



## A Tallysman Accutenna™ TW3100 Permanent Mount GPS L1 Antenna

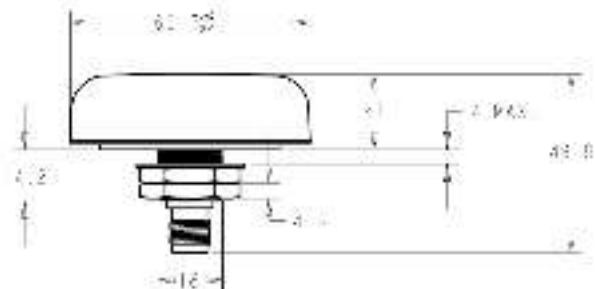
The TW3100 employs Tallysman's unique Accutenna™ technology in a permanent mount GPS L1 antenna, specially designed for professional precision tracking and timing applications.

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  $\pm 10$  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. Two options for pole mounting are available an L-bracket (P/N#23-0040-0) or a 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: 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: +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



# TW3100 Permanent Mount GPS L1 Antenna

## 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	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 ASA Plastic 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
Warranty	One year – parts and labour

### Ordering Information

Legacy Part Number	TW3100 – GPS L1 antenna, 32-3100-xx-yy		
Connector:	xx = 00 TNC	xx = 01 N Type (premium applies)	
Radome Colour	yy = 10 Dark grey low profile	yy = 11 White low profile	

\* As a result of a growing catalogue of part numbers, Tallysman has rationalized its part number system. No changes have been made to the mechanical or electrical properties of these products. Where administratively possible, please use the following new Part Numbers.

TW3100 – GPS L1 antenna 33-3100-xx-yy-zzzz

Where xx = connector type, yy = type and colour of radome and zzzz = cable length in mm (where applicable)

Please refer to the Ordering Guide (<http://www.tallysman.com/orderingguide.php>) for the current and complete list of available radomes and connectors.

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