

Industriefunkuhren



Technical Manual

GPS Antenna

Model 4491

ENGLISH

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1 Preface

This text specifies the basic operational characteristics of the active GPS antenna module 4491 under a standard test condition of 5V DC & 25°C / 50% R.H.

2 Introduction

4491 is the integration of a high performance GPS patch antenna and a state-of-the-art low noise amplifier into a very low profile / extremely compact / fully waterproof enclosure which, when connected to a GPS receiver with 5V DC antenna power, provides excellent signal amplification and out-band filtering & rejection.

3 Specifications

PHYSICAL	
Construction:	Polycarbonate-radome at top, die-cast shell at bottom / rubber gasket for water seal in between
Dimension:	58mm (L) x 48mm (W) x 15mm (H)
Weight:	65 grams (excluding cable & connector)
Color:	dark gray
Standard Mounting:	Magnet mount with two magnets
Optional Mounting 1:	Screw mount with two M3 tapped holes on the plastic flange of 4491
Optional Mounting 2:	Mounting plate (aluminium)

ANTENNA ELEMENT	
Center Frequency:	1575.42 MHz +/- 1.023 MHz
Polarization:	R.H.C.P. (Right Hand Circular Polarization)
Absolute Gain at Zenith:	+5 dBi typically
Gain at 10° Elevation:	-1 dBi typically
Axial Ratio:	3 dB max.
Output VSWR:	1.5 :1 max.
Output Impedance:	50 Ohm

LOW NOISE AMPLIFIER	
Center Frequency:	1575.42 MHz +/- 1.023 MHz
Gain:	30 dB typically
Band Width:	2 MHz min.
Noise Figure:	1.5 max.
Out of Band Attenuation:	20dB min. @F0 +/- 50MHz
Supply Voltage:	4.5 - 5.5V DC
Current Consumption:	28 mA +/- 3 mA
Output Impedance:	50 Ohm

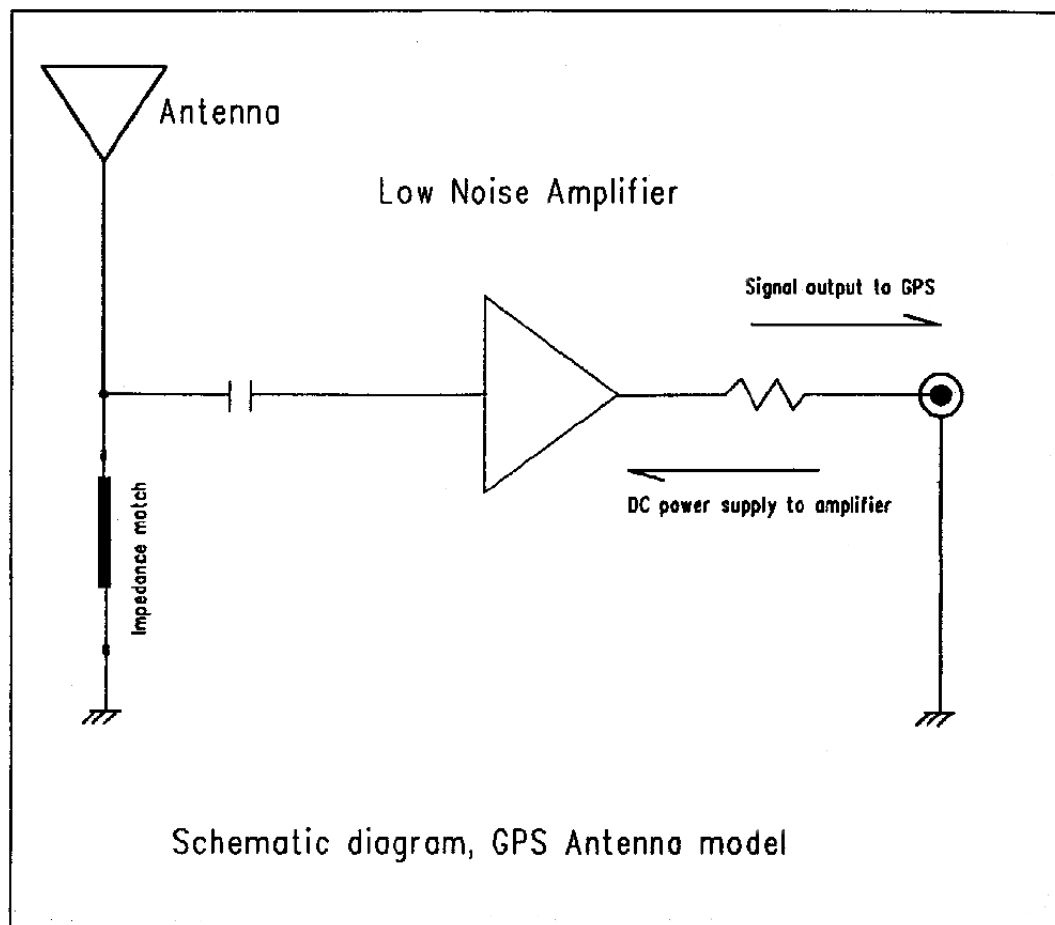
CABLE & CONNECTOR RF	
Cable:	5 meter RG174/U
Pulling Strength:	6 Kg./5 sec. with molded plastics on connector end for strain relief
Connector:	BNC, straight type male

OVERALL PERFORMANCE (Antenna Element, LNA & Cable)	
Center Frequency:	1575.42 MHz
Gain:	27 dB typically
Noise Figure:	2.0 max.
Band Width:	2 MHz
Axial Ratio:	3 dB max.
VSWR:	2.0 max
Output Impedance:	50 Ohm

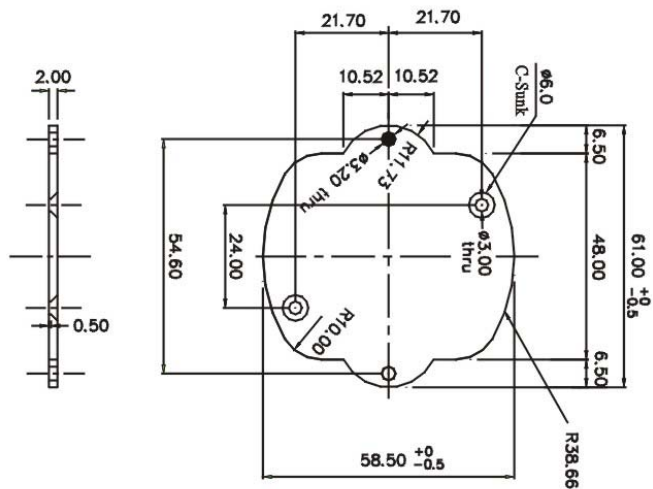
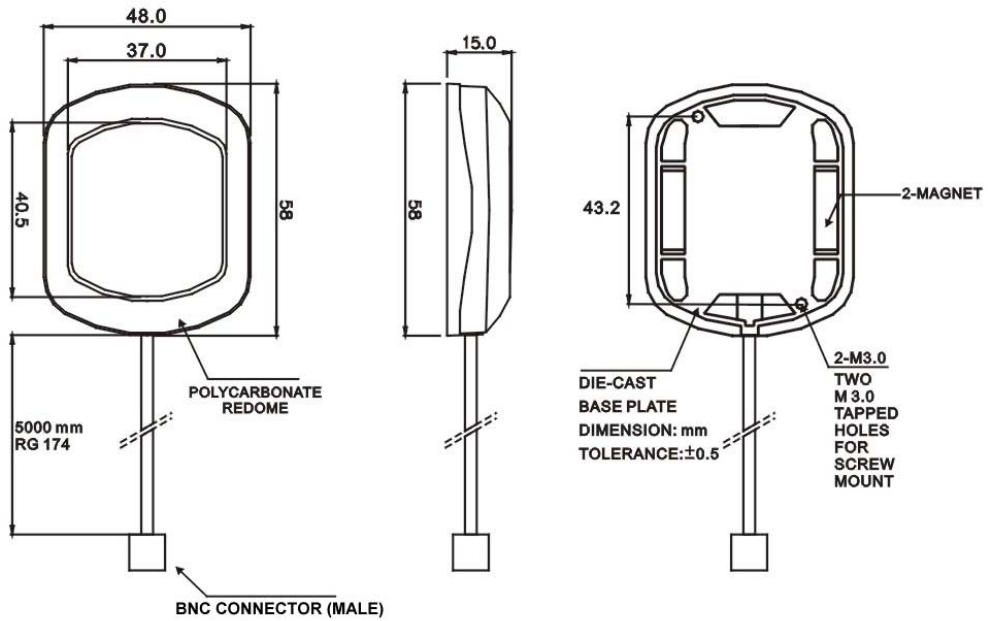
ENVIRONMENTAL	
Operating Temperature:	-30°C - +85°C
Storage Temperature:	-40°C - +90°C
Relative Humidity:	95% non-condensing
Waterproof:	100% waterproof

4 Installation

- Make sure that the antenna FG4491 is mounted correctly via a magnet, 2x M3 tapped holes or a mounting plate
- Link the cable connector to the **hopf** GPS clock
- For operation of the **hopf** GPS clock follow the instructions included the manual of the **hopf** GPS clock



5 Technical Drawing



material: aluminium