

Inseego Wavemaker™ PRO 5G Outdoor CPE FW2010e Installation Guide



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About the FW2010e

Description

The 5G Outdoor CPE FW2010e delivers multi-gigabit data rates over 5G millimeter wave networks using high power phased array antenna modules. The FW2010e provides extended range and coverage for millimeter wave cellular networks and delivers data connectivity to existing in-building networks.

Durability

The FW2010e has an environmental rating of IP67 for water and dust ingress and can operate within a temperature range of -30°C to 60°C (-22 to 140°F).

Preparing to Install

Tools and materials

- Installation handle (optional)
- Ladder, if necessary
- 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 FW2010e package includes: FW2010e device, PoE injector, and SIM tool.

NOTE: Mount installation packages are ordered and shipped separately.

*Power over Ethernet

Pre-Installation

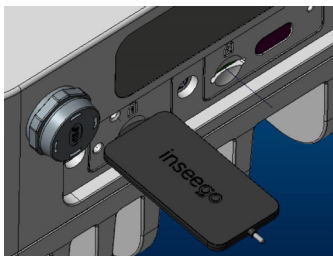
1. If there is not a pre-installed SIM, unscrew the protective shield over the SIM slots using a Phillips-head screwdriver.



NOTE: This device supports only Nano SIM cards.



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



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 Phillips-head screwdriver.



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.

CAUTION! *Do not stand directly in front of the FW2010e when it is powered on.* The calculated safe separation of the front of the device from the human body during installation is 58 cm (EIRP power 53dBm for n260) for occupational exposure limit ($5.0\text{mW}/\text{cm}^2$).

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 FW2010e and perform a 5G site survey to identify the ideal location to install.

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 FW2010e and screw on the gland cap. The cap will keep the PoE connection secure and watertight.

Installing the FW2010e

Attaching the device to the device elevation bracket

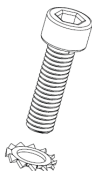
1. Remove the installation handle from the device.
2. Attach a ground wire to the back of the device with the ground screw.

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.

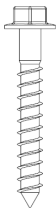


Installing the mount

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.

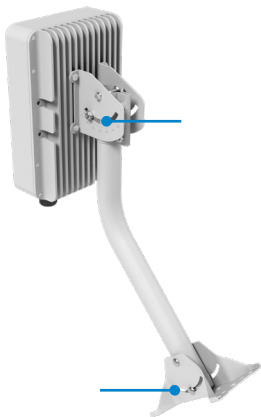


Orienting the device

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.



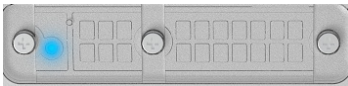
3. Take a ratcheting socket wrench and device/
smartphone with the Inseego Mobile App to
the FW2010e location.
4. Use the Inseego
Mobile App and the
positioning bolts on
the device elevation
bracket and bottom of
the mount to fine tune
the horizontal and
vertical angle of the
FW2010e for the best
signal.
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.



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 FW2010e. Connect an Ethernet cable from the **DATA** port on the PoE power injector to the connecting device.

Monitoring and managing your FW2010e

You can use multiple options to monitor and manage your 5G Outdoor CPE:

- **Inseego Mobile App** - Use the same mobile app you used to install your FW2010e to perform basic device monitoring and management.
- **FW2010e Admin Web UI** - Access the Web UI at <http://192.168.1.1> for a full set of device management features. The initial sign in password is: “**Fast5G!**”.
- **Inseego Connect** - Go to connect.inseego.com to sign up for a free Inseego Connect account, which provides the fullest experience for monitoring and managing FW2010e devices from anywhere in the world with access to a web browser.

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 FW2010e 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.