



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 ± 10 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 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.

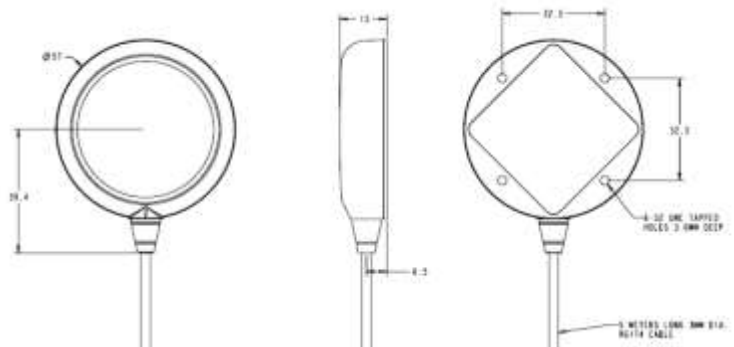
The antennas are housed in a compact, industrial-grade weather-proof, magnet mount enclosure and a wide range of connector.

Applications

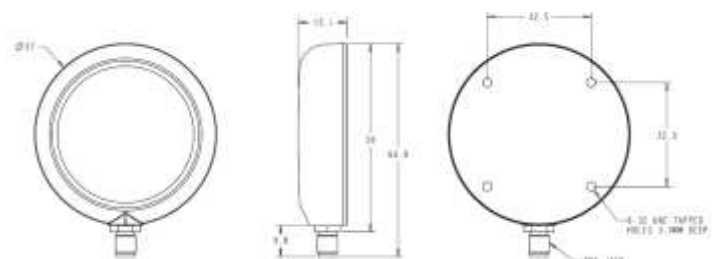
- High Accuracy & Mission Critical GPS
- Precision Agriculture, Mining & Construction
- Military & Security
- Avionics
- Law Enforcement & Public Safety
- Fleet Management & Asset Tracking



Dimensions (mm)



Dimensions (mm)



Features

- Great axial ratio: < 3 dB over full bandwidth
- Low noise LNA: ≤ 1 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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