Tallysman

When precision matters.™

A Tallysman *Accutenna*®
TW3100 / TW3102 Permanent Mount GPS L1 Antenna

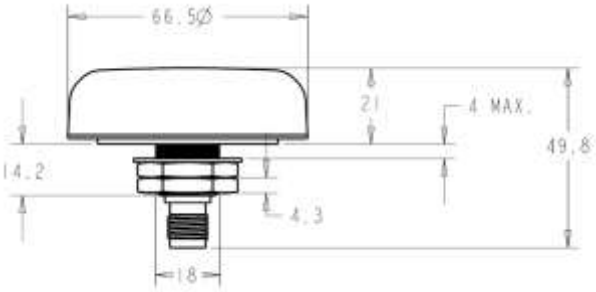
The TW3100 and TW3102 employs Tallysman's unique *Accutenna* technology in a permanent mount GPS L1 antenna, specially designed for professional precision tracking and timing applications.

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 ±10MHz 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 (<3dB), excellent circular polarized signal reception, great multipath rejection and out-of-band signal rejection.

The TW3102 has a prefilter to provide additional protectic from high power near frequency or harmonic signals.

The TW3100 is housed in a permanent mount industria grade weather-proof enclosure. two options for po mounting are available an L-bracket (P/N#23-0040-0) or pipe mount (P/N#23-0065-0)

TW3100 Dimensions (mm)



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: 1dB typ.
- Low noise LNA: 1 dB (TW3100) 4dB (TW3102)
- High rejection SAW filter
- High gain: 27 dB min.(TW3100) 25 min (TW3102)
- Low current: 14 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 and REACH 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 (TW3100) ± 5 MHz (TW3102)	
Polarization		RHCP	
Gain @1575.42MHz		27dB min. (TW3100) 25dB min (TW3102)	
		TW3100	TW3102
Out-of-Band Rejection	<1545MHz		>65dB
	<1560 MHz	>42 dB	>45dB
	>1600 MHz	>31 dB	>50dB
	>1620 MHz	>45 dB	>80dB
VSWR (at LNA input)		<1.5:1 typ. 1.8:1 max.	
Noise Figure		1 dB typ. (TW3100) 4dB typ (TW3102)	
Supply Voltage Range		2.5 to 16 VDC nominal (12VDC recommended maximum)	
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
Operating Temp. Range	-40 to +85 °C
Enclosure	Radome: Dark Gray or White EXL9330 Base: Zamak White Metal
Weight	150 g
Attachment Method	19mm (1/4") permanent mount
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
Salt fog / spray	MIL-STD-801F Section 509.4
Warranty	One year – parts and labour

Ordering Information

TW3100 – GPS L1 antenna,	33-3100-xx-yy
TW3102 – Pre-filtered GPS L1 antenna	33-3102-xx-yy

Where xx = connector type, yy = type and colour of radome

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 radomes and connectors.

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