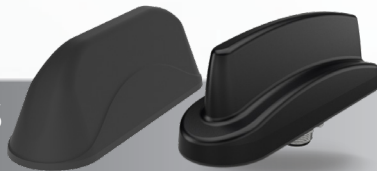


# Installation Instructions

L[X]AM Series

SW3-704 - v3



## 1. Introduction

The L[X]AM antenna series is designed for M2M / IOT applications requiring MiMo / diversity support. The antenna has a rugged, low profile housing with two elements supporting 4G/3G/2G and 3.5GHz 5G bands and has integrated length RG174 coaxial cables. The LG version incorporates an active GPS/GNSS antenna.

### Electrical Safety Note



This product contains an active GPS/GNSS antenna. Rated voltage: 3-5VDC Rated current: 20mA maximum.

**The supply to this device must be provided with over-current protection of 1A maximum.**

## 2. Mounting requirements and selecting location

Select a mounting location. Ensure that there is adequate under panel clearance. Measure to check for central position if applicable.

If the antenna will be co-located with other antennas or roof mounted equipment please try to ensure at least 30cm (12") of clearance around the L[X]AM antenna in order to avoid de-tuning and interference issues.

Ground plane requirement. This antenna range does not require a conductive ground plane in order to operate. Performance will vary depending on whether a ground plane is present or not.

## 3. Prepare and drill hole



Mask panel area around hole position to protect finish. Drill a pilot hole, and then increase to 19mm (3/4"), ensuring that drill/cutter bit does not contact any parts under the panel. Clean area around the hole, carefully removing any burrs and all swarf.

## 4. Fitting the antenna



*It is recommended that the installation is carried out when the temperature is greater than 50°F (10°C) as the ideal temperature for the pad bonding is 70°F (21°C) to 100°F (37°C).*

Remove protective backing from underside of antenna, feed coaxial cables through panel. Position the antenna over the hole ensuring correct orientation and stick to panel by applying firm, even, downward pressure.

When fitting the nut, it is important to ensure that the cables are held centrally whilst the nut is correctly started on the threads. The nut should fit freely by hand and only requires a final tighten by spanner to a recommended torque of 5Nm.



***Do not exceed a torque of 5Nm (3.6ft/lbs) when tightening the securing nut.***

## 5. Routing and terminating coaxial cable(s)

Route the coaxial cables to the radio equipment, taking care to avoid running them adjacent to any existing wiring or fouling any moving components. When installing the antenna on a vehicle, the cables must not be routed in front of any airbag device SMA plug connectors are fitted as standard, which should suit most devices, if not, use an adaptor or change connector(s) as required.

## 6. Commission and test

### **Check GPS/GNSS cable (if applicable):**

- Check the GPS/GNSS cable with DC to measure high resistance.
- Connect the GPS/GNSS cable to the GPS/GNSS receiver and check for satellite acquisition.

### **Check comms cables:**

- Carry out VSWR check, the VSWR on all feeds should measure <3:1 in transmit band.
- Connect the Cellular/LTE cables.

## 7. Notices

### **CAUTION**



*To comply with FCC RF Exposure requirements in section 1.1310 of the FCC Rules, antennas used with this device must be installed to provide a separation distance of at least 20 cm from all persons to satisfy RF exposure compliance.*



### **DO NOT**

- operate the transmitter when someone is within 20 cm of the antenna.
- operate the equipment in an explosive atmosphere.
- chew parts or put them in mouth, keep away from unsupervised children.



#### European Waste Electronic Equipment Directive 2002/96/EC

Waste electrical products should not be disposed of with household waste. All electronic products with the WEEE logo must be collected and sent to approved operators for safe disposal or recycling. Please recycle where facilities exist. Many electrical/electronic equipment retailers facilitate "Distributor Take-Back scheme" for household WEEE. Check with your Local Authority or electronic retailers for designated collection facilities where WEEE can be disposed of for free.



#### Please Recycle

Printed versions of these instructions can be recycled. When you have finished with these instructions please recycle them.

**Waiver:** This document represents information compiled to the best of our present knowledge. It is not intended to be a representation or warranty of fitness of the products described for any particular purpose. This document details guidelines for general information purposes only. Always seek specialist advice when planning installations and ensure that antennas are always installed by a properly qualified installer in compliance with local laws and regulations.