

Network Controller Installation Guide

Overview

In support of Installation of a new Viasat Community Internet – WiFi Hotspot site, this section provides step-by-step instructions on how to physically mount, cable, and install the Network Controller (NC).

This mounting process should occur AFTER modem and wi-fi device activation is complete. The galvanized steel pole should already be mounted before beginning this process.

REQUIRED ITEMS:

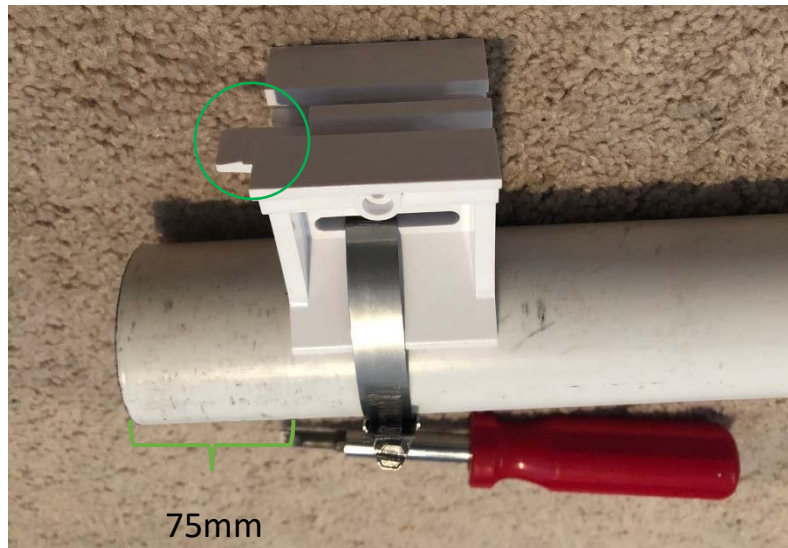
- One Mikrotik Network Controller (NC)
- NC power cord (included with the device)
- One slide-on attachment (included with the NC)
- NC PoE injector (included with the device)
- One flathead screwdriver
- One Viasat Modem
- One UPS
- Plenty of UV-rated zip ties to tie down cabling
- One galvanized steel pole – threaded end recommended
- Pole mount and hardware – swivel mount preferred
- Minimum 2 meters of PVC and threaded fitting/other method for attaching to steel pole
- Plenty of ethernet cable, connectors, and shields
- Three 76mm steel clamps
- One set of needle-nose pliers
- One set of wire cutters/metal clippers
- One galvanized steel ground strap
- Grounding wire 12awg or lower
- Grounding rod (or use one installed with satellite ODU)

NOTE: A different model may be used for the MikroTIK items in pictures below, but the process is identical.

Installation Instructions:

STEP 1 | Mount the NC to the PVC

- A. Install the NC slide-on attachment approximately 75mm from the top of the PVC using a metal clamp and a flathead screwdriver. Make sure the tab of the slide-on attachment is **face-up** as shown below.



NOTE: Be careful not to break the slide-on attachment plastic by over-tightening the metal clamp.

NOTE: If an AP is installed on the same pole as the NC it must be installed fully beneath the NC (see the Mounting Requirements Guide for more detail).

- B. Clip any excess clamp metal with metal cutters.



- C. Slide the NC onto the slide-on attachment until it clicks (model may vary).



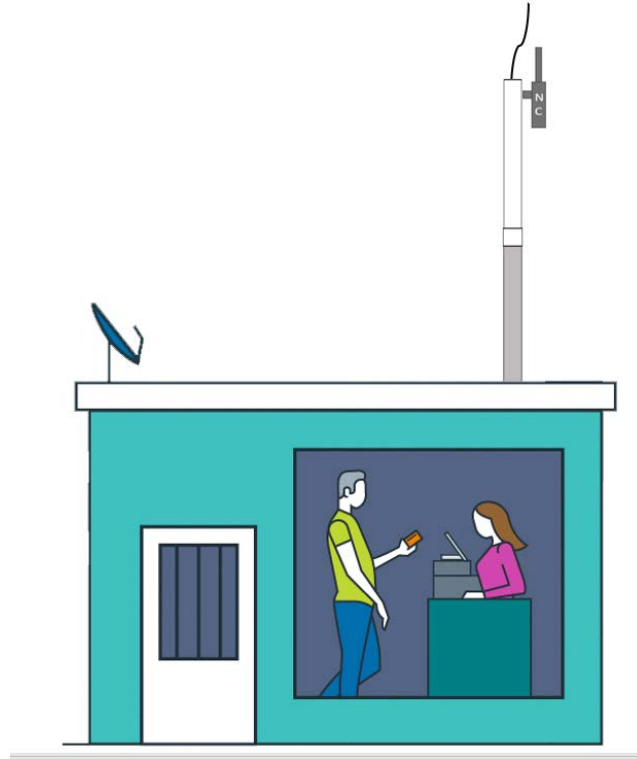
STEP 3 | Connect the NC to the Modem

- A. Attach the PVC to the steel pole and mount per the specifications listed in the Mounting Requirements Guide. If using a steel pole with a threaded end (recommended method), tighten a PVC fitting to the steel and PVC poles as shown below.



- B. Once the pole is installed, run ethernet cable through it from the inside network equipment to the WiFi device(s). **NOTE:** If the AP is installed on the same pole as the NC then two cables must be run through the pole.

DO NOT allow the pole or any other object to apply pressure to the cable(s).



- C. Terminate the ends of all ethernet cable with connectors and shields by following the [CAT5e cable termination guide](#).
- D. **Test the cables using a CAT5e cable tester.**



- E. Open the bottom cover of the NC as shown below and use pliers to remove the plastic tabs for Port 1. **NOTE:** For some models, plastic tabs must be removed on both sides of the cover.



- F. Connect an ethernet cord to Port 1 of the NC.



- G. Hold the cable down in the opening and reattach the bottom cover. Hand-tighten the nut (if there is one).



STEP 4 | Powering-On the NC (Inside Network Equipment)

- A. Route the ethernet cords to the inside network equipment area.

CABLE ROUTING NOTES:

For horizontal cable runs, attach the cables to the wall surface using screw clips every 18 to 24 inches.

For vertical cable runs, attach cables to the all surface with screw clips every 30 to 36 inches.

Keep the cable run as straight as possible but remember to use the correct bend radii of **1 inch**. Follow horizontal and vertical elements (such as the siding) at every opportunity.

Diagonal or aerial cable runs are not allowed.

Remember! **Never put a 90-degree bend in any cable run.**

These cables can be routed into the building in the same way as the RG6 cabling installed for the satellite ODU.

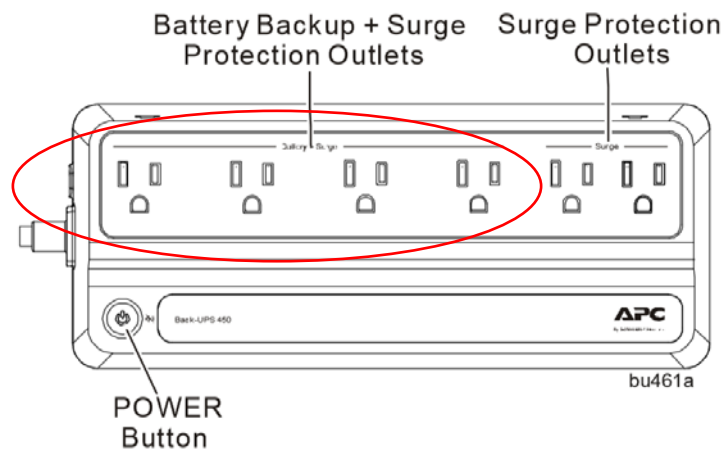
B. Connect the NC Port 1 ethernet cord to the PoE injector.



C. Connect the PoE injector to the NC power cord and the NC power cord to the UPS.



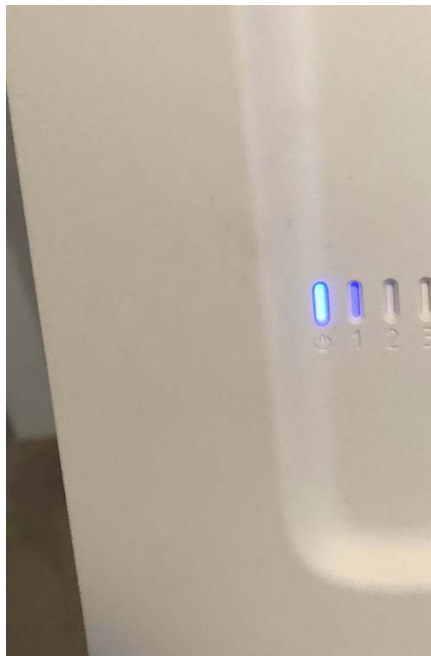
NOTE: The Modem, Network Controller, and AP power cords must be plugged into one of the 4 "Battery Backup + Surge Protection Outlets" on the UPS. The image below shows where these outlets are located on the device.



- D. Connect the PoE ethernet plug to Port 1 of the modem inside the building.
NOTE: Data modem is pictured on the left, SB2+ on the right (used in Brazil).



- E. On the NC, verify green lights turn on for Power and Port 1 as shown below.
These indicate successful connections.



TROUBLESHOOTING NOTE: If the devices have issues powering on you may need to PowerCycle the UPS located in the inside equipment.

To do this, press and hold the POWER button on the UPS for at least 2 seconds. At the first beep, release the button and the UPS will turn off.

To turn it back on, press the POWER button (no need to hold). A light will illuminate green and a single short beep will indicate the UPS is powered back on.

STEP 5 | Grounding the Mounting Pole

- A. To ground the galvanized steel mounting pole, first install the UL-listed grounding strap to the bottom of the pole.



- B. Attach 12 awg (or thicker) grounding wire to the grounding strap and run grounding wire from the pole to the grounding source.

NOTE: A grounding bus is required if the distance from the pole to the grounding source is over 6.5 meters. If a grounding bus is used you can run an additional 6.5 meters of grounding wire 10 awg (or thicker) from the grounding bus to the grounding source.

- C. The Wi-Fi hardware install is complete! Next steps are to take photos for the Post-Install Report and verify a successful Wi-Fi connection.

STEP 8 | Verify the Network Connections

- A. Using your 5GHz laptop (or 5GHz smartphone if one is available – see equipment list for phone requirements) verify that the SSIDs for “Viasat WiFi” and “Viasat POS” appear for both 2.4 GHz and 5 GHz by using a WiFi analyzer such as WiFiman.

NOTE: If these Networks do not appear or do not load properly, but the devices and modem are powered on – try running a powercycle on the UPS by following the below steps:

TROUBLESHOOTING NOTE: *If the devices have issues connecting you may need to PowerCycle the UPS located in the inside equipment.*

To do this, press and hold the POWER button on the UPS for at least 2 seconds. At the first beep, release the button and the UPS will turn off.

To turn it back on, press the POWER button (no need to hold). A light will illuminate green and a single short beep will indicate the UPS is powered back on.

Contact Support if there are still issues after running a PowerCycle.

Mounting of the NC is now complete!

