



ORCA IOT

High Tech, Not High Cost

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Instructions for Solar Array and Camera Installation



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<https://tinyurl.com/orcaiot1>

(Shortened link for manual typing)

OVERVIEW

1. Brief one minute video of full overview of entire setup:
 - a. Link: [Entire 1 Minute Overview](#)
2. Please Read through instructions before installing or watch videos:
 - a. Link: [Solar Installation Video Instructions](#)

RECEIVING: 1 Introduction

3. Visually inspect boxes for signs of catastrophic damage during shipping. If there is noticeable damage, **do not sign for and/or receive the shipment**. If there is damage and you take possession of the shipment, the shipping company will not honor any claim and you will be responsible for the damages as per our Master Services Agreement (<https://orcaiot.com/msa>). If there is any damage, take photos of the damaged packaging and the contents of the boxes, then contact us immediately
 - a. Link: [2 Damaged Boxes](#)
4. There should be 4 boxes. A solar panel box, solar enclosure box, solar panel mounting kit box, and a camera box. You will have one of each for every camera ordered, 1 solar camera set is four boxes.
5. Find a flat surface such as a table or truck bed to work on. Having the ability to lay everything out will help immensely.
 - a. Link: [3 Unboxing Intro](#)

ASSEMBLY:

6. Identify placement of the camera, solar panel, and battery box on the pole. Most of the time the order will go; camera, solar panel, battery box, (Top to bottom).
 - a. Link: [4 Camera Unboxing](#)
 - b. Link: [5 Solar Battery Enclosure Unboxing](#)
 - c. Link: [6 Solar Panel Unboxing](#)
 - d. Link: [7 Solar Panel Mount Unboxing](#)
7. Remove the solar panel mounting hardware from its box and assemble (Additional Instructions are included in the large plastic bags that hold the additional hardware) and set aside:
 - a. Video Link: [Solar Panel Mount 1 Minute Overview](#)
 - b. Video Link: [8 Solar Panel Mount Assembly Introduction](#)
 - c. Video Link: [9 Solar Panel Assembly Part 1](#)
 - d. Video Link: [10 Solar Panel Assembly Part 2](#)
8. Attach the solar panel to the mount that you just assembled and set aside
 - a. Video Link: [11 Attaching the Solar Panel to the Mount](#)
9. Attach Band Clamps to Solar Mount:
 - a. Video Link: [12 Attaching Band Clamps to Solar Panel Mount](#)
10. Remove battery enclosure from its packaging:
 - a. Inspect all wiring that is outside the enclosure for signs of damage. Also make sure the vents are properly secured and have not come loose during shipping.
 - b. Thread Quick release band clamps through the two center oval holes on the solar enclosure pole mounts. Attach the pole mount brackets to the back of the enclosure using the screws that are taped to the mount
 - c. Set aside the assembled battery enclosure box
 - d. Video Link: [13 Solar Battery Enclosure Assembly Part 1](#)
 - e. Video Link: [14 Solar Battery Enclosure Assembly Part 2](#)
11. Remove camera from its box and attach the mount that is provided to the camera and set aside (**Additional instructions for camera installation is in the camera box**)
 - a. Video Link: [15 Camera Assembly Introduction](#)
 - b. Video Link: [16 Camera Mount Assembly](#)
 - c. Video Link: [17 Camera Mount Assembly Part 2](#)

INSTALLATION

12. Installation the camera at the top of the pole using the mounts provided
 - a. Video Link: [18 Camera Installation on Pole](#)
13. Install the solar panel and mount to the pole using the quick release band clamps **PANEL MUST BE INSTALLED DUE SOUTH, if this is not possible contact Orca IoT**
 - a. Video Link: [19 Installing the Solar Panel to the Pole](#)
 - b. Video Link: [20 Installing the Solar Panel to the Pole \(Reverse\)](#)
14. Install the battery enclosure to the pole using the quick release band clamps. make sure to secure battery box to pole, battery box should not be able to move freely and should be stable if secured correctly
 - a. **Pro Tip:** Install the battery box 8' from the ground so that it is accessible with a letter, but not reachable by the average human being.
 - b. Video Link: [21 Installing the Battery Enclosure to the Pole](#)

WIRING

15. Make Sure that all Breakers are in the **OFF** Position
16. Connect solar cables from the enclosure to the solar panel
 - a. Video Link: [22 Wiring the Solar Panel](#)
17. Connect camera cable to camera (This is the **SINGLE** quick disconnect 2 pin cable that comes out of the side of the battery box)
 - a. Video Link: [23 Wiring the Camera](#)
18. Ground enclosure (GREEN wire) to the ground with clamp and rebar provided.
 - a. Video Link: [24 Grounding the Solar Kit](#)
19. Turn on all 3 breakers
 - a. Video Link: [25 Turning on the System](#)

After turning on breakers: Charge Controller Cycling: [26 Charge Controller Explanation.MOV](#)

20. Look at the charge controller through the sheet metal window. Red and Yellow LEDs should be off and a green LED should be blinking, indicating that it is daylight and everything is healthy. (The charge controller may take

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up to 45 seconds to power up and start blinking green.) The green light should be flashing and all other lights should be off. If this does not occur, call your Orca IoT contact.

- a. If the middle yellow LED is on this is an indication of a low battery allow some time to charge
 - i. If the middle yellow LED is flashing is this a very low battery, allow more time to charge
 - ii. If the middle LED is red, contact Orca IoT

Buttoning Everything Up

21. Close Enclosure

- a. Make sure all 3 breakers are in the on position inside the enclosure
- b. Close the enclosure and screw in the 4 screws that secure the door. The plastic door flexes, so start with the screw in the top right if you are facing the door. That will make the rest of the holes align. After the screws are appropriately tightened, latch the 2 latches on the side.
- c. Video Link: [27 Securing and Finishing Up the Install](#)

MAKE SURE to screw down all four screws on the door to the enclosure, this makes it water/weather proof. If this is not done we can not warranty the solar solution. **Do not use a power tool!** Use a hand screw driver. Impact drivers crack the plastic and damage the enclosure.

22. Zip Tie all loose wires with zip ties that are provided
23. Follow instruction in setting up the camera
24. Contact Orca IoT to focus the camera if the picture looks out of focus
25. Lock battery enclosure, set lock on lower latch and anti tamper tag on upper latch. **Make sure the enclosure door screws are secure and hand tightened.**
 - a. [27 Securing and Finishing Up the Install](#)

26. Take Photos of the entire setup and send to support@orcaiot.com to have installation verified for warranty purposes.

FAQs

27. Identifying My camera: [28 FAQ Identifying My Camera](#)
28. The Camera Breaker will not turn on/keeps flipping to the off position: [29 FAQ Camera Breaker Keeps Tripping](#)
29. The system has powered down: [30 FAQ My Solar Setup is Powered Down](#)
30. My photos are squiggly or have lines in them: [31 FAQ Squiggly Photos](#)