

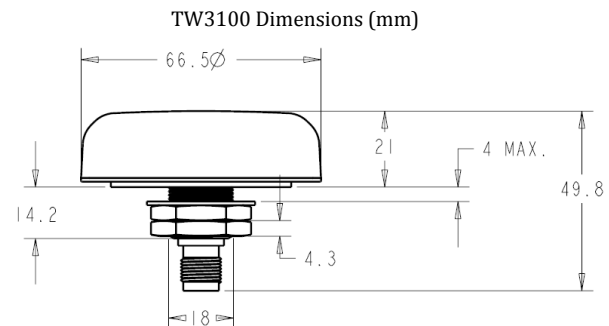


TW3100 Permanent Mount GPS L1 Antenna

The TW3100 by Tallysman Wireless is a professional grade, permanent mount GPS L1 antenna, specially designed for professional precision tracking and timing applications.

The TW3100 features 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, Galileo E1 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 TW3100 is housed in a permanent mount industrial-grade weather-proof enclosure, and comes with a TNC Jack (female) connector.



Applications

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

Features

- Great axial ratio: 1 dB typ.
- Low noise LNA: 1 dB
- High rejection SAW filter
- High gain: 30 dB typ.
- Low current: 14 mA typ.
- ESD circuit protection: 15 KV
- Wide voltage input range: +3.0 to 10 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 Element Gain (100mm ground plane) | 4.25 dBic at 90° |
| Axial Ratio (over full bandwidth) | 1dB typ., 3 dB max |

Electrical

| | |
|------------------------|---|
| Architecture | One LNA per feed line, mid section SAW filter |
| Frequency Bandwidth | 1575 MHz ± 10 MHz |
| Polarization | RHCP |
| Gain | 30dB min. (at 1575.42 MHz) |
| Out-of-Band Rejection | <1560 MHz >42 dB |
| | >1600 MHz >31 dB |
| | >1620 MHz >45 dB |
| VSWR (at LNA input) | <1.5:1 |
| Noise Figure | 1 dB typ. |
| Supply Voltage Range | 3.0 to 10 VDC nominal |
| Supply Current | 14 mA typ., 20mA max |
| ESD Circuit Protection | 15 KV air discharge |

Mechanicals & Environmental

| | |
|-----------------------|--|
| Mechanical Size | 66.5 mm dia. x 21mm H |
| Connectors | TNC Jack (female), custom cable assembly available. |
| Operating Temp. Range | -40 to +85 °C |
| Enclosure | Radome: Dark Gray ASA Plastic Base: Zamak White Metal |
| Weight | 150 g |
| Attachment Method | 19mm (1/4") permanent mount or L-bracket (p/n 23-0040-0) |
| 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

TW3100 – GPS L1 antenna, Dark gray, TNC connector 32-3100-0

Please contact Tallysman Wireless for other available connector options

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