

Installation Guide

In this guide, the process of assembling and mounting an outdoor case for the SenseCAP M1 will be shown step by step. Strict adherence to the steps guarantees a secured and durable outdoor casing.

Kit Inclusion

The package includes all the necessary parts for this project, without the SenseCAP M1 itself.

1. PoE injector, power cord for the PoE injector, and PoE splitter
2. Zip ties, PVC tape, and waterproof tape
3. Pole mounting kit
4. Antenna cable type RG316, with N-type female to SMA female connectors for LoRa antenna.
5. Cover sticker (for the LEDs)
6. RAKBox-GW-4

Assembly

A detailed explanation of the procedure of putting the SenseCAP M1 inside the RAKBox-GW-4.

1. Open the RAKBox-GW-4 enclosure and remove the top cover.
2. At the opening marked "LoRa1", position and assemble the antenna connector. Use the remaining plugs to close the openings, as shown on Figure 1.

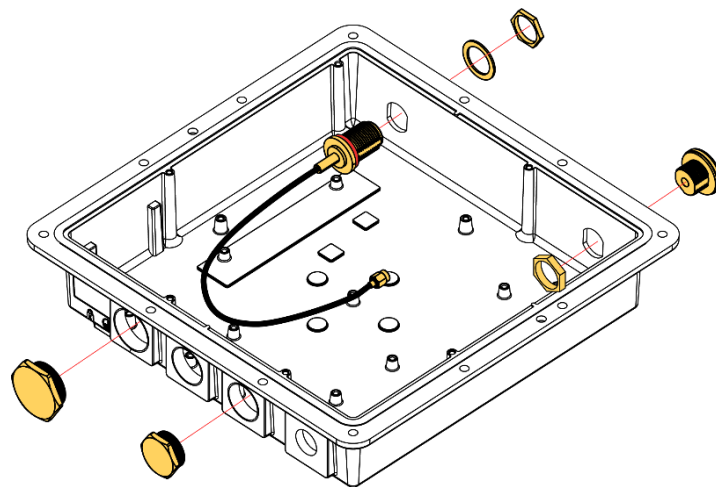


Figure 1: Positioning of all the plugs

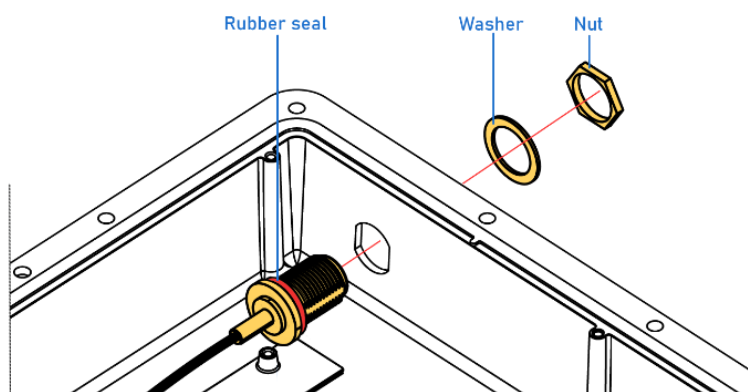


Figure 2: Assembling the antenna connector

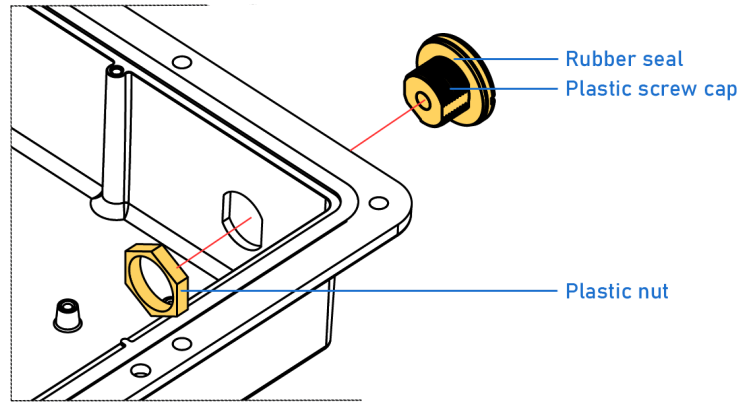


Figure 3: Covering the second antenna hole

3. Cover the venting hole at the back with the provided screw vent.

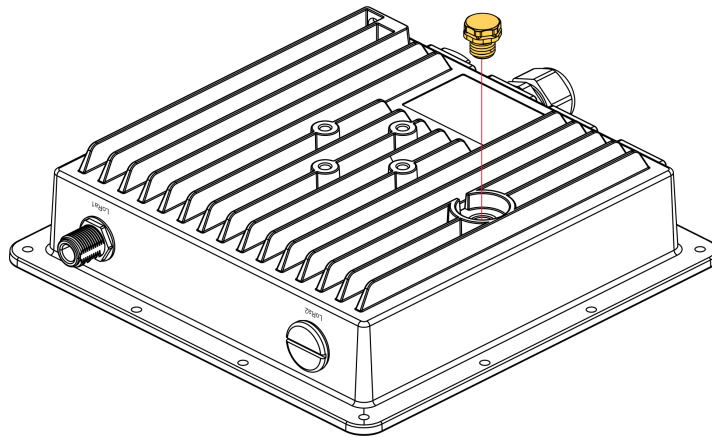


Figure 4: Covering the vent hole

4. Fix the SenseCAP M1 to the aluminum plate inside the enclosure with three M3*6 screws.

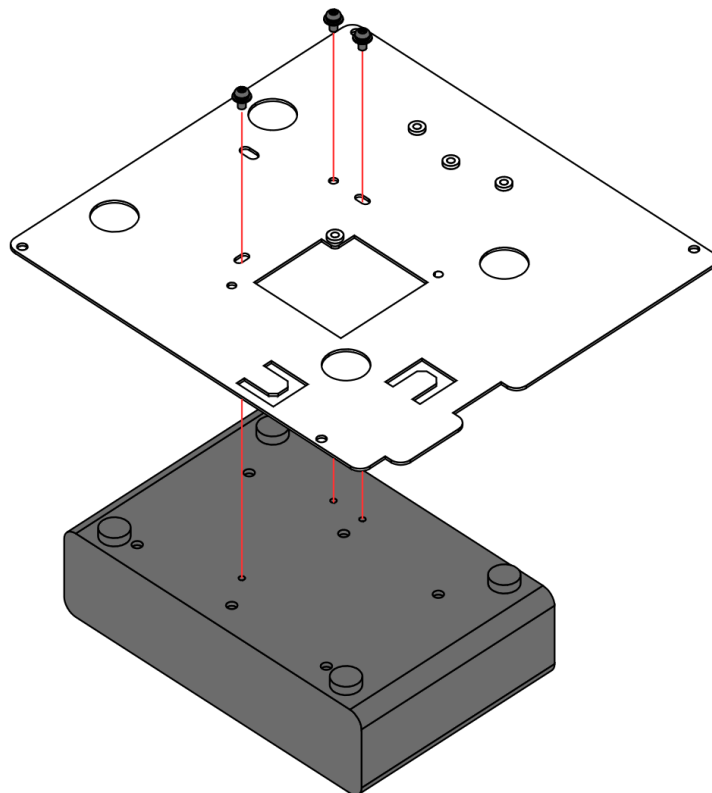


Figure 5: Securing the miner to the plate

5. Position the PoE splitter on the left side of miner and secure it with zip ties. Plug the connectors of RJ45 cable and Type-C cable into the corresponding ports of the miner and the PoE splitter.

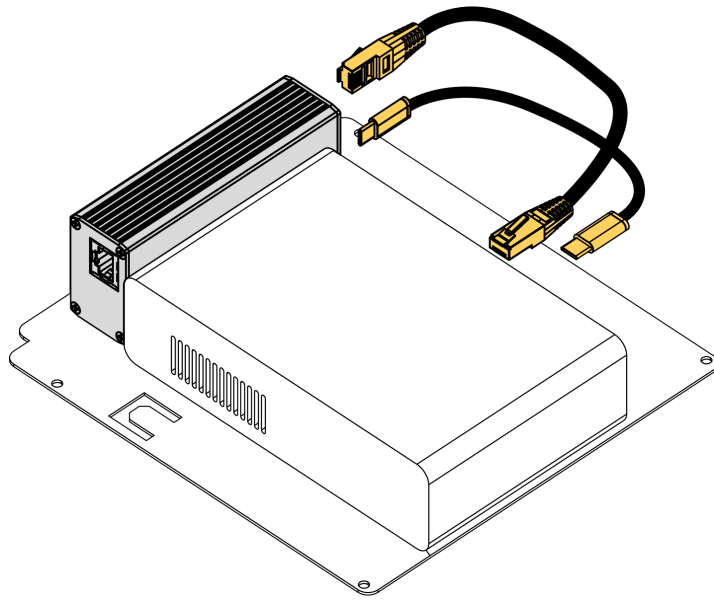


Figure 6: Connecting the PoE Splitter to the miner

6. Connect the antenna connector of the enclosure to the antenna connector of the device, as shown in Figure 7.

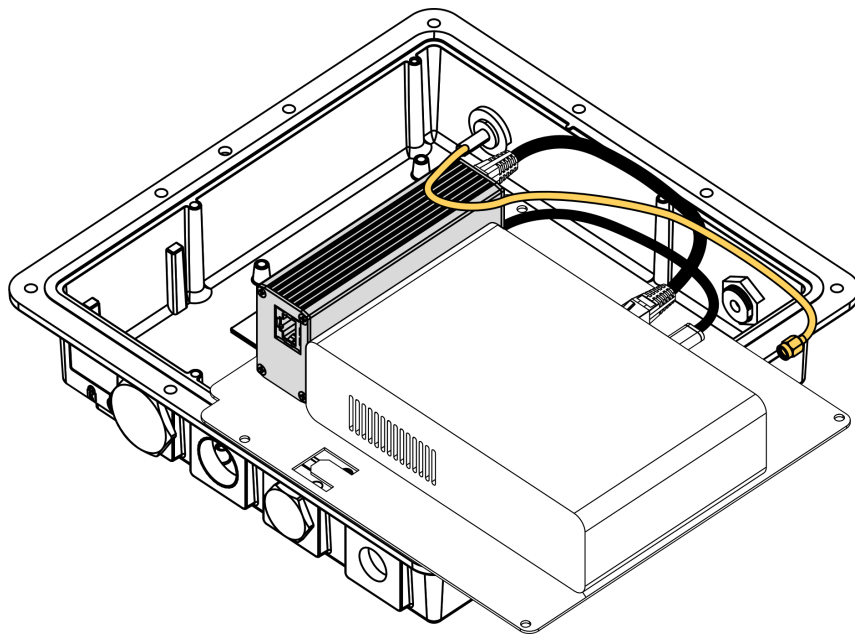


Figure 7: Connecting the antenna connector

7. Fix the plate with the miner inside the enclosure with four M3*6 screws.

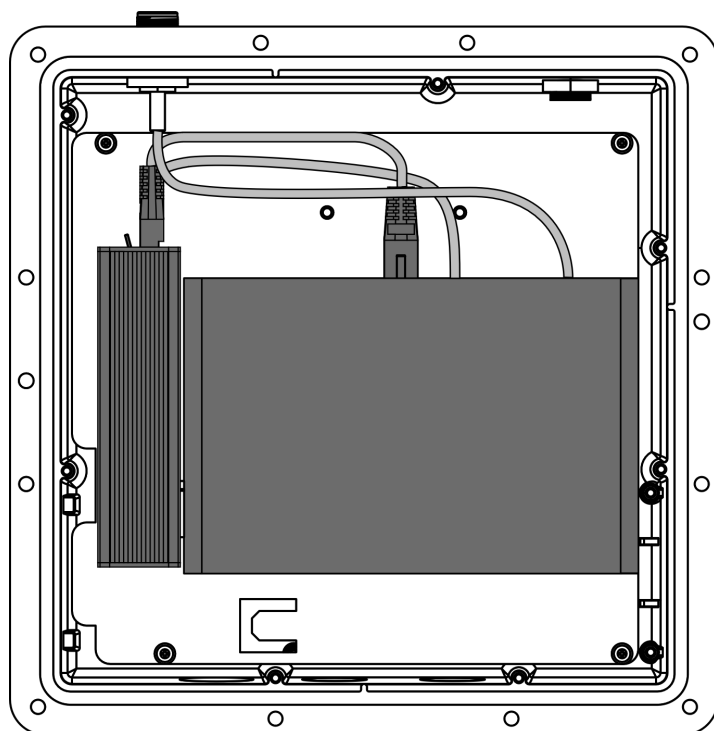


Figure 8: Fixing the miner inside the enclosure

8. Insert the Ethernet cable through the cable gland. Plug the RJ45 Network cable coming out from the cable gland to the PoE splitter's RJ45 port. Then, fasten the cable gland's body to the enclosure and tighten the lock nut.

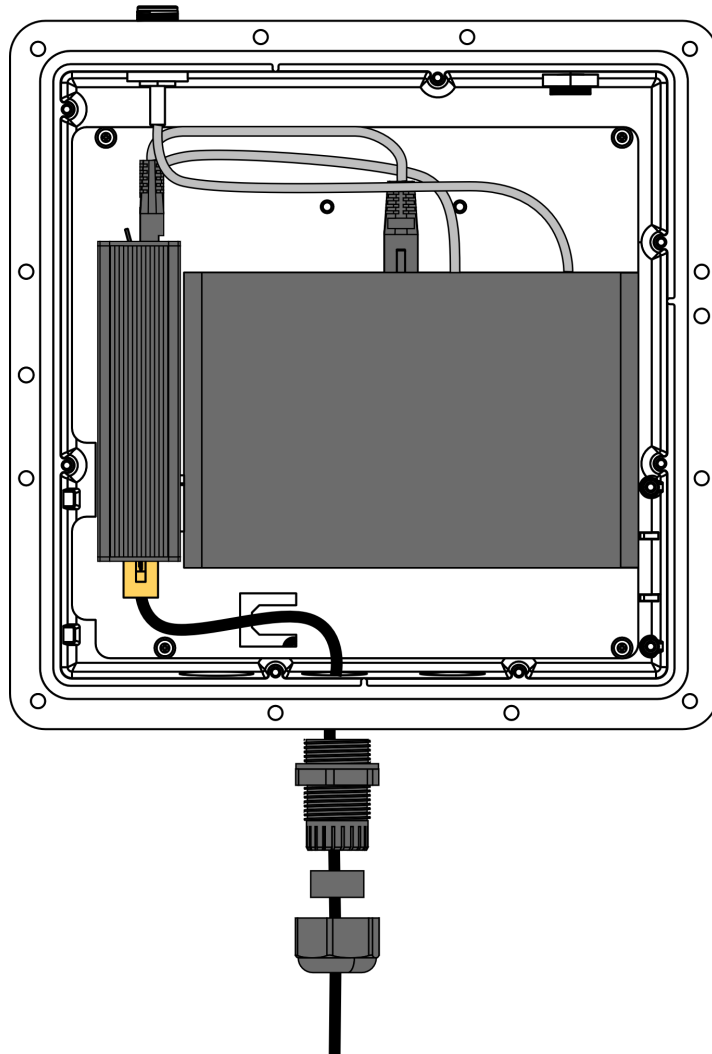


Figure 9: Connecting the network cable

9. Close the top cover with twelve M4*12 screws.

Installation

Instructions on mounting and securing the mounting kit to the enclosure and the bearing pole.

1. Fix the device bracket on the bottom of the enclosure with four M6*12 screws, as shown in Figure 10.

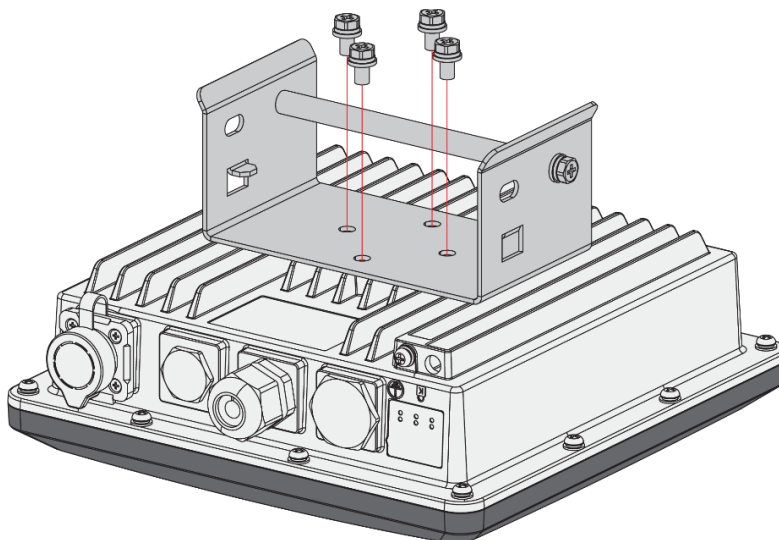


Figure 10: Fixing the bracket to the enclosure

2. Position and tighten the pole clamps together around the pole with bolts, washers, and nuts.

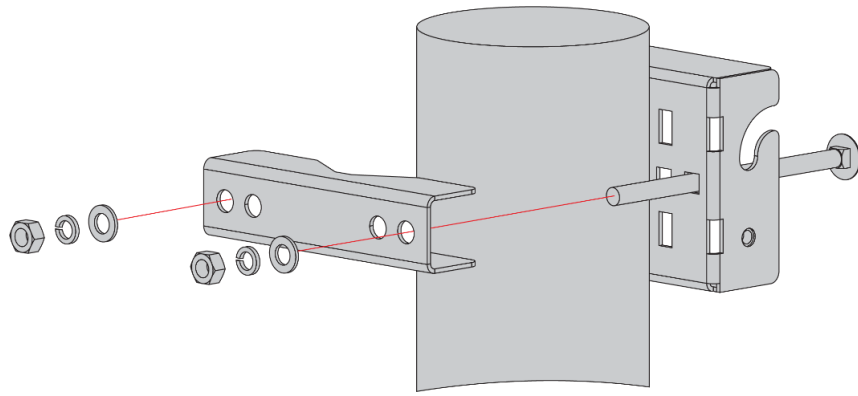


Figure 11: Positioning and fastening the pole clamps

NOTE:

The diameter of the pole that is supported by the brackets is 50-100 mm. If the pole diameter is more than this value, the steel strips can be used. The standard mounting kit does not include steel strips. If needed, they should be purchased separately.

3. Hang up the enclosure and fasten it with two M6*12 screws.

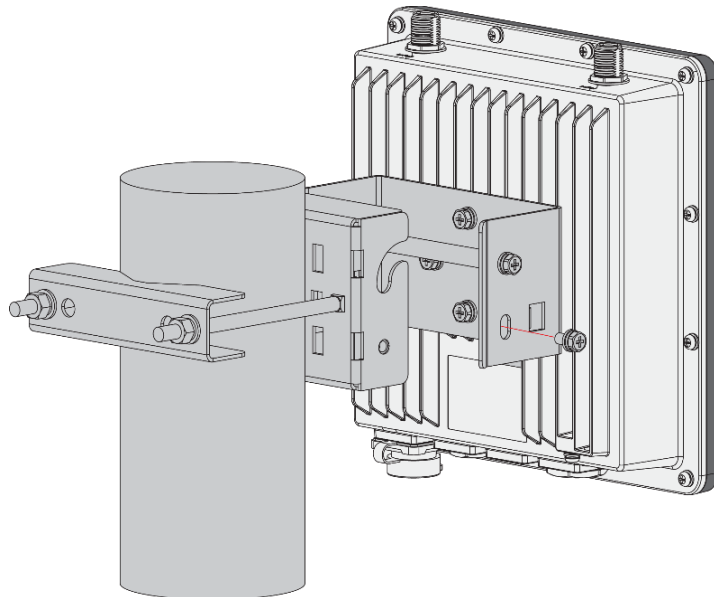


Figure 12: Fixing the enclosure to the pole

Connecting the PoE Adapter

1. Connect the Ethernet cable from the enclosure to the Ethernet port labeled POE on the adapter.
2. Connect an Ethernet cable from your LAN network to the Ethernet port labeled LAN on the adapter.
3. Connect one end of the power cord to the adapter. Connect the other end of the power cord to a power outlet.

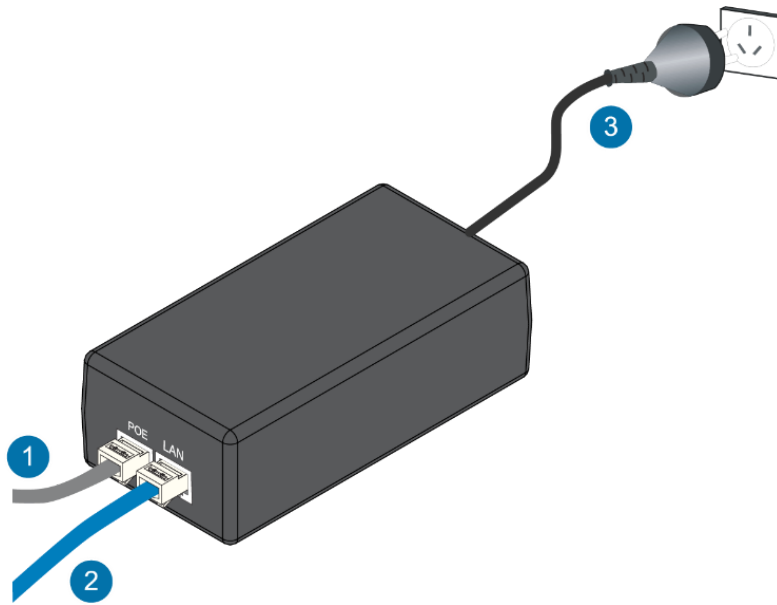


Figure 13: PoE adapter

Weather Protection

To better protect the Ethernet cable gland and the antenna connector from the weather, you need to cover them with PVC tape.

1. Clean the surface area of the connector that will be wrapped. Wrap a layer of PVC tape with a 50% overlap according to the rotation direction of the connector. Continue wrapping the PVC tape to about 10 mm below the end of the connector.

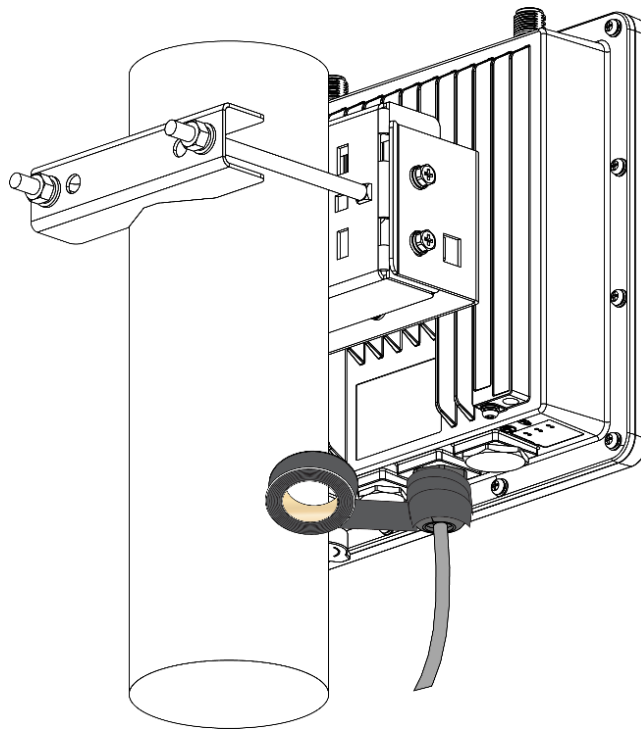


Figure 14: Wrapping with PVC tape

2. Cut off about 50 cm waterproof tape. Stretch it to double the length. Wrap three layers around the connector with a 50% overlap. Hold the tape in place with your hand for a few seconds.

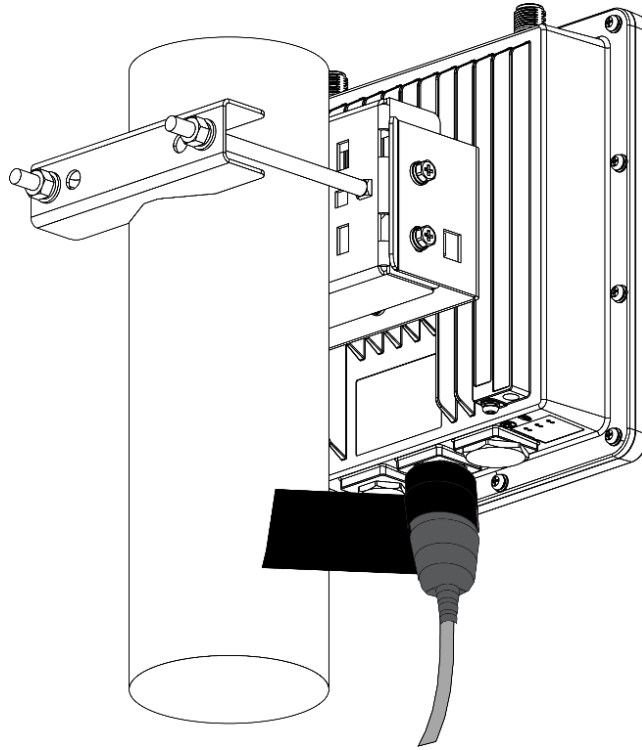


Figure 15: Wrapping with waterproof tape

3. Wrap three additional layers with PVC tape with natural uncoiling force and a 50% overlap. Make sure to cover the head and the tail of the connector.

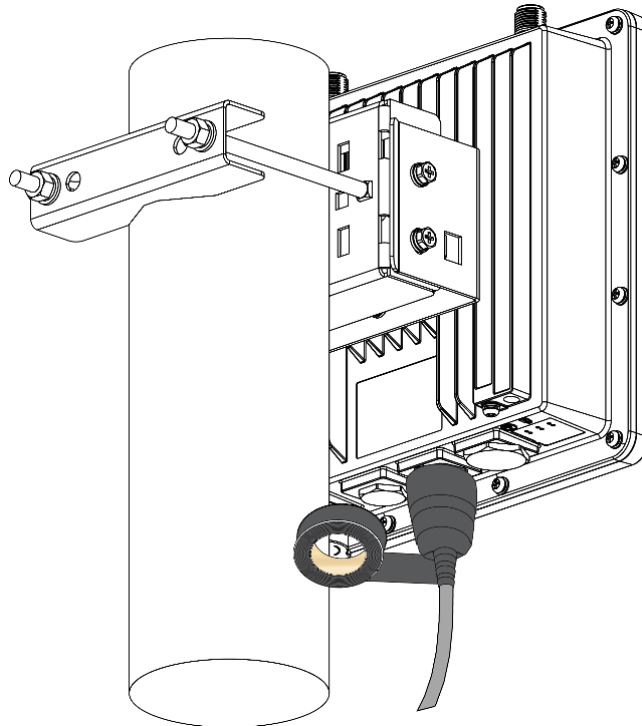


Figure 16: Final PVC wrapping