

Installation Instructions

LP[G]AM Series

SW3-704 - v2

1. Introduction

The L[G]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 integral 1 or 3m 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[G]AM antenna in order to avoid de-tuning and interference issues.

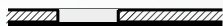
Ground plane requirement. This antenna range does not require a conductive ground plane in order to operate. Performance will vary slightly depending on whether a ground plane is present or not.

3. Prepare and drill hole



Mask panel area around hole position to protect paintwork and headliner.

Drill a pilot hole, and then increase to 19mm (3/4"), ensuring that drill/cutter bit does not contact headliner. Clean area around the hole, carefully removing all swarf. Remove paint and primer from under panel surface to ensure adequate earth contact by washer and nut. Apply some petroleum jelly or paint around the hole to prevent corrosion.



4. Fitting the antenna

Remove the protective backing from the underside of the antenna and feed the coaxial cables through the panel. Position the antenna over the hole ensuring correct orientation and stick the antenna to the panel by applying firm downward pressure. Assemble the nut and washer from underside and tighten – the maximum recommended mounting torque is 5Nm (3.7ft/lb).

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.



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.



Directive 2011/65/EU (RoHS 2)

RoHS 2 compliance is declared per Directive 2011/65/EU and its subsequent amendments with exemption 6.c applied.

REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals, EC 1907/2006)

This product contains Lead (CAS No. 7439-92-1) which is classified as an SVHC (Substance of Very High Concern) as being toxic to reproduction under Article 57c. of REACH. **Do not chew parts or put them in mouth, keep away from unsupervised children. Dispose of parts as WEEE waste do not send to landfill.**

This declaration is issued under the sole responsibility of the manufacturer

The object of the declaration described above is in conformity with the relevant Union Harmonization Legislation below:

Directive 2014/53/EU Radio Equipment Directive (RED)

Harmonised Standards and References:

EN 301 489-1 (V2.1.1): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Electro Magnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements".

Referencing EN 61000-4-2:2009 – Electrostatic Discharge Immunity and EN 61000-4-3:2006 +A1:2008 +A2:2010 – Radiated RF Immunity

EN 300 440-1 V1.6.1 (2010-08) – Electromagnetic compatibility and radio spectrum matters (ERM); short range devices; radio equipment to be used in the 1GHz to 40GHz frequency range; Part 1: Technical characteristics and Test methods in accordance with EN 300 440-2 V1.4.1 (2010-8) - Electromagnetic compatibility and radio spectrum matters (ERM); short range devices; radio equipment to be used in the 1GHz to 40GHz frequency range

Low Voltage Directive: Directive 2014/35/EU (Electrical Equipment designed for use within certain voltage limits) of 26th February 2014.

EN62368-1: 2014 Audio/video, information and communication technology equipment. Safety requirements

Waiver: This document represents information compiled to the best of our present knowledge. It is not intended to as 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.