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# TW3130 Permanent Mount GPS L1 Antenna

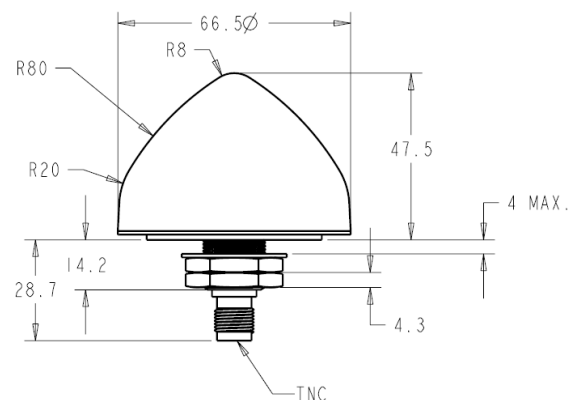
The TW3130 by Tallysman Wireless is a professional grade, permanent mount GPS L1 antenna, specially designed for professional precision timing applications.

The TW3130 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, 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 TW3130 is housed in a compact, industrial-grade weather-proof, domed shaped enclosure. Its radome is available in dark gray or white and two options for pole mounting are available an L-bracket (P/N#23-0040-0) or a pipe mount (P/N#23-0065-0).



TW3130 Dimensions (mm)



## Applications

- High Accuracy, Mission Critical GPS Timing
- Military & Security
- Network Timing and Synchronisation

## 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



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## Specifications V<sub>cc</sub> = 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	2 stage LNA circuit + a mid section SAW filter
Frequency Bandwidth	1575 MHz ± 10 MHz
Polarization	RHCP
Gain	30 dB 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. (20 mA max. @85°C)
ESD Circuit Protection	15 KV air discharge

### Mechanicals & Environmental

Mechanical Size	66.5 mm dia. x 45 mm H
Operating Temp. Range	-40 to +85 °C
Enclosure	Radome: Dark gray or white ASA Plastic Base: Zamak White Metal
Weight	150 g
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:

TW3130 – GPS L1 antenna, Dark gray radome, TNC connector	32-3130-xx-yy
Connector: xx = 00 TNC	xx = 01 N Type (premium applies)
Radome Colour yy = 00 Dark grey conical	yy = 01 White conical

\* As a result of a growing product portfolio, 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 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.

### Tallysman Wireless Inc

106 Schneider Road, Unit 3  
Ottawa ON K2K 1Y2 Canada Tel 613 591 3131 Fax 613 591 3121  
[sales@tallysman.com](mailto:sales@tallysman.com)

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