Installation Instructions – SW3-606 GPSB Series

SW3-606 - Document Version 1.2

A. Introduction

The GPSB series is a high performance combination quad function antenna in an OEM style shark fin housing. The antenna has an active GPS antenna with a 26dB gain LNA suitable for 3 to 5 volt supply via the GPS coax cable.The GPSB is suitable for fitment to standard vehicle panels of up to 4mm (0.16") thickness.

Heat shrink tubes are included in the kit, to enable the coaxial connections to be sealed as an extra precaution if required.

Electrical Safety Note

This product contains an active GPS/GNSS antenna (part number SR8-HG26-04FJ). Rated voltage: 3-5VDC Rated current: 20mA maximum.

The supply to these devices must be provided with overcurrent protection of 1A maximum.

B. Mounting requirements and selecting location

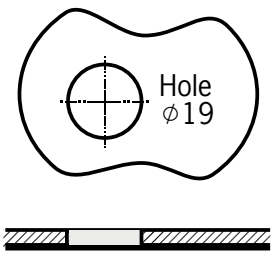
This antenna must be fitted on a conductive ground plane of minimum ½ wavelength diameter at the lowest frequency of operation; to calculate see below:

150 / frequency in MHz = ½ wavelength (m)

Examples: 150MHz =100cm (39.4"); 400MHz = 38cm (15"); 900MHz =16cms (6.3").

When fitting on a non-metallic panel, a ground plane plate of suitable size should be fabricated and fitted under the mounting panel; the securing washer and nut must make a low resistance electrical contact with this plate (< 0.2Ω). Select a mounting location, checking for roof curvature to ensure that the antenna base will have a flat mounting surface. The antenna should be located as far as possible from surrounding roof mounted items (e.g light bar, air con unit). Ensure that there is adequate under panel clearance and that there is no double skin panel or cross brace present. Measure to check for central position if applicable.

C. 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.

D. Fitting the antenna

Remove protective backing from underside of antenna, feed coaxial cable(s) through panel. Position the antenna over the hole ensuring correct orientation and stick to panel by applying firm downward pressure. Assemble washer and nut from underside and tighten - recommended torque is 5Nm (3.7ft/lbs). Remove blanking cap and screw comms antenna whip securely to mounting stud (if applicable).

E. Routing and terminating coaxial cable(s)

If heat shrink tubes are to be used, slide onto antenna cable tails prior to connecting extension cables – it is recommended that these are heat shrunk only after tests have been satisfactorily completed. Connect extension coaxial cables to antenna and route to equipment, taking care to avoid running adjacent to existing vehicle wiring or fouling any moving vehicle component. The cables must not be routed in front of any airbag device. Fit correct coaxial connector or adapter to cables as required.

F. Commission and test

Check GPS cable:

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

Check comms cable(s):

- Earth continuity: connector body to vehicle ground should measure <0.2Ω;
- Connector body to centre pin should measure open circuit.
- Carry out VSWR check, should measure <2.5:1 in transmit band (antenna type dependent).
- Connect GSM / Cellular, LTE & WLAN cables or stow unused pigtails.

G. Notices

European Waste Electronic Equipment Directive 2002/96/EC

Please ensure that your old Waste Electricals and Electronics are recycled do not throw them away into standard waste.

RF Safety Note

This antenna should be mounted in such a way that no person is within 20cm (8") of the antenna during use.

CE

R&TTE: DIRECTIVE 1999/5/EC of 9 March 1999 on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity. Compliance is declared according to: **EN 301 489-1 V1.9.2** – Electromagnetic compatibility and radio spectrum matters (ERM); Electromagnetic compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements - Referencing **EN 301 489-3 V1.6.1** and **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; Part 2: Harmonised EN covering the essential requirements of article 3.2 of the R&TTE Directive.

Low Voltage Directive: Directive 2006/95/EC (Electrical Equipment designed for use within certain voltage limits) of August 2007. Compliance is declared according to:
EN60950-1: Safety of information technology equipment – according to test specification **EN 60950-1:2006** +A11:2009 +A1:2010 +A12:2011.

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