

GPS DOME

GPS DOME is a small sized add on device that provides protection against GPS jamming and spoofing



GPS DOME ensures continuity of autonomous navigation and enables operation during jamming and spoofing conditions. No other solution that offers such protection is as small, light, affordable and easy to install as GPS DOME

APPLICATIONS

With GPS being the cornerstone of aerial navigation, Unmanned Aerial Systems (UAS) are completely disabled in the presence of a simple GPS jammer that is available for less than 50\$. Designed with drones and small UAVs applications in mind, GPS DOME is suitable for a wide variety of UASs as well as other GPS-dependent applications. It is a small sized, light weight, low powered solution suitable to be retrofitted to protect any navigation system. With this protection, any UAV or drone immediately becomes more robust and protected against wireless attacks.

FEATURES

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



HOW DOES IT WORK

The Vulnerability of GPS is 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 or spoof this signal all one has to do is overpower it. Either with a simple jammer bought online which blocks it completely or with a bit more sophisticated HW which 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.

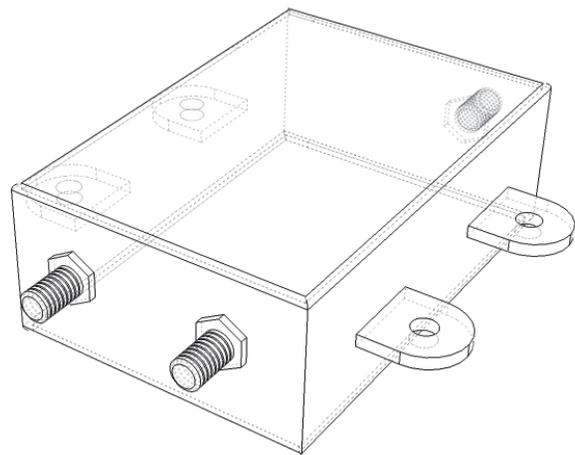
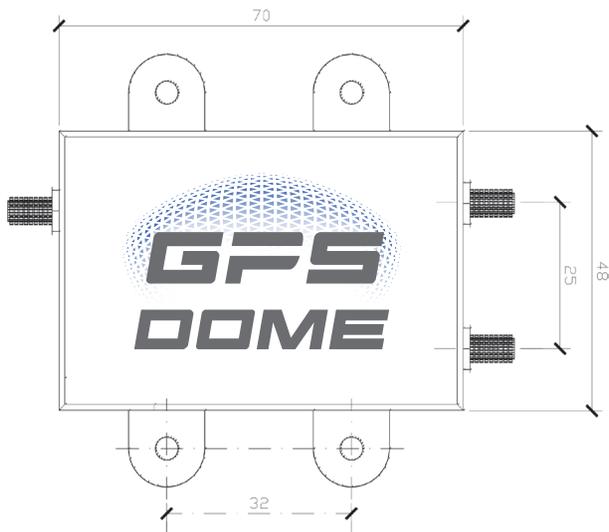
Installation Couldn't Be Easier - After mounting both antennas on a flat, sky facing base at least half a wave-length apart (10cm minimum, 20cm is optimal), connect antennas to GPSdome, connect it to the antenna input on your GPS receiver, feed it with power and you're set to go.

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



Specifications Summary

Dimensions



Physical	
Weight	70mm x 48mm x 24mm
Mounting	4 x M3 bolts (not supplied)

Environmental	
Operating Temp. Range	-40°C to 85°C
Protection	IP67

Interfaces	
Primary Antenna Input (P)	50Ω SMA (for active GPS antenna)
Auxiliary Antenna Input (A)	50Ω SMA (for active GPS antenna)
Auxiliary Antenna Input (R)	50Ω SMA 3-12VDC 0.75W*

*not for DF option

Performance	
Protected Signal	70mm x 48mm x 24mm
Latency	150g
Compression Point	4 x M3 bolts (not supplied)

Safety & Compliance	
R&TTE 1999/5/EC : EN60950-1	1575.42 MHz (GPS L1 C/A Code)
EN301 489-1	
EN301 489-3 EN300 440-2	
RoHS compliant	
WEEE registration numer WEE/GK2929WW	

Description	
GPS Dome Kit - compromising	
1 x GPS Dome Module	
2 x GPS Antenna (AA.105.301111) or equivalent	

ORDERING INFORMATION

CAT NO	Description
GPS DOME 1.0	Standard products
GPS COME 1.0 DF	Additional 3W cable for 12VDC feed and indication for jamming status