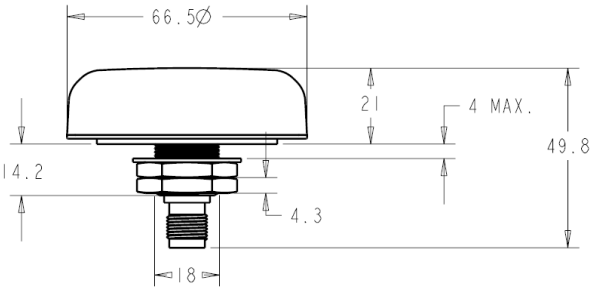
TW3040/ TW3042 Permanent Mount GPS L1 Antenna

The TW3040/TW3042 is a professional grade, permanent mount GPS L1 antenna, specially designed for professional precision timing applications.

The TW3040/TW3042 features a custom high performance, wide band patch element, a 40dB gain LNA stage and a high rejection out-of-band SAW filter. The TW3042 is equipped with a sharp SAW pre-filter to provide strong protection from out-of-band signals. It provides ±10MHz bandwidth centred on 1575.42 MHz and covers the GPS L1, Galileo E1 and SBAS (WAAS/EGNOS/MSAS) signals, and it provides great axial ratio, excellent circular polarized signal reception, great multipath rejection and great out-of-band signal rejection.

The TW3040/TW3042 is housed in a permanent mount industrial-grade weather-proof enclosure 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).

TW3040/TW3042 Dimensions (mm)
Flat Radome shown. Conical Radome also available



Applications

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

Features

- Great axial ratio
- Low noise LNA: 1 dB
- High rejection SAW filter
- High gain: 40 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 and REACH compliant

TW3040/TW3042 Permanent Mount GPS L1 Antenna

Specifications

Vcc = 3V, over full bandwidth, T=25°C

Antenna

Antenna Architecture		Single-feed RHCP ceramic patch
Antenna Element Gain (100mm ground plane)		4 dBic at 90°
Axial Ratio (over full bandwidth)		4 dB at 90°

Electrical

Architecture			3 stage LNA circuit + a mid section SAW filter. (Pre-filter option available)
Frequency Bandwidth			1575 MHz ± 10 MHz
Polarization			RHCP
Gain			TW3040: 40 dB min. TW3042: 39 dB min
		TW3040	TW3042
Out-of-Band Rejection	<1560 MHz	>42 dB	>50 dB
	>1600 MHz	>31 dB	>50 dB
	>1620 MHz	>45 dB	>70 dB
VSWR (at LNA input)			<1.5:1 typ. 1.8:1 max.
Noise Figure			1 dB typ. (TW3040) 3 dB (TW3042)
Supply Voltage Range			+2.5 to 16 VDC nominal (12VDC recommended maximum)
Supply Current			15 mA typ.
ESD Circuit Protection			15 KV air discharge

Mechanicals & Environmental

Mechanical Size	66.5 mm dia. x 21 mm H
Operating Temp. Range	-40 to +85 °C
Enclosure	Radome: Dark Gray or White EXL9330 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
Salt Spray	MIL-STD-810F Section 509.4

Ordering Information

TW3040 – GPS L1 antenna	33-3040-xx-yy-zzzz
TW3042 – GPS L1 antenna w/pre-filter	33-3042-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/wp-content/uploads/Current-Ordering-Guide.pdf) for the current and complete list of available radomes and connectors.

Tallysman Wireless Inc

36 Steacie Drive
Ottawa ON K2K 2A9 Canada Canada
Tel +1 613 591 3131 Fax 613 591 3121
sales@tallysman.com

Rev 3.5