Installation Instructions
LPW-169 - 169MHz IOT Antenna

SW3-202 - Document Version 1

A. Introduction

This panel / bracket mount antenna covers VHF 169MHz. The antenna is sealed to equivalent of IP68 and is suitable for installation in an environments subject to immersion in water, such as water meter pits. It is important that an IP rated or correctly sealed connector is used at the device to maintain integrity of the connection. The antenna is supplied with an adjustable bracket but can also be mounted on pipes or directly to a panel using screws or the supplied adhesive pad. The antenna is supplied with fitted RG174 cable and is available with a variety of connectors.

B. Mounting requirements and selecting location

The antenna should normally be placed in a vertical orientation, with the cable exit at the top or the bottom. The antenna should be spaced a minimum of 30cm (12") from any nearby metal structure if possible. When fitting on a device enclosure/housing, ensure that there is adequate under panel clearance from internal components and that the coaxial cable can be routed to the equipment.

If the antenna will be subject to immersion, care must be taken to ensure that an appropriate IP rated connector is selected, or that adequate steps are taken to seal the device connector interface.

C. Antenna Mounting

Panel Mounting: The antenna can be secured with the supplied adhesive and by using additional screw holes if required. When fitted with a miniature connector (SMA plug or smaller), it is possible to pass the cable through the rear of the antenna plate to conceal the cable exit. If the cable will exit above the panel, select a suitable breakout hole and remove the plastic using pliers, ensuring a smooth edge is created. The cable must be routed directly away from the antenna and not run alongside it, which may determine which cable exit is utilised. The adhesive pad can be used as a drilling template if required, fixing holes are 5.5mm (0.21") and cable entry requires 10mm (0.4") clearance for an SMA plug. After drilling holes, check that any burs or swarf are removed, to ensure a flat sealing surface for the adhesive pad. With the cable in the correct exit position, remove the backing from pad and apply firmly to the antenna base. Clean the mounting panel with alcohol swab and allow to dry. Remove backing tape, position correctly and press antenna firmly to the mounting panel.

Bracket Mounting: The adjustable bracket can be utilised to mount the antenna to a sidewall, floor, lid or to a pipe (pipe clips, cable ties or worm drive clip required, supplied separately). Figures F-H below illustrate how the bracket can be used to mount the antenna in a variety of orientations.

D. Routing and terminating coaxial cable(s)

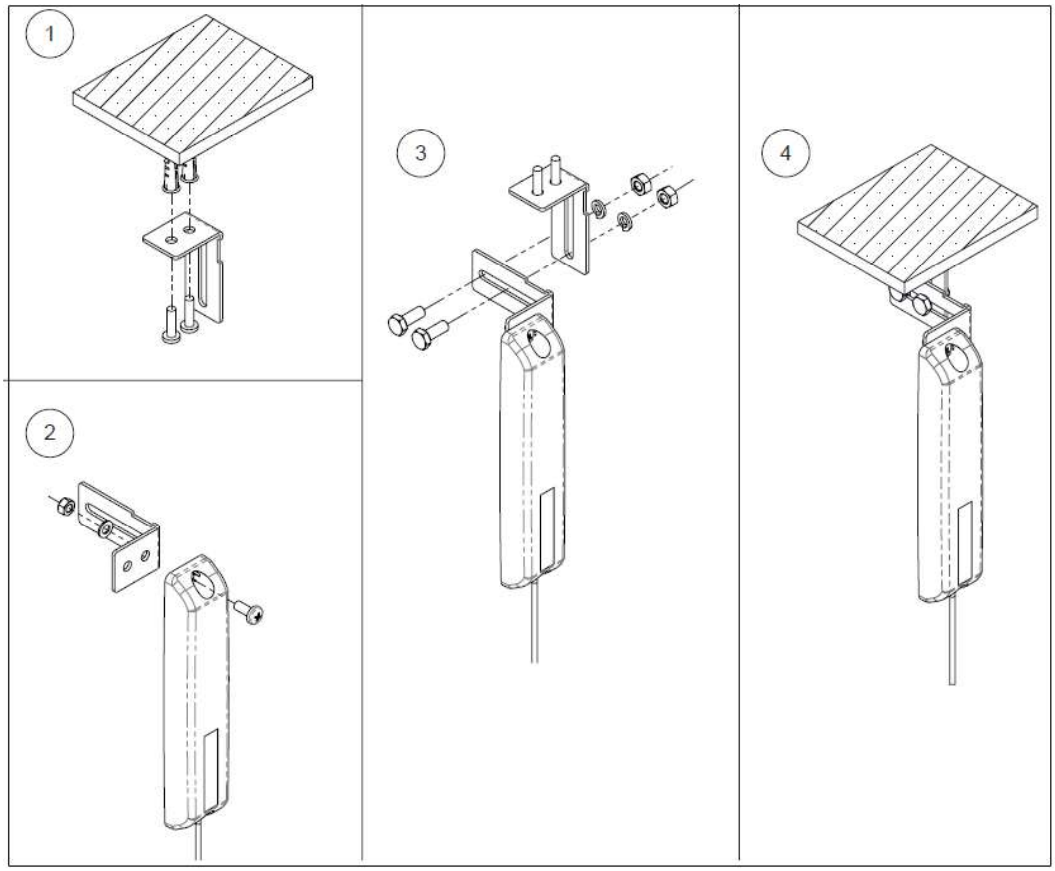
Route the coaxial cable to the device, ensuring that the cable is secured and protected from subsequent damage during access. If cable ties are used, they should not be overtightened, as this will distort the cable profile and could affect the antenna performance. Any excess cable should be laid "side by side" (not coiled) and can be secured by cable ties or tape.

E. Commission and test

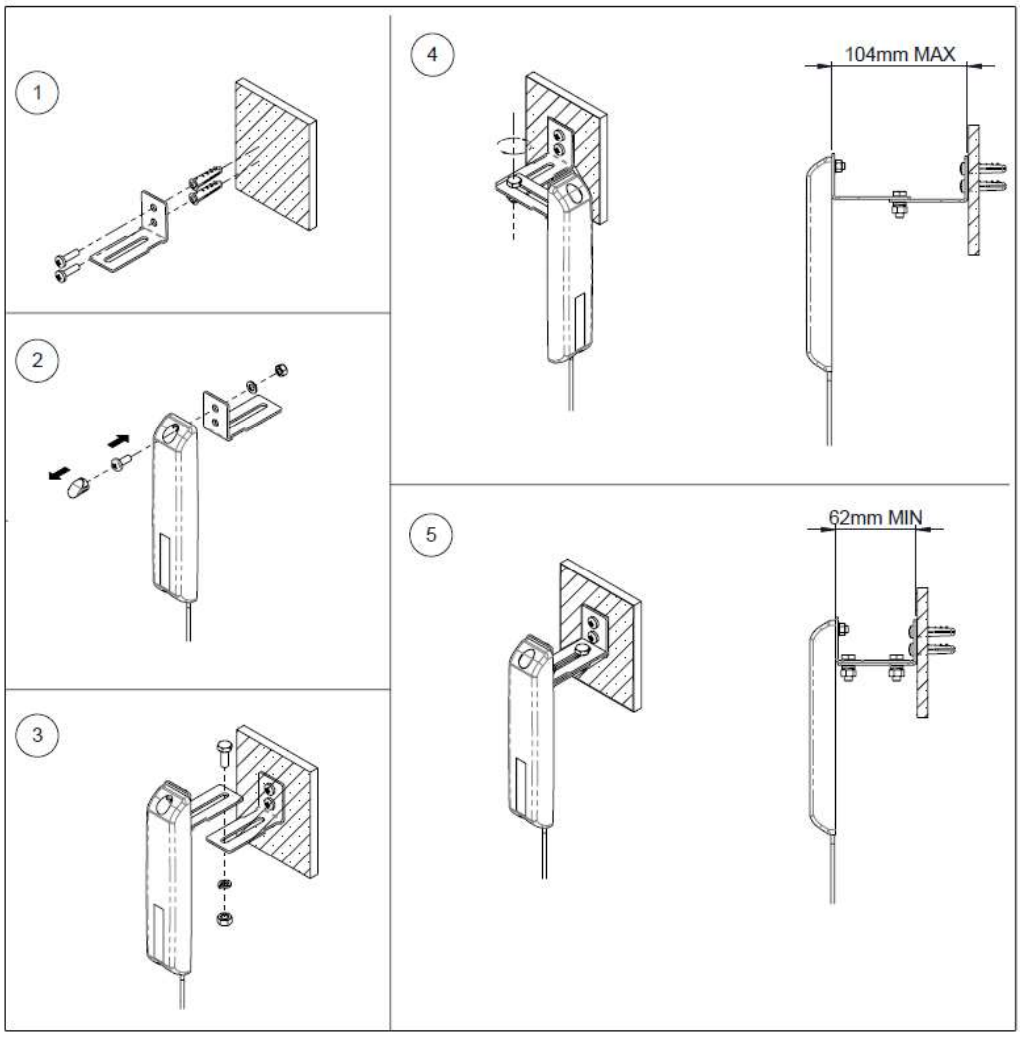
Check the comms cables:

- Carry out VSWR check, the VSWR should measure <2.5:1 in transmit band.
- Connect the cable to the radio device
- Seal the connector interface, as required

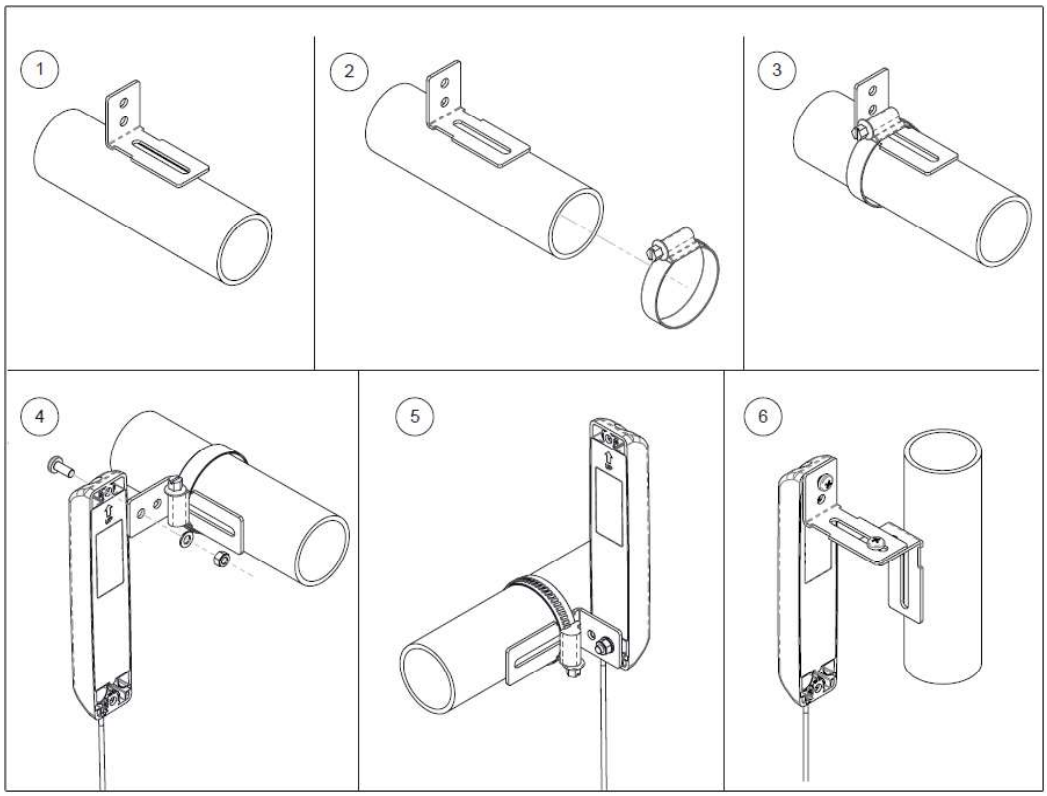
F. Bracket Mounting - Underslung



G. Bracket Mounting - Wall Offset



H. Pipe Mounting



I. Notices

DO NOT

- operate the transmitter when someone is within 20cm (8") of the antenna.
- operate the equipment in an explosive atmosphere.
- attempt to install the antennas without the proper safe equipment to access the install location.
- chew parts or put them in mouth, keep away from unsupervised children. Dispose of parts as WEEE waste do not send to landfill.

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.

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.**