



A Tallysman Accutenna® TW2100 /TW2102 Magnet Mount Dual Feed GPS L1 Antenna

The TW2100 / TW2102 employ Tallysman's unique *Accutenna* technology in a magnet mount GPS L1 antenna, specially designed for industrial, agricultural and military precision positioning and timing applications.

The antennas feature a custom high performance, dual-feed, wide band patch element. Its LNA configuration provides a LNA for each feed, a mid section high rejection SAW for the combined signal, followed by a final stage of LNA. It provides $\pm 10\text{MHz}$ bandwidth centred on 1575.42 MHz and covers all GPS L1, and SBAS (WAAS/EGNOS/MSAS) signals. It features great axial ratio over the entire frequency range ($<3\text{dB}$), excellent circular polarized signal reception, great multipath rejection and out-of-band signal rejection.

The TW2102 has a pre-filter to provide strong protection against near frequency and harmonic signals.

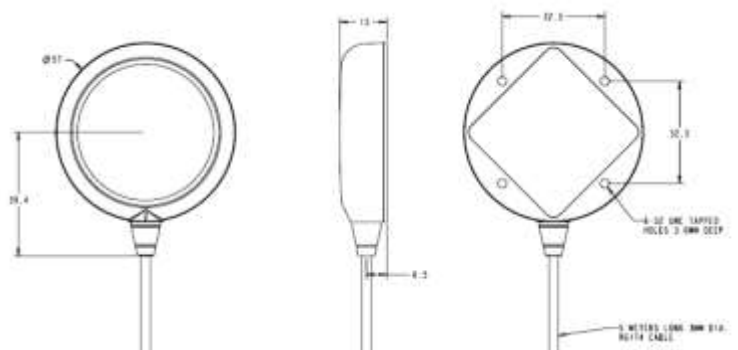
The antennas are housed in a compact, industrial-grade weather-proof, magnet mount enclosure and a wide range of connector.

Applications

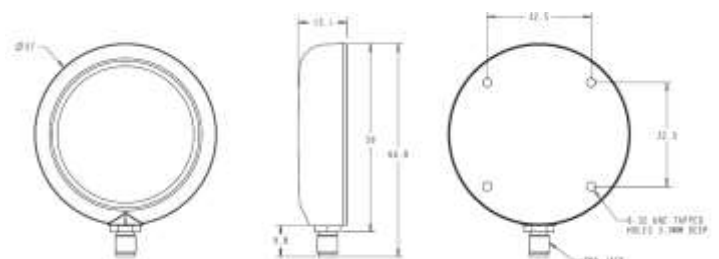
- High Accuracy & Mission Critical GPS
- Precision Agriculture, Mining & Construction
- Military & Security
- Avionics
- Law Enforcement & Public Safety
- Fleet Management & Asset Tracking



Dimensions (mm)



Dimensions (mm)



Features

- Great axial ratio: $<3\text{ dB}$ over full bandwidth
- Low noise LNA: $\leq 1\text{ dB}$
- High rejection SAW filter
- High gain: 27 dB typ.
- Low current: 15 mA typ.
- ESD circuit protection: 15 KV
- Wide voltage input range: +2.5 to 16 VDC
- Weather proof housing: IP67

Benefits

- Excellent 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	Dual, Quadrature Feeds
Antenna Gain (100mm ground plane)	4.25 dBic
Axial Ratio (over full bandwidth)	<3 dB

Electrical

Architecture	One LNA per feed line, mid section SAW filter, output LNA
Frequency Bandwidth	1575 MHz ± 10 MHz
Polarization	RHCP
Gain (LNA)	27 dB min. (TW2100) 24 dB min (TW2102)
Out-of-Band Rejection	<1560 MHz >42 dB(TW2100) >1600 MHz >31 dB >1620 MHz >45 dB
VSWR (at LNA input)	<1.5:1 typ. 1.8:1 max.
Noise Figure	1 dB typ. (TW2100), 4dB typ. (TW2102)
Supply Voltage Range	+2.5 to 16 VDC nominal (12VDC recommended maximum)
Supply Current	15 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:

TW2100 – GPS L1 antenna	33-2100-xx-yyyy
TW2102 – GPS L1 antenna with pre-filter	33-2102-xx-yyyy

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

Please refer to the Ordering Guide (<http://www.tallysman.com/wp-content/uploads/Current-Ordering-Guide.pdf>) for the current and complete list of available connectors.

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