Cambium Networks™

cnRanger | 201

Subscriber Module

Quick Start Guide

cnMaestro READY

Introduction

This guide provides quick installation steps for cnRanger 201 Subscriber Module (SM).

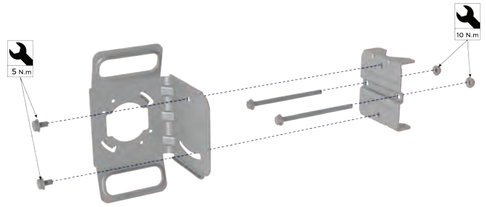
Package contents

Tools required

- Phillips head Screwdriver
- M13 wrench

** SKU "3LTE-SM-201" does not contain Power cord.

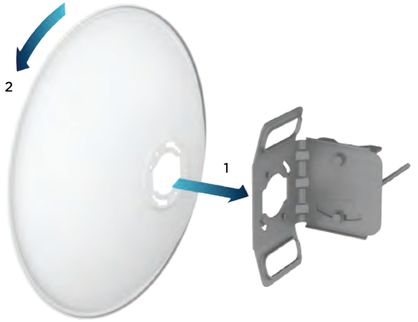
STEP 1



Assembling the Pole Mounting bracket to the dish mounting bracket.

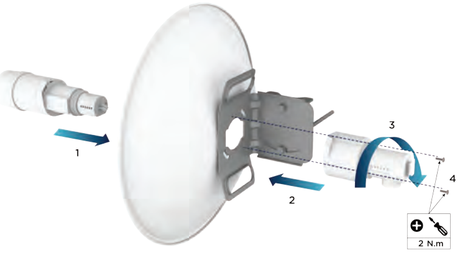
a. Insert the the two M8 x 120 mm bolts though the bracket secure with the M8 nuts (torque to 10Nm).
b. Lock bracket with the two M8 screws(torque to 5 N.m). Do not final torque until alignment has been set.

STEP 2



- Assembling the Pole Mounting bracket to the dish.
- Align dish tabs to the pole bracket assembly.
- Rotate in the direction as shown.

STEP 3



- Assembe the radio to dish assembly.
- Insert the the radio though the dish and bracket.
- Insert rear housing and screw in the direction as shown.
- Align screw holes and secure with two screws.
- Apply 2 N.m to the screws to lock the assembly together.

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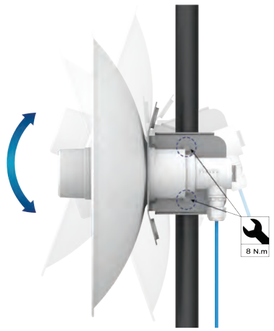
STEP 4

- Attach Dish assembly to Pole Mounting.
- Attach the pole clamp and secure with M8 nuts (torque to 10 N.m).

STEP 5

- Remove cap and connect RJ45 cable to the radio.
- Secure gland connector to assembly.

STEP 6



- Align radio to required angle by tilting up and down. The maximum radio tilting angle is ± 20°, with an incremental of 10°. Secure radio with maximum 8.0 N.m torque.

Powering Up

1. Connect the Ethernet cable from Eth1/PoE-IN of cnRanger 201 SM to the PoE port of Gigabit Data + Power
2. Connect an Ethernet cable from your LAN or Computer to the Gigabit Data port of the PoE adapter.
3. Connect the Power Cord to the adapter, and then plug the Power Cord into a power outlet.

Once powered ON -- Power LED should illuminate continuously on PoE Adapter.

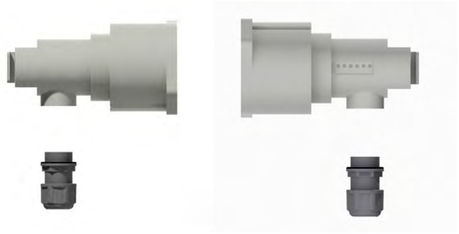
***Shielded Category 5 (or above) cabling should be used for all outdoor wired Ethernet connections and should be grounded through the AC ground of the PoE.*

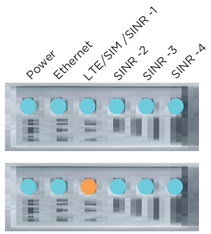
Hardware Overview

SIM Slot
The SIM slot is used to insert the SIM card.

Ethernet Port
The Ethernet port is used to connect the power and should be connected to the LAN and DHCP server.

Hardware Overview





Hardware Overview

LED Name	LED	Color	Behavior	Status Indication
Power status		Blue	Steady ON	Device is ON (AC is plugged in).
		Blue	OFF	Device is OFF (AC is not plugged in or device is faulty).
LTE/SIM		Blue	Steady ON	SM attached to LTE network.
		Blue	Blinking	Searching for LTE network.
		Blue	OFF	CPE not attached to LTE network.
		Orange	Steady ON	SIM issue.
		Orange	Blinking	SIM detection in process.
		Orange	OFF	SIM is detected and working properly. It turns to blue once LTE is attached.
LTE + SINR Status	When CPE connects to Base station, the 3 LEDs become signal quality indicators according to SINR.			

Hardware Overview

LED Name	LED	Color	Behavior	Status Indication
LTE SINR-1 + SINR-2 + SINR-3 + SINR-4		Blue	OFF	<5dB 5dB <= CINR < 10dB
		Blue	Steady ON	
		Blue	Steady ON	10dB <= CINR < 20dB
		Blue	Steady ON	20dB <= CINR

Configure Management PC

Initial device configuration is performed over the Ethernet Interface using cnRanger 201 SM GUI.

To configure using cnRanger 201 SM GUI:
Open the web browser, navigate to 192.168.0.1, and login with the following credentials:

- Username: **admin**
- Password: **admin**

Navigate to either the configuration or quick start menu to setup cnRanger 201 SM for the desired modes of operation.

Once the cnRanger 201 SM is configured and the radio link is operational, further management may be performed over the radio link by using cnMaestro or cnRanger 201 SM GUI.

Specifications

Model: cnRanger 201	
Product Dimension	472.81*472.81*293.70 mm
Weight with Mounting Kit	3.2 kgs
Networking Interface	10/100/1000 Mbps Ethernet port(R45)
Operating Frequency LTE Band 42 LTE Band 43 LTE Band 48	 3400-3600 MHz 3600-3800 MHz 3550-3700 MHz
Antenna Gain	21 dBi
Beamwidth	12 degrees
Max Power Consumption	9 W
Max TX Power (Conducted*)	23 dBm
Power Supply	30V_POE
Wireless Security	SNOW3G, AES
Operating Modes	LTE TDD
Mounting	Pole (Kits included)
Supported Pole Size	38.1 to 76.2 (mm) 1.5" to 3.0" (Inch)
IP Rating	IP67
Operating Temperature	-40°C to +55°C
Operating Humidity	5-95% Noncondensing
Certification	FCC

Regulatory dependent

Safety Notice

Warning

To prevent loss of life or physical injury, observe the following safety guidelines. In no event shall Cambium Networks be liable for any injury or damage caused during the installation of cnRanger 201 SM. Ensure that only qualified personnel install.

Only use attachments/accessories specified by the manufacturer.

Electrical safety information

1. Compliance with manufacturer's label for voltage, frequency, and current requirements. Connecting to a different power source than those specified may result in improper operation, damage to equipment or pose a fire hazard if the limitations are not followed.

2. There are no serviceable parts inside this equipment. Service should be provided only by a qualified service technician.

3. This equipment is provided with a detachable power cord which has an integral safety ground wire intended for connection to a grounded safety outlet.

   a. Do not substitute the power cord with one that is not the provided approved type. Never use an adapter plug to connect to a 2-wire outlet as this will defeat the continuity of the grounding wire.

   b. The equipment requires the use of the ground wire as a part of the safety certification, modification or misuse can provide a shock hazard that can result in serious injury or death.

   c. Contact a qualified electrician or the manufacturer if there are questions about the installation prior to connecting the equipment.

   d. Protective earthing is provided by Listed AC adapter. Building installation shall provide appropriate short-circuit backup protection.

   e. Protective bonding must be installed in accordance with local national wiring rules and regulations.

FCC Compliance

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
Professional installation is required.

IMPORTANT NOTE:
FCC Radiation Exposure Statement:
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 40cm between the radiator and your body.

Online Resources

Support:
http://www.cambiumnetworks.com/support/

Contact us:
http://www.cambiumnetworks.com/support/contact-support/

pmp-3014

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