



# Cellferno

## M2000

4G/5G Outdoor CPE

### QUICK START GUIDE



# Introduction

Thank you for purchasing the Cellferno M2000 5G CPE. This high-quality IP67 rated product is designed to provide high speed internet using the 4G/5G mobile network.

## Preparing to Install

### Required Tools and Materials

- Ladder
- Installation PoE\* cable (RJ45 fittings attached)
- Smartphone/device for Inseego Mobile App
- SIM card (4FF nano)
- 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

### Package Contents

- M2000 Outdoor CPE (powered by Inseego FW2000e)
- PoE injector with 3 Pin Power Cord
- SIM tool
- Pole Mount Bracket with U-Bolts

### Optional Accessories

- 10m or 20m Outdoor CAT5e Network Cables
- Altai IX500 Access Point

## Pre-Installation

1. Unscrew the protective shield over the SIM slots using a Phillips-head screwdriver.



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. 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.



5. Insert the other end of the cable into the PoE injector 'Data & Power Out' port. Plug the PoE injector into an earthed AC outlet.

### Note:

- a. A grounding cable must be installed between the grounding port on the rear of the CPE and an external grounding point.
- b. For additional lightning protection it is recommended an Ethernet Surge Protector is also installed.

# Location Survey

1. Scan the QR code to download the Inseego Mobile App from Apple Store or Google Play Store, or visit <https://inseego.com/inseegoconnect-get-app> to download the App.



2. Follow instructions within the Inseego Mobile App to connect to the M2000 / FW2000e 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*



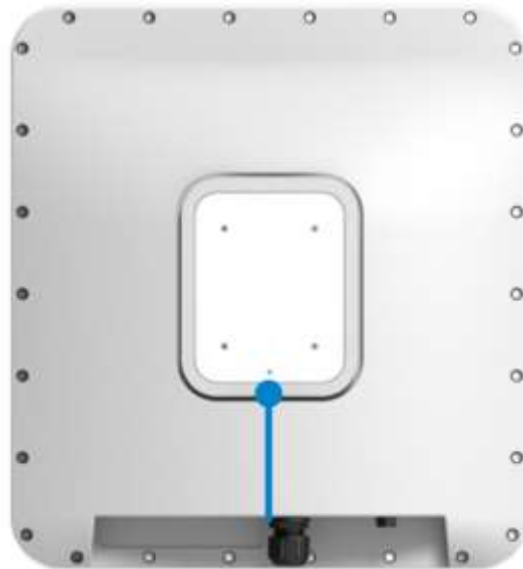
3. Thread the permanent PoE cable through the hole in the assembled PoE gland cap and attach a RJ45 connector to the cable.
4. Insert the connector into the M2000 and screw on the gland cap. The cap will keep the PoE connection secure and watertight.

# Installing the M2000

## Attaching the M2000 unit to the pole mount bracket

1. Attach a ground wire to the back of the device with the ground screw. Ground the wire to an appropriate earth.

**M5 10mm ground  
screw / washer**



2. Insert the large bolts into the backing plate on the mount then screw the supplied nuts and locking washers to secure to the mount backplate

3. The mount backplate can now be attached to the back of the M2000 unit using the M6 external locking washers and the M6 21mm bracket mount bolts.

**M6 21mm bracket  
mount bolt and washer**



4. Once ready to mount on a pole, the final part of the mount can be assembled by attaching the pole mount clamp to the pole, then securing with the locking washers and nuts.



### **Orientating the M2000**

1. Run an outdoor rated network cable between the PoE injector and M2000 unit
2. On the PoE injector insert the cable into the 'Data & Power Out' port.







3. Take a ratcheting socket wrench and device/ smartphone with the Inseego Mobile App to the M2000 location.
4. Rotate the M2000 whilst using the Inseego Mobile App to find the best signal. Speed tests can also be conducted to find the optimal direction.
5. Tighten the bracket nuts to secure the M2000 on the pole.
6. Use sealing/weatherproofing material to seal any holes drilled in the structure to run the PoE cable.

# 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 M2000. Connect an Ethernet cable from the 'Data In port' on the PoE power injector to the connecting device.

## Monitoring and managing your M2000

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 M2000 to perform basic device monitoring and management.
- **M2000 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](http://connect.inseego.com) to sign up for a free Inseego Connect account, which provides the fullest experience for monitoring and managing M2000 devices from anywhere in the world with access to a web browser.

For more detailed information, please contact your reseller or download the Cellferno CPE M2000 User Guide from [www.powertec.com.au](http://www.powertec.com.au)

**Cellferno is distributed and a Trademark of:**



16/511 Olsen Avenue

Southport Qld 4215

Australia

Ph: +61 7 5577 0500

Email: [sales@powertec.com.au](mailto:sales@powertec.com.au)