

Installation Instruction – SW3-570 GPS[G]P & GPSK Series

SW3-570 - Document Version 5.0

A Introduction

The GPS(G)P antenna and GPSK combi antenna base incorporate an active GNSS antenna module with 26dB gain LNA, which supports GPS L1, GLONASS G1, Beidou and Galileo E1 services. As supplied, it can be mounted on panels up to 6mm thick in a single 15mm hole. An extender kit is available as an option for use when fitting to a thick mounting panel.



Electrical Safety Note

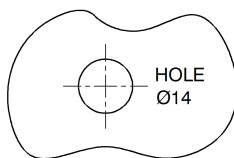
This product contains an active GPS/GNSS antenna (part number SR8-HG26-04FJ). Rated voltage: 3-5VDC Rated current: 20mA maximum

The supply to this device must be provided with overcurrent protection of 1A maximum.

B Mounting requirements and selecting location

The antenna must be fitted on a conductive ground plane of adequate size. For GPS only, the recommended size is 10cm (3.9") diameter. For GPSK type, the target* ground plane size required will be dictated by the lowest frequency used by the comms whip. This is based on a half wave diameter, and can be calculated by $150/\text{Freq. (MHz)}$. Examples for common applications are shown below.

Diameter for: 150MHz = 1m (3.3'); 400MHz (TETRA) = 38cm (1.4'); 800MHz (GSM) = 19cm (7.5")



When fitting the antenna to 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 (less than 0.2 ohm). Select a mounting location to 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.

* Target refers to achieving the recommended size or as close as possible for optimum performance.

C Fitting the Antenna

Remove the protective backing from the underside of the antenna, feed the coaxial cable(s) through panel. Position the antenna over the hole ensuring correct orientation and stick to panel by applying firm downward pressure. Assemble the nut and washer from underside and tighten.

D Routing and terminating coaxial cable(s)

Connect the extension coaxial cables to the antenna and route them to the equipment, taking care to avoid running the cables adjacent to any existing vehicle wiring or fouling any moving vehicle component. The cable(s) must not be routed in front of any airbag device. Fit the correct coaxial connector or adaptor to the cable(s) as required.

E Commission and test

Check GPS (GPS/GNSS) cable:

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

E

... Cont'd.

Check communications cable (GPSK only):

- Earth continuity test: The connector body to the vehicle ground should measure $<0.2\Omega$;
- The connector body to the connector centre pin should measure open circuit.
- Carry out a VSWR check, the VSWR should measure as detailed on the relevant datasheet.

Connect the GPS and communications cables or stow the unused pigtails.

F

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.



RoHS 2: Directive 2011/65/EU and its subsequent amendments. Homogeneous materials composing parts that are compliant with this legislation have less than 0.1% by weight each of lead, mercury, hexavalent chromium, PBB, and PBDE, and 0.01% by weight of cadmium. Exemption 6.c applies to this product.

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)

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 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.