GPSdome 1.02B

Contact Us

Data Sheet

The Industry's Only Non-ITAR GPS Anti-Jammer

GPSdome is a small-sized, add-on device that provides protection against GPS jamming, ensuring continuity of autonomous navigation and operation during jamming conditions. No other solution that offers such protection is as small, light, affordable or as easily installed as GPSdome.

GPSdome 1.02B Anti-Jammer Introduction

Applications

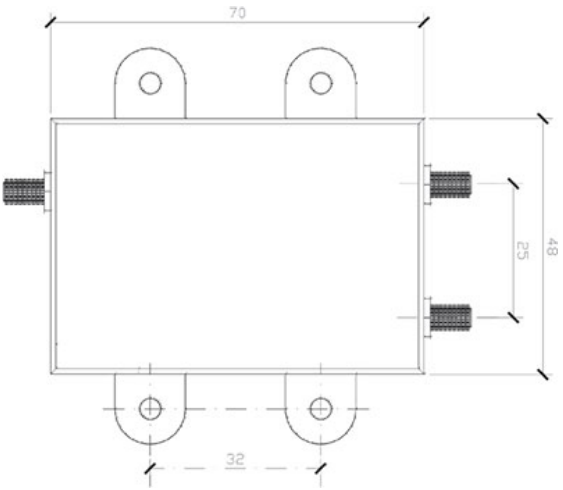
With GPS as the cornerstone of navigation, military systems can be completely disabled by simple GPS jammers available online today for less than $100.

GPSdome is suitable for a wide variety of GPS-dependent applications. GPSdome is a small

sized, light weight, low powered solution suitable to be retrofitted to protect any navigation system. With GPSdome's protection, any military system immediately becomes more robust and protected against wireless attacks.

Features

- CRPA null steering technology
- Small form factor: 70 x 48 x 24mm, 150 g
- Minimal power consumption: <0.75W
- IP67, -40°C to +85°C



How GPSdome Works

GPS Vulnerabilities Are Well Known: Orbiting at 20,000KM above sea level, the GPS satellites emit a signal which is incredibly weak when received by GPS receivers (~-125dBm). To jam this signal, all one has to do is overpower it, either with a simple jammer bought online, which blocks it completely, or with slightly more sophisticated hardware that can trick it with erroneous data.

The Null Steering Algorithm was originally developed for military applications to protect wireless signals. By combining the patterns from both antennas, GPSdome detects where the interference is coming from and creates a new antenna pattern which nullifies the power of the interference.

Installation Couldn't Be Easier: After mounting both antennas on a flat, sky facing base at least half a wave-length apart (10cm minimum, 20cm is optimal), connect antennas to GPSdome, connect it to the antenna input on your GPS receiver, feed it with power and you're set to go.

Jamming Detection is available from an LED on the GPSdome itself or via an external wire that could be integrated into the system computer.

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Installation

(ref: Installation Manual below)

Interfaces

(R) output to the GPS receiver SMA.

(P) Primary Antenna Input - 50Ω SMA 2.75VDC designed for 26dB ±2dB gain.

(A) Auxiliary Antenna Input - 50Ω SMA 2.75VDC designed for 26dB ±2dB gain.

Power Input:

- Red: 3.3VDC – 32VDC (0.75W)
- Black: GND
- Brown: Open drain interference indication. (This wire sends an indication when the unit is detecting and protecting against a hostile signal).

GPS dome 1.02b -EPS – General view

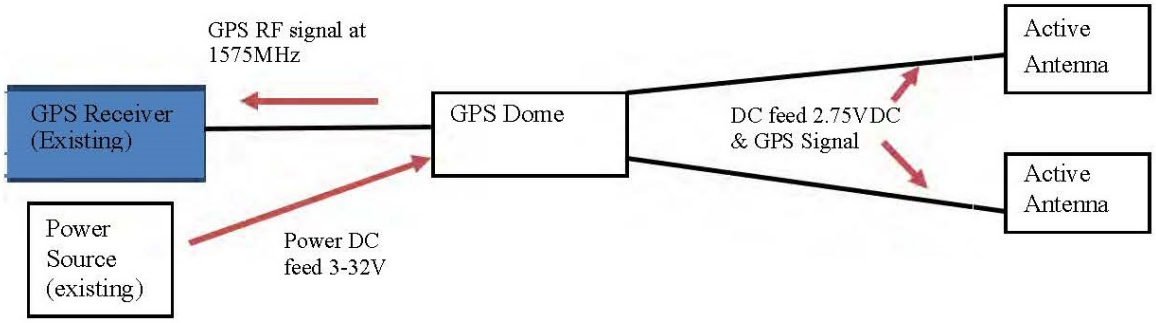
Where to Install

GPSdome – locate and secure the GPSdome with the power cable appropriately sized to reach the power source and the antenna cables trimmed in equal lengths to provide adequate separation and connection to GPSDome.

Antennas – locate and secure the antennas in full sky visibility, on the same horizontal plane, for maximum GNSS signal reception.

GPS Receiver System with GPSdome

The GPS DOME module is integrated into the static or vehicle GPS receiver as shown in Figure 3. Two antennas are connected to the module (supplied antennas or locally purchased for permanent installation); the GPS antenna connects to primary input 'P' and an additional antenna connects to the auxiliary input 'A.'



GPS Receiver with GPSdome 1.02b - EPS Integrated

Installation Manual 

Technical Note