Inseego Wavemaker™
5G Outdoor Modem FW2010

Installation Guide

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WAVEMAKER™

About the FW2010

Description

The 5G Outdoor Modem FW2010 delivers multi-gigabit data rates over 5G millimeter wave networks using high power phased array antenna modules. The FW2010 provides extended range and coverage for millimeter wave cellular networks and delivers data connectivity to existing in-building networks.

Durability

The FW2010 has an environmental rating of IP67 for water and dust ingress and can operate within a temperature range of -30°C to 70°C (-22 to 158°F).

Preparing to Install

Tools and materials

- Installation handle (optional)
- Ladder
- Installation PoE* cable (RJ45 fittings attached)
- Smartphone/tablet for Inseego Mobile App
- 4FF nano SIM card (may come pre-installed)
- Phillips-head screwdriver
- M6 4mm hex driver
- Drill
- 14mm socket wrench/driver
- Needle nose pliers or tweezers
- Permanent round Cat6A PoE cable
- Ground wire
- Two RJ45 connector fittings for PoE cable
- Crimp tool to attach RJ45 fittings
- Cat6A Ethernet cable
- Sealing/weatherproofing material

Your 5G FW2010 comes in two packages:

- Device, PoE injector, and SIM tool
- Mounting bracket and hardware

*Power over Ethernet

Pre-Installation

1. If there is not a pre-installed SIM, unscrew the protective shield over the SIM slots using a Phillips-head screwdriver.

NOTE: This device supports only Nano SIM cards.

2. Use the included SIM tool to insert a Nano 4FF SIM card into the SIM 1 slot.

Do not insert SIM card into the SIM 2 slot - it will not work.

3. Reattach the protective shield cover to a torque of 1.2 Nm (0.885 ft/lb).

4. For ease of carrying during the location survey, attach the optional installation handle to the back of the device with a hex driver.

5. Unscrew the PoE gland cap and insert one end of the installation PoE cable.
   NOTE: This is for location survey purposes only. You will install the permanent PoE cable later. Set aside the bushing and cap.

6. Insert the other end of the cable into the PoE injector **PoE** port. Plug the PoE injector into an earthed AC outlet.

Location Survey

1. Scan the QR code to download the latest Inseego Mobile App from App Store or Google Play, or visit the link below to download the App:
   https://inseego.com/inseego-connect-get-app

2. Follow instructions within the Inseego Mobile App to connect to the FW2010 and perform a 5G site survey to identify the ideal location to install.

Installing the FW2010

Installing the PoE cable

1. Remove the installation PoE cable used for the location survey from the device using needle nose pliers or tweezers.

2. Remove the rubber pin from the PoE gland bushing and assemble the gland cap, putting the bushing inside the spacer and into the cap.

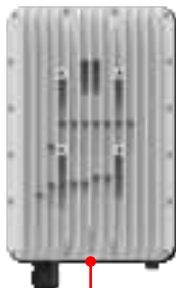*Rubber pin and gland bushing*

Gland cap assembly

3. Thread the permanent PoE cable through the hole in the assembled PoE gland cap and attach a RJ45 connector to the cable.

4. Insert the connector into the FW2010 and screw on the gland cap. The cap will keep the PoE connection secure and watertight.

Attaching the device to the device elevation bracket

1. Remove the installation handle from the device.

2. Attach a ground wire to the back of the device with the ground screw.

M5 10mm ground screw / washer

3. Place the M6 external locking washers on the M6 21mm bracket mount bolts.

M6 21mm bracket mount bolt and washer

4. Mount the device to the device elevation bracket using a hex driver to tighten the bolts to 2.0 Nm.
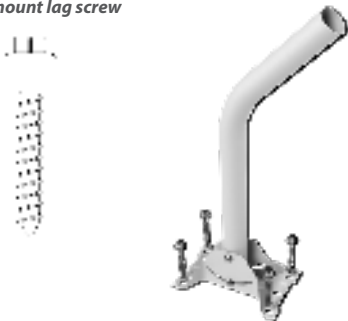
Installing the mount

The mount is adjustable and can be mounted on vertical, horizontal, and slanted exterior surfaces.

The mount is attached using the four roof mount lag screw in the corners of the base.

Roof mount lag screw

1. Pre-drill holes in the surveyed location.
2. Attach the mount using a hex driver to tighten the lag screws.
   NOTE: Concrete anchors are provided if mounting to concrete or brick.

Securing the device elevation bracket to the mount

1. Attach the device elevation bracket to the mount and tighten the square neck bolts along the back to 2.0 Nm using a ratcheting socket wrench.

2. Ground the ground wire to an appropriate earth ground.

Orienting the device

1. Run the PoE cable to the desired location of the PoE injector.

2. Attach a RJ45 connector fitting and insert the cable into the **PoE** port on the PoE power injector.

3. Take a racheting socket wrench and device/smartphone with the Inseego Mobile App to the FW2010 location.

4. Use the Inseego Mobile App and the positioning bolts on the device elevation bracket and bottom of the mount to fine tune the horizontal and vertical angle of the FW2010 for the best signal.

5. Tighten the positioning bolts to 15.0 Nm.

6. Use sealing/weatherproofing material to seal any holes drilled in the structure to run the PoE cable indoors.

Testing the connection

Checking the LED on the device

The LED is located in the SIM compartment and is visible through the protective shield.

Multifunction LED

LED Color		Operation	Meaning
Blue		Solid Blinking	Strong 5G connection (3 – 5 bars) Weak 5G connection (1 – 2 bars)
Green		Solid Blinking	Strong 4G connection (3 – 5 bars) Weak 4G connection (1 – 2 bars)
Yellow		Solid	Software update is in progress
Red		Solid Blinking	Router is booting up No service, SIM error, or locked SIM card

Connecting a device

You can connect any router or device with Ethernet capability and an Internet browser to the FW2010. Connect an Ethernet cable from the **DATA** port on the PoE power injector to the connecting device.

Connecting to the Web UI

1. On a connected device, open any browser and enter: **http://192.168.1.1**.
2. Sign in using the default password: **Fast5G! IMPORTANT:** For security purposes, please ensure the user resets the Admin password in the Web UI prior to finishing installation.

Important information

Inseego Mobile App requirements

Smartphone or device on iOS 13 or above, or Android 9.0 or above.

System requirements

Any device with Ethernet capability and an Internet browser. The 5G FW2010 is compatible with the latest major operating systems and versions of Web browsers.

Approved firmware versions

This device will only operate with firmware versions that have been approved for use by your wireless carrier and the device manufacturer. If unauthorized firmware is placed on the device it will not function.

Support and more

More information

To access a User Guide, go to:
www.inseego.com/support-documentation/

Customer service and troubleshooting

Please contact your service provider.