Point One Base Station Installation Guide

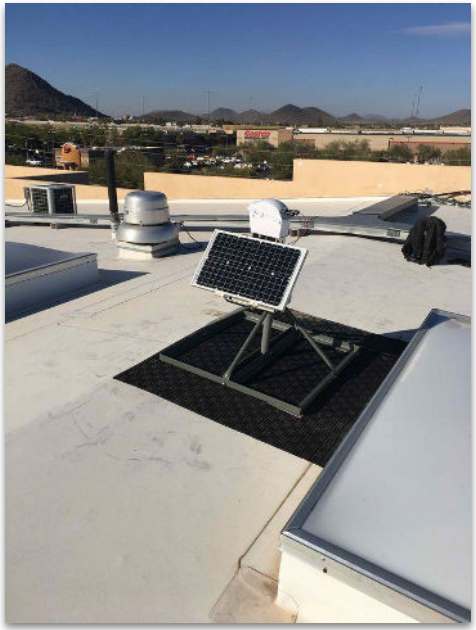
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Overview

4 KEY REQUIREMENTS

1. **Location**
    a. Nothing higher than the base station within a 25 ft radius
    b. Blocked skyview will prevent full GNSS signal acquisition and station will shut down to ensure quality data
2. **Installation**
    a. Mount must be extremely stable, less than 1cm movement
        i. Antennae is in the base station, if the station moves the correction data will not accurate
        ii. We have an IMU in the base station and will shut it down if movement exceeds 1 cm
3. **Connectivity**
    a. Ethernet is highly recommended for consistent connectivity
    b. Cell and WiFi available if no ethernet
4. **Power**
    a. Power over Ethernet OR
    b. Standard Wall Power

Example Location & Installation



Flat Roof



H-Frame



Stand-Alone Pole

Nothing is higher than the base station within a 25 ft radius

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Connectivity

Ethernet Cable Is NOT Shipped With Unit

- Specifications
  - M12 **A-code** male, 8-pin
  - Minimum 8x26 awg, 24 awg recommended
  - Shielded
- Example
  - CERRXIAN M12 to RJ45 A-Code Ethernet Cable,
    https://www.amazon.com/dp/B0D66L6YZ5?ref=fed_asin_title&th=1

Power Option 1

Power Over Ethernet (POE) Is NOT shipped with Unit

- Requires injector with the following specifications:
  - IEEE802.3af
  - Output Voltage: 36-57 Vdc
  - Power: 30 Watts Max
  - Connector: RJ-45 100 Mbps or higher
- Examples:
  - BV-Tech Gigabit PoE+ Injector, 30W | POE-I100G-LITE
  - TP-Link TL-PoE4824G



Power Option 2

Standard Wall Power IS shipped with Unit

- Input : 100-240V ~ 50/60 Hz 1.5A Max
- Output : 24.0V 2.5A





INSTALLATION

Tools and Parts Required

- Zip ties (6” or longer, outdoor rated)
- Work Gloves (i.e. mechanix or similar)
- Socket set (standard) with 4” extension.
  - ½” deep socket and a ⅜” regular socket.
  - Metric users can use a 13mm and 10mm socket.
  - A drill with a socket adapter is also suitable but may require longer extensions.
- Compass (or phone app) to identify south
- Level (or phone app)



Point One Supplied Parts

- Point One Navigation Base Station
- Base Station stand
- 2 packages of U-bolts
- 4 lag screws
- 4 washer nuts for (4) U-bolts
- Power cord & Transformer











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Customer Responsible Parts

1. **Ethernet Cable**
   a. Specifications
      i. M12 A-code male, 8-pin
      ii. Minimum 8x26 awg, 24 awg recommended
      iii. Shielded
   b. Example
      i. CERRXIAN M12 to RJ45 Ethernet Cable



2. **POE Injector (If desired over Standard Wall Power)**
   a. Specifications
      i. Passive injector architecture
      ii. IEEE802.3at (PoE+)
      iii. Output Voltage: 36-57 Vdc
      iv. Power: 30 Watts Max
      v. Connector: RJ-45 100 Mbps or higher
   b. Examples:
      i. BV-Tech Gigabit PoE+ Injector, 30W | POE-I100G-LITE
      ii. TP-Link TL-PoE4824G



Installation Checklist

- ❑ Install or locate a ~2-⅜ inch pole open to the sky in a 25 foot radius
- ❑ Prepare and Install the Base Station stand
- ❑ Fasten the Base Station to the Base Station stand
- ❑ Connect the POE Injector and Ethernet Cable
- ❑ Install and trim zip ties to secure wiring
- ❑ Take picture of your install from each direction
- ❑ To verify your installation, scan the QR code found on the paper inside the box. A successful test will automatically launch the Point One activation process. If the test fails, follow the provided instructions to troubleshoot, or tap "Get Help" for assistance.

Prepare the Base Station Stand

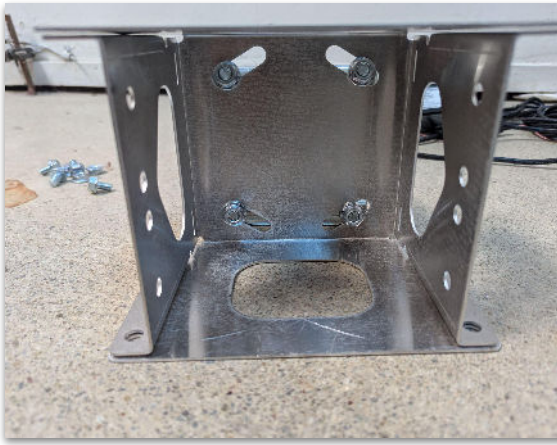
Insert the threaded end of the two (2) U-Bolts through the cross bracket and then through the back side of the base station stand (See photo). Loosely thread the washer nuts (not nuts packaged with U-bolt) so the rings are still loose.

NOTE: Make sure the round-to-flat hardware is oriented against the base station stand as pictured.



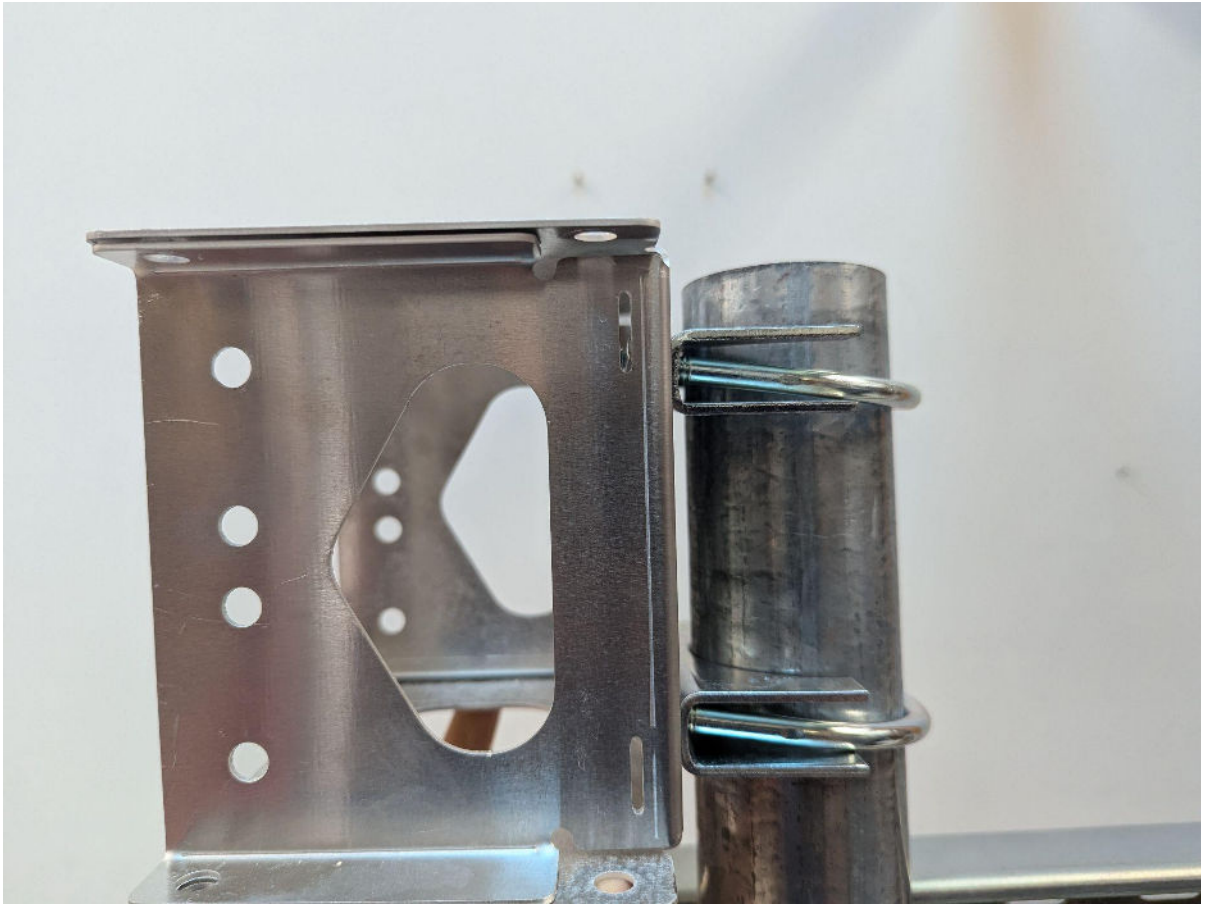






Install the Base Station Stand on the Pole

Place the assembly you just made on to the pole. It should be loose.

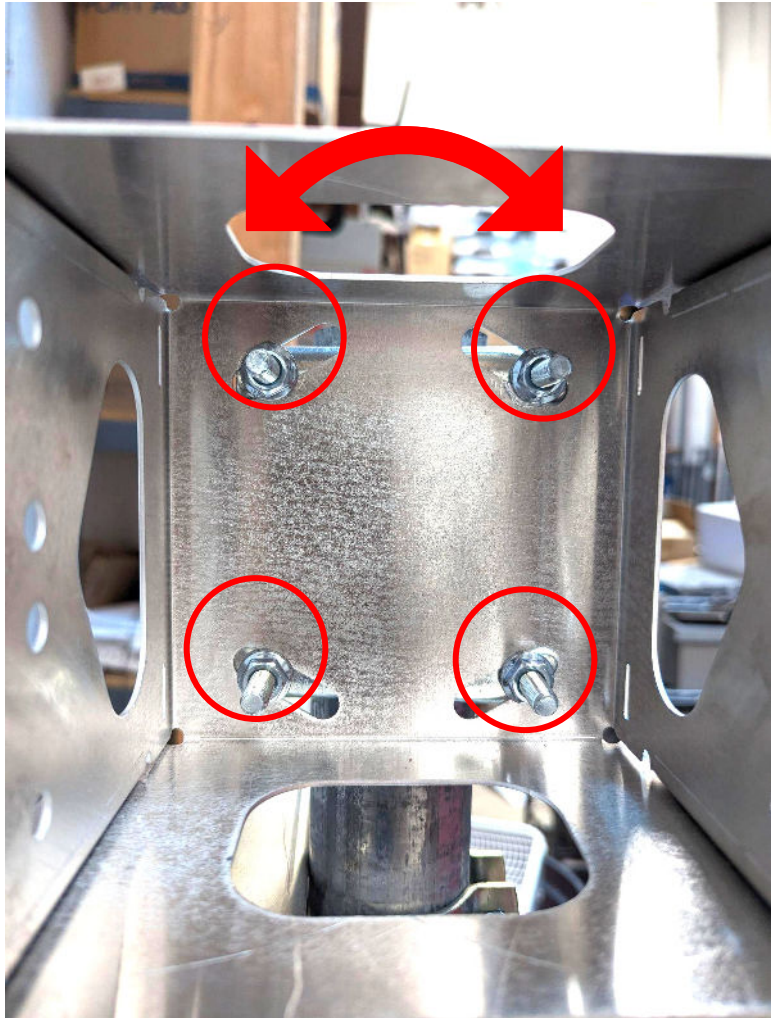


Secure the Base Station Stand to the Pole **facing South**

Ensure the stand is **level** and **flush** or slightly higher than the top of the pole.

Then tighten the 4 washer nuts to secure the stand.

The South pointing configuration optimizes the performance of the Antennae. It is not required for the Base Station to successfully operate.

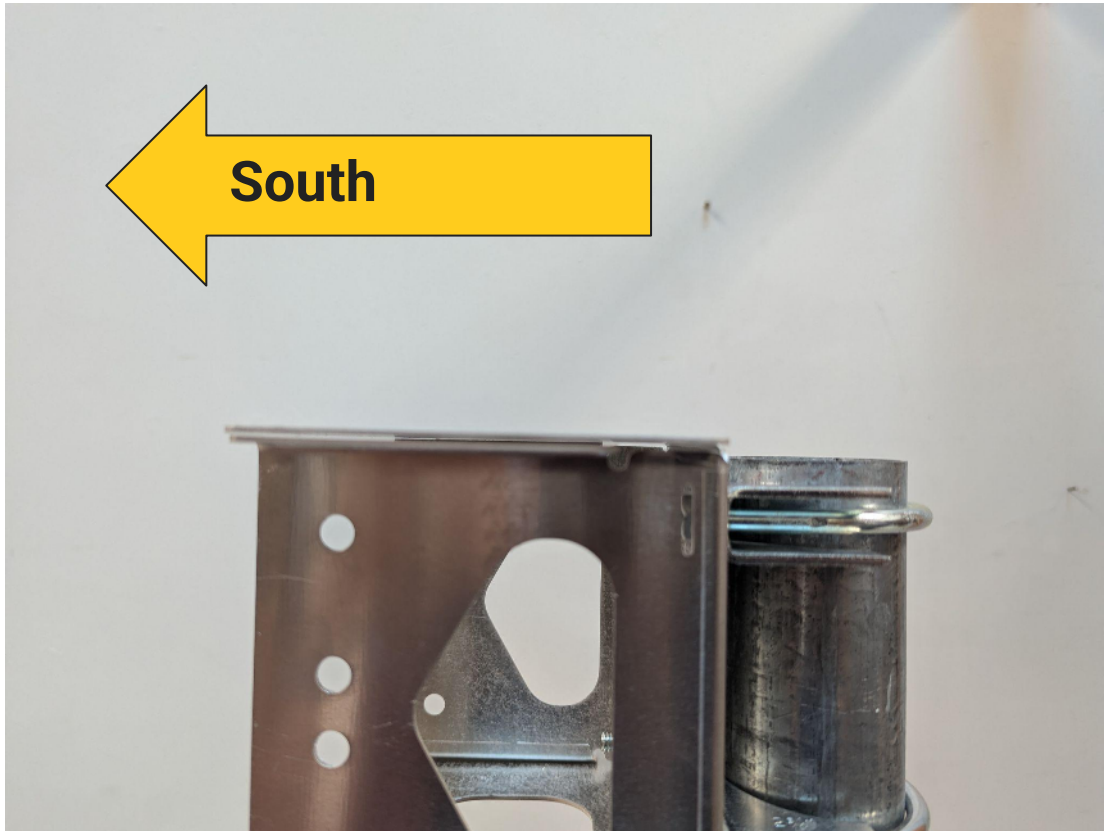


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Inspect the Base Station Stand Installation

The stand should now be:

- ❑ Facing **south**
- ❑ **Level**
- ❑ **Slightly higher** than the pole.
- ❑ Both clamps should be **tight**
- ❑ **Rigidly** attached to the pole

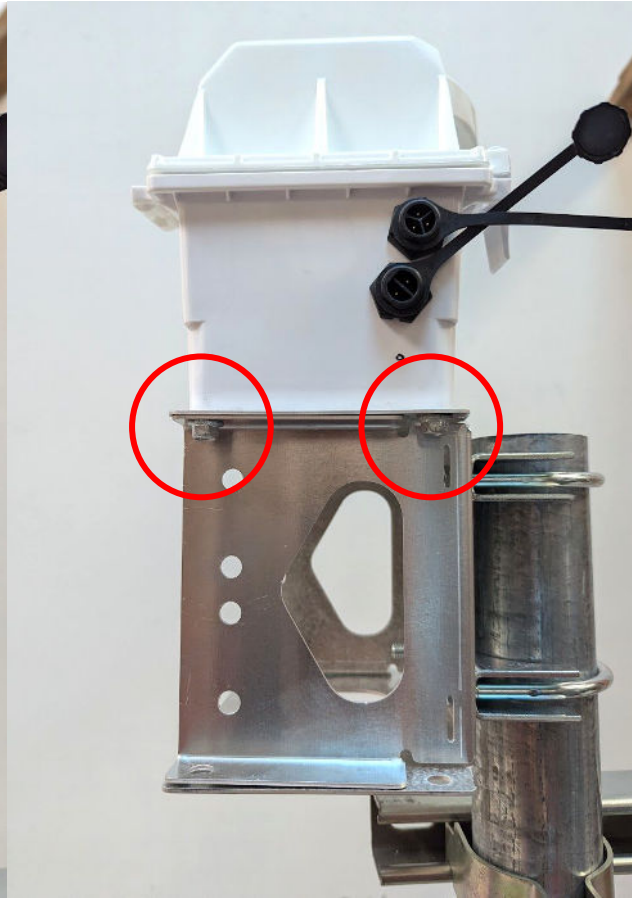


Mount the Base Station

Use the lag screws to install the base station to the Base Station stand ***with the hinges south / latches north.*** A long socket extension is recommended.

Care should be exercised to not overtorque lag screws into the Base Station bottom.







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Install the Ethernet Cable

Run the cable behind the base station along the pole and use zip ties to cleanly organize the cable.

Avoid fastening the ethernet cable to the metal box due to sharp edges. Best to strap along the post.

Put a drip loop on the ethernet cable coming out of the base station to maintain a better seal.



Connect to the Base Station WiFi

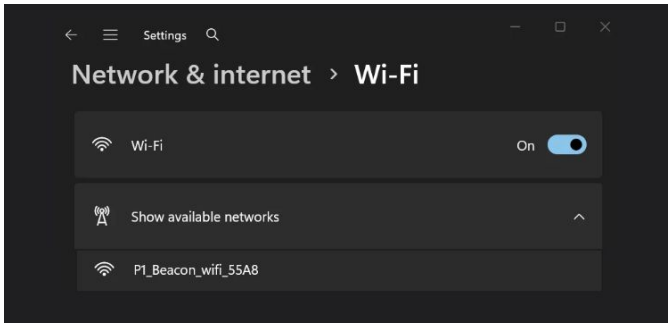
Only needed if you are not using Ethernet. The base station must be powered on and not already set up on another WiFi network.

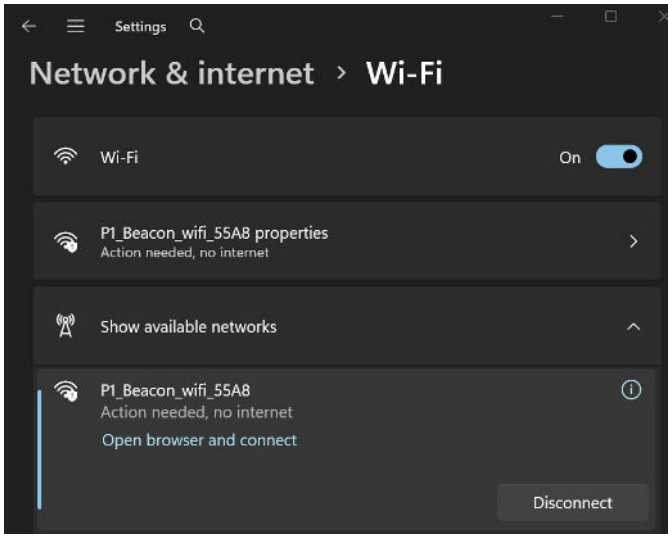
1. On a laptop or phone, open the network settings.
2. Find the access point named P1_Beacon_wifi_XXXX and connect to it.

XXXX comes from the WiFi radio's MAC address, so each unit's name is unique.

3. Once connected, click Open browser and connect, then Continue to site.

Example shown on a Windows laptop





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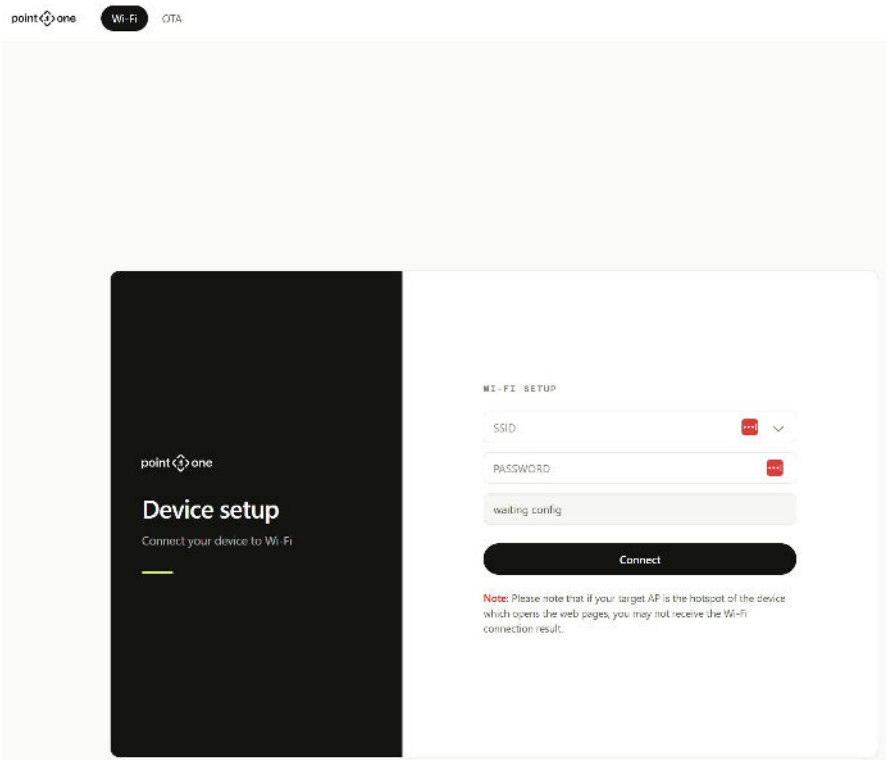
Enter Your WiFi Credentials

4. The browser should open the base station's setup page.

If it doesn't (because your device is already online), find the base station's IP address with ipconfig in the command prompt (Windows), or in Network and Internet settings.

5. Enter your local WiFi network name and password, then click Connect.

6. If the connection succeeds, the base station disconnects and your device returns to your local WiFi.



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Close dust caps, dress wires and take pictures.

Close the dust cap on the unused connectors as pictured.

Take pictures of the base station from approx 10 feet away in each direction.

Send pictures to basestations@pointonenav.com.



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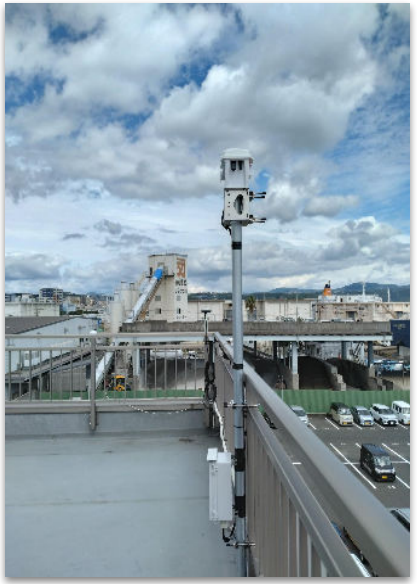
Example Installations











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End of Guide