



- ***FAL-ANT-10***

- ***Quad-band GSM & GPS Combo Antenna***

- ***with double side adhesive pad***

-

- ***DATASHEET***

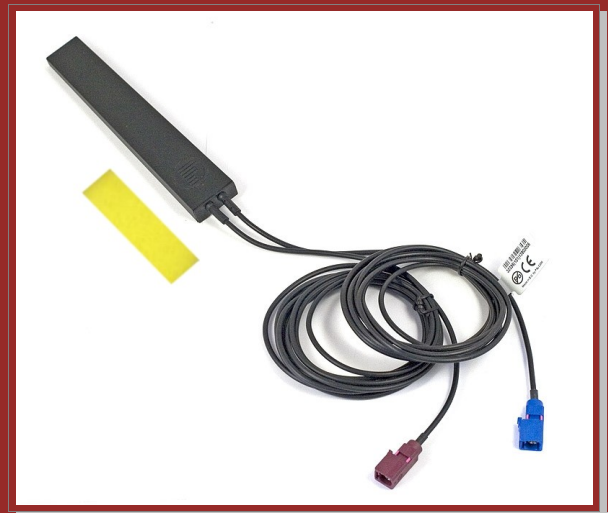


TABLE OF CONTENTS

1 INTRODUCTION4
 1.1 GENERAL 4
2 INSTALLATION INSTRUCTIONS5
3 ANTENNA SPECIFICATIONS6
 3.1 ELECTRICAL SPECIFICATION OF GPS ANTENNA6
 3.2 ELECTRICAL SPECIFICATION OF GSM/DCS/PCS ANTENNA6
 3.3 ENVIRONMENTAL SPECIFICATION7
 3.4 HOUSING8

VERSION HISTORY:

This table provides a summary of the document revisions.

Number	Author	Changes	Modified
1.0.0	F. Beqiri	- Initial version	14.04.2009

CAUTIONS

Information furnished herein by FALCOM is believed to be accurate and reliable. However, no responsibility is assumed for its use. Please, read carefully the safety precautions.

If you have any technical questions regarding this document or the product described in it, please contact your vendor.

General information about FALCOM and its range of products are available at the following Internet address: <http://www.falcom.de/>

TRADEMARKS

Some mentioned products are registered trademarks of their respective companies.

COPYRIGHT

This document is copyrighted by **FALCOM WIRELESS COMMUNICATIONS GmbH** with all rights reserved. No part of this documentation may be produced in any form without the prior written permission of **FALCOM WIRELESS COMMUNICATIONS GmbH**.

FALCOM WIRELESS COMMUNICATIONS GMBH.

No patent liability is assumed with respect to the use of the information contained herein.

NOTE

Specifications and information given in this document are subject to change by FALCOM without notice.

1 INTRODUCTION

1.1 General

This manual describes the electrical, mechanical and environmental specifications of the FALCOM FAL-ANT-10 GSM/GPS antenna. This antenna is intended as a possible replacement for the FAL-ANT-5/7 antenna and it can be used with STEPPIII and FOX-LT device. The FAL-ANT-10 does not remain the same form factor but compared to FAL-ANT 5/7 it comes with improved gain and performance in the GSM reception.

The FAL-ANT-10 represents a combined active GPS and Quad-Band GSM 850/900/1800/1900 MHz antenna. It is designed for in-vehicle (windows plane) mounting. This antenna has a 2.5 m cable with two FAKRA-SMB-female connectors at the end that allows to be connected directly to a STEPPIII or FOX-LT device.

The compact form-factor, the simple installation and the excellent price/performance are making out of the FAL-ANT-10 perfect accessory for vehicle tracking systems as well as related applications.

2 INSTALLATION INSTRUCTIONS

1. With a cleaning-cloth (not included in the package) clean the inner side of the windscreen, where the antenna is supposed to be installed.
2. Unpack the included adhesive pad (rectangle shape). Remove the protective paper (grey color) and stick that on the antenna's back side (don't stick it on the side of the FALCOM logo). The back side is the the receiving side.
3. Attach the antenna side with adhesive pad to the cleaned windscreen area, so that the adhesive pad is facing outside and the FALCOM logo inside the windscreen, then press the the antenna to avoid air bubbles and oscillatory instability.
4. Extend the antenna cable, insert the GPS antenna plug (blue colored) into the GPS antenna socket of the AVL device and insert the GSM antenna plug (bordeaux colored) into the GSM antenna socket of the AVL device.
5. To unplug an antenna connector from the unit, first push down the level on the connector and then pull it out of the socket.

Note the following items as they will be needed during installation:

- [1] This antenna should be installed on the glass inside the vehicle.
- [2] The antenna transmitting/receiving side is on the back, and this side needs to have unrestricted view to the sky.
- [3] Do not install the device on metallised or coated windows or dual pane glasses.
- [4] Do not install the antenna on the areas that impair the sight of the driver .
- [5] In order to comply with RF exposure requirements, the antenna must be installed so that a minimum distance of 20 cm is maintained between the antenna and persons and at least 10 cm away from electronic components and metal parts.
- [6] The antenna cable must be extended and not rolled up, as it is often the reason for induced voltage.
- [7] FAL-ANT-10 is not water resistant.
- [8] Do not connect or disconnect the antenna while the target unit is in use.



Figure 1: FAL-ANT-10.

3 ANTENNA SPECIFICATIONS

3.1 Electrical specification of GPS antenna

Parameter	Specification
Frequency	1575 ± 3MHz
VSWR	typ. 1.5
Bandwidth	10 MHz min.
Impedance	50 Ω
Patch	18 mm X 18 mm X 2 mm
Gain Coverage	≥- 4 dBic at -90° ≤ 0 ≤ 90° (over 75% volume)
Polarization	RHCP
Amplifier	Gain without cable 19.5 dB typical
Noise Figure	0.7 dB typical
DC Voltage	2.5 V to 3.6 VDC
DC Current	typical 3mA; 4 mA max.

Table 1: Electrical specification for GPS antenna

3.2 Electrical specification of GSM/DCS/PCS antenna

Parameter	Specification	
Frequency range	GSM 900	880 - 960 MHz
	GSM 850	825 – 894 MHz
	DCS 1800	1710 - 1880 MHz
	GSM 1900	1850 – 1990 MHz
Peak Gain	GSM 900	0 ~ 0.5 dBi
	GSM 850	0 ~ 0.5 dBi
	DCS 1800	0.5 ~ 1 dBi
	GSM 1900	0.5 ~ 1 dBi
VSWR	GSM 900	< 2.5
	GSM 850	< 2.5
	DCS 1800	< 2.5
	GSM 1900	< 2.5
Polarization	Linear	
Impedance	50 Ω	

Table 2: Electrical specification for GSM/DCS antenna

3.3 Environmental Specification

Parameter	Specification
Operating Temperature	-40 °C < T < +85 °C
Storage Temperature	-40 °C < T < +85 °C
Vibration	<i>Sine Sweep, 1 G(0-P), 10-150-10 MHz each axis</i>
Humidity	95% ~ 100% RH

Table 4: Environmental specification of FAL-ANT-10

3.4 Housing

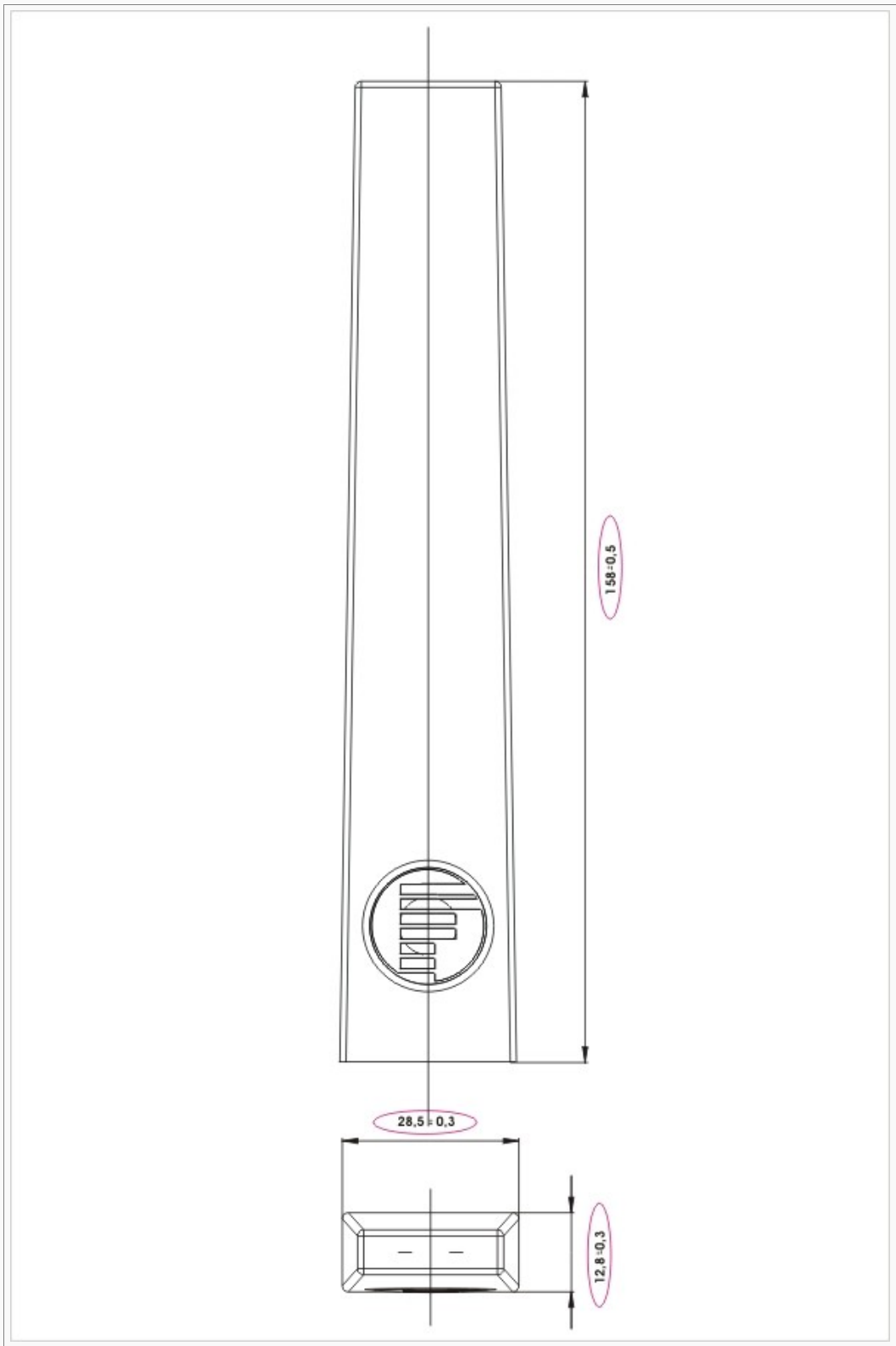


Figure 2: FAL-ANT-10 housing.