTC Thermistor* through the hole and wire it to the *Tbatt* terminal block. (You can use a cable to extend the *NTC Thermistor* as needed.)

5. Attach the other end of the *NTC Thermistor* to your battery.

Connecting to the DC Output (Optional)

Note: Ensure that your network device supports the supplied voltage.

1. Remove the *Fuse* to disable the DC output.
2. Feed the included *DC Cable* through the grommet and wire it to the *24V DC Output* terminal block.

3. Wire the other end of the cable to a network device that supports the supplied voltage.
4. Replace the *Fuse* to enable the DC output.

Connecting Ethernet

Note: If you are using TOUGHCable, we recommend attaching the TOUGHCable Connector(s) after you insert the cable(s) into the grommet.

1. Rotate the grommet cover counterclockwise to remove it.

2. Remove the grommet from the SolarBeam.

3. Slide the grommet cover over the Ethernet cable, and then fit the grommet over the cable.

   Note: If you are connecting two Ethernet cables, then use the double-cable grommet (pre-installed). If you connecting only a single Ethernet cable, then use the included *Single-Cable Grommet* instead.

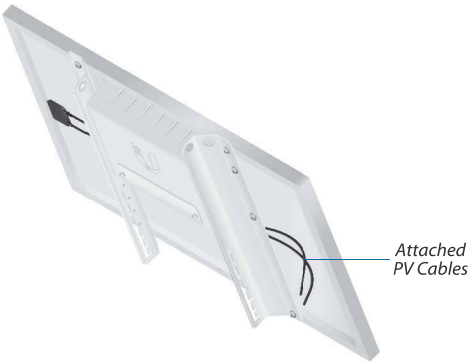
4. Connect the Ethernet cable(s) to the *LAN* port(s).

5. Replace the grommet and rotate the grommet cover clockwise to secure it.
6. Connect the other ends of the cables to PoE network devices.

Connecting PV Cabling

Instructions for SB-700-1

Connect the *Attached PV Cables* to its electronics compartment.



1. Feed the *Attached PV Cables* through the grommet.

2. Wire the positive (+) *PV Cable* to the positive (+) input of the *PV* terminal block.

   WARNING: The *PV Cables* carry electricity any time the panel is exposed to light. You must wire a single cable at a time because they could short if you connect them at the same time.

3. Wire the negative (-) *PV Cable* to the negative (-) input.
4. Proceed to the *Accessing the Configuration Interface* section.