

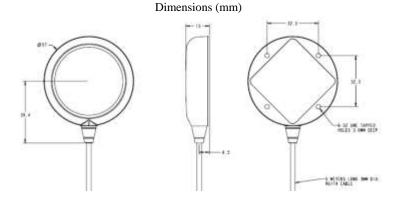
TW2010/TW2012 Magnet Mount GPS L1 Antenna

The TW2010/TW2012 by Tallysman Wireless is a professional grade, magnet mount, GPS L1 antenna, specially designed for industrial, agricultural and military precision positioning and timing applications.

The TW2010/TW2012 features a performance custom tuned ceramic patch element, 15 KV ESD circuit protection, a high gain two-stage low noise amplifier (LNA) with a mid section high rejection SAW filter. The TW2012 also has a tight SAW pre-filter to provide unparalleled out-of-band rejection. It covers the GPS L1 and SBAS (WAAS/EGNOS/MSAS) frequency band (1572.5 to 1578 MHz), and it offers great circular polarized signal reception, multipath rejection and out of band signal rejection.

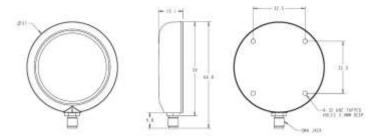
The TW2010 is housed in a compact, industrial-grade weather-proof, magnet mount enclosure.





Applications

- High Accuracy & Mission Critical GPS
- Precision Agriculture, Mining & Construction
- Military & Security
- Avionics
- Law Enforcement & Public Safety
- Fleet Management & Asset Tracking



Dimensions (mm)

Features

- Very low noise LNA: 1 dB
- Great axial ratio: <1dB at Zenith
- High rejection SAW filter
- High gain: 28 dB typ.
- Low current: 10 mA typ.
- ESD circuit protection: 15 KV
- Wide voltage input range: +2.5 to 16 VDC
- Weather proof housing: IP67

Benefits

- Great multipath rejection
- Increase system accuracy
- Excellent signal to noise ratio
- Great out of band signal rejection
- Ideal for harsh environments
- RoHS compliant





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Specifications Vcc = 3V, over full bandwidth, T=25°C

Antenna

Architecture Custom single-feed ceramic patch

Antenna Gain (100mm ground plane) 4 dBic at 90°

Axial Ratio (over full bandwidth) 1dB at 90°, 6dB at 20°

Electrical

Out-of-Band Rejection

Architecture Input LNA, mid section SAW filter, output LNA

Frequency Bandwidth 1572.5 to 1578 MHz

Polarization RHCP

Gain 28 dB min (TW2010) 25dB (TW2012).

TW2010 TW2012
<1560 MHz >42 dB >50 dB
>1600 MHz >31 dB >55 dB
>1620 MHz >45 dB >70dB

VSWR (at LNA output) <1.5:1 typ. 1.8:1 max.

Noise Figure 1 dB typ. (TW2010) 3 dB (TW2012)

Supply Voltage Range +2.5 to 16 VDC nominal (12 VDC recommended max.)

Supply Current10 mA typ at 25°C.ESD Circuit protection15 KV air discharge

Mechanicals & Environmental

Mechanical Size 57 mm dia. x 15 mm H

Cable RG174 Operating Temp. Range -40 to +85 $^{\circ}$ C

Enclosure Radome: ASA Plastic, Base: Zamak white metal Weight 150 g

Attachment Method Magnet or permanent (pre-tapped 4 x 6-32UNC)

Environmental IP67 and RoHS compliant

Shock Vertical axis: 50 G, other axes: 30 G

Vibration 3 axis, sweep = 15 min, 10 to 200 Hz sweep: 3 G

Warranty One year – parts and labour

Ordering Information

Part Numbers:

TW2010 – GPS L1 antenna 33-2010-xx-yyyy TW2012 – GPS L1 antenna w/pre-filter 33-2012-xx-yyyy

Where xx = connector type and yyyy = cable length in mm

Please refer to the Ordering Guide http://www.tallysman.com/orderingguide.php) for the current and complete list of available connectors.

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