



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 high 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 signal 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

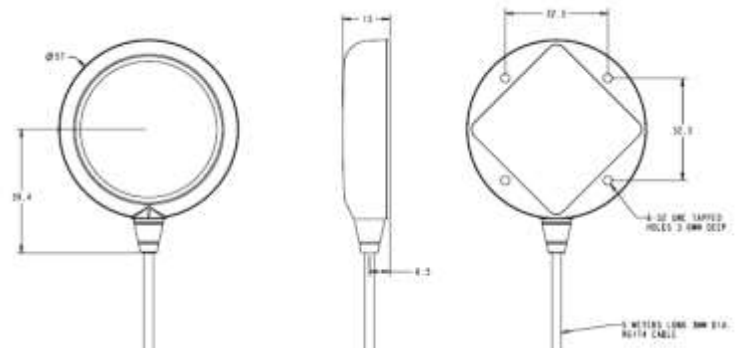
- High Accuracy & Mission Critical GPS
- Precision Agriculture, Mining & Construction
- Military & Security
- Avionics
- Law Enforcement & Public Safety
- Fleet Management & Asset Tracking

Features

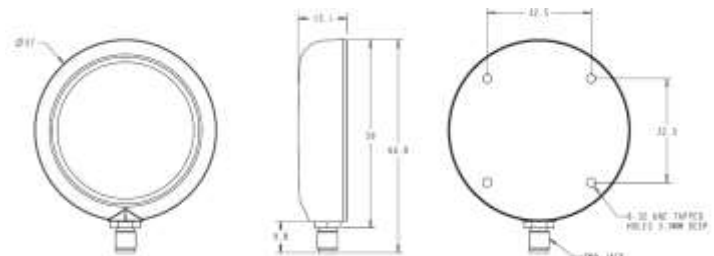
- Very low noise LNA: 1 dB
- Great axial ratio: <1dB at Zenith
- High rejection SAW filter
- High gain: 28 dB typ.
- Low current: 10 mA typ.
- ESD circuit protection: 15 KV
- Wide voltage input range: +2.5 to 16 VDC
- Weather proof housing: IP67



Dimensions (mm)



Dimensions (mm)



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

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
Out-of-Band Rejection	<1560 MHz	>42 dB
	>1600 MHz	>50 dB
	>1620 MHz	>31 dB
		>55 dB
		>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 Current	10 mA typ at 25°C.	
ESD Circuit protection	15 KV air discharge	

Mechanicals & Environmental

Mechanical Size	57 mm dia. x 15 mm H
Cable	RG174
Operating Temp. Range	-40 to +85 °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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