inseego




# all in one external antenna

## INSTALLATION GUIDE

# About your antenna

The all in one external antenna is a high-performance, 5G, Cat 18 (600MHz - 6GHz) antenna designed for Inseego 5G gateways. Available with MIMO 5G/LTE and supporting 0.6-6 GHz and L1/L5 GPS, the all in one external antenna is perfect for mobile and fixed wireless applications.

# Preparing to install your antenna

## Step **one:** gather tools and materials

- Masking tape (roof mount)
- Center punch (roof mount)
- Drill and 0.1 inch drill bit (roof mount)
- Adjustable wrench
- 1.5 inch hole saw (roof mount)
- Neutral cure silicone sealant (roof mount)
- Level (pole mount)
- Torque wrench
- Electrical tape/heat shrink tubing

## Step **two:** select a location

Select a mounting location that is easily accessible and where there are no obstructions within a radius of 24 inches and no other antennas within five feet. Avoid proximity to outlets, AC/heating units, or electrical motors, which may cause radio interference and reduce antenna performance.

You can perform a location survey using the Inseego Mobile app:

1. Scan the QR code to download the Inseego Mobile app from Apple Store or Google Play Store.
2. Follow instructions within the app and perform initial rough signal testing, then repeat after installation to confirm signal quality.

## Step **three:** select a mounting option

Select the mounting option that best fits your needs. NOTE: You can purchase mounts through the channel.

### Roof mount

For mounting the antenna on a vehicle, cabinet roof, or any flat surface.



*roof mount*

### Magnetic mount

For temporarily mounting the antenna on any ferrous metal surface using a magnetic mount bracket.



*PTA0329*

### Pole mount

For mounting the antenna on pole or wall using a heavy duty, steel-fixed bracket.



*PTA0638*

# Installing your antenna

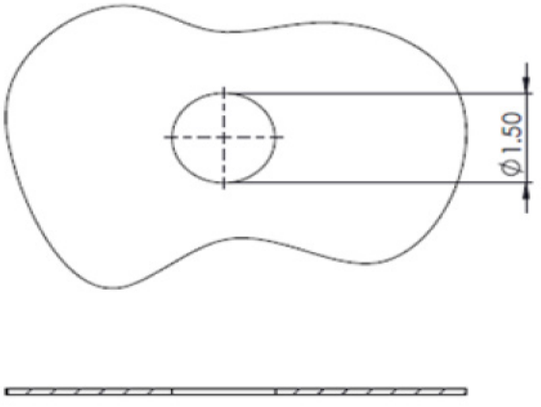
## Roof mount



You can install the antenna on a vehicle, cabinet roof, or any flat surface, with a roof mount.

### Step **one:** prepare the hole

1. Mask the mounting location surface with masking tape to avoid paint damage and mark the hole center with ink or scribed cross hairs.
2. Use a center punch to make a dimple on the marked location to avoid drill bits from walking across the sheet metal. Use a 0.1″ twist drill bit to drill a pilot hole. Use a 1.5″ diameter sheet metal hole saw to drill a hole. NOTE: The hole saw cuts the required diameter hole with less risk of stretching and distorting the vehicle/cabinet surface.

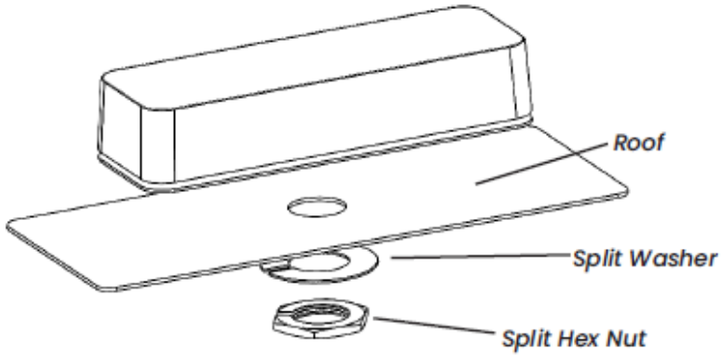



3. Clean up any metal shavings from the hole cutting process.

## Step **two:** mount the antenna

1. Feed the coaxial cables from the antenna through the hole from the outside surface to the inside surface and thread the entire length of the cable through the hole.
2. Clean any debris off the mounting surface and mark the desired antenna orientation by placing the antenna flat on the surface.
3. Lift the antenna and remove the protective backing from the underside of the antenna. Place the antenna back in the desired position and apply downward pressure to stick it in place.
4. To avoid a gap between the antenna and mounting surface, use neutral cure silicone sealant around the base of the mount to fully compress the antenna to the mounting surface.
5. On the inside of the vehicle/cabinet, thread the provided flat washer and hex nut over the cable. NOTE: If applicable, you can add a star washer between the split washer and hex nut.

   Slide the washer(s) and nut to the threaded flange of the antenna and tighten the hex nut until the antenna compresses flat with the mounting surface.






# Magnetic mount



You can use the magnetic mount for temporary installation of the antenna with no drilling required. The magnets provide a strong physical connection with 40 lbs of pull strength.

## Mount the antenna

1. Feed the coaxial cables from the antenna through the top of the mount hole and thread the entire length of the cable through the hole.
2. Screw the threaded flange of the antenna into the magnetic mount.
3. Place the mount in the desired position.

# Pole mount



Use a pole mount to provide optimal isolation for uninterrupted service. The pole mount bracket is weatherproof and wind rated up to 130 mph.

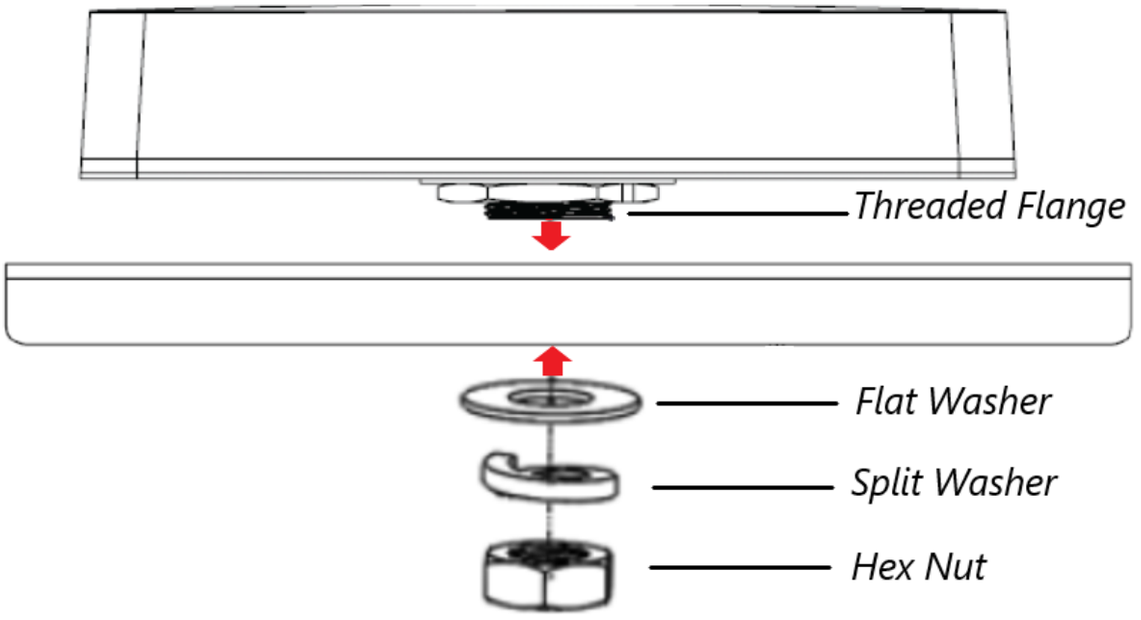
## Step **one:** mount the bracket on the pole

1. Select a pole with a diameter between 1.5 - 2.5 inches, or a rectangular post up to 3 inches wide. Cut the pole to the required length. Mount the pole vertically and confirm it with a level. Make sure the pole is firm before mounting the antenna.
2. Mount the bracket on the top of the pole and tighten the nuts, making sure equal lengths of thread extend past each nut.

NOTE: Additional vertical and horizontal slots for gear/worm drive clamps offer additional mounting options.

## Step **two:** mount the antenna

1. Feed the coaxial cables from the antenna through the antenna mounting hole on the bracket and thread the entire length of the cable through the hole.
2. Remove the protective backing from the underside of the antenna and place the antenna on the bracket, applying downward pressure to stick it in place.
3. Thread the flat washer, then split washer and hex nut through the cable. Slide the washers and nut to the threaded flange of the antenna and tighten the hex nut until the split washer compresses flat with the flat washer.



# Connecting cables to your gateway

## Step **one:** route the cables

1. Route the cables from the antenna to the gateway, maintaining a minimum bend radius of 1 inch. Avoid sharp bends and run the cables adjacent to existing wiring.

   NOTE: For pole mounts, clamp the cables to the pole at about 3 inches below the bracket. If long cables are used, secure the cable to the pole using zip ties, velcro, or tape.

2. Tighten the mounting hardware and, if required, waterproof the RF connectors using electrical tape or a heat shrink tubing.

## Step **two:** connect the cables

1. Clean the connectors on the gateway to ensure there is no dust in the terminals.

2. Finger tighten the cables from the antenna to the designated connector on the gateway, checking the label on each cable to ensure correct placement. Then tighten the connectors to a recommended torque of 5 in-lbs (56 N-cm) with an SMA torque wrench.

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