

TW3102



TW3102 permanent-mount GPS-L1 Antenna

Frequency Coverage: GPS/QZSS-L1

Overview

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

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

The TW3102 is housed in a permanent-mount industrialgrade weatherproof 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).



Applications

- High-accuracy & mission-critical global positioning
- Precision agriculture, mining, and construction
- Law enforcement and public safety
- Avionics
- Law enforcement and public safety
- High Value Asset Tracking & Fleet Management

Features

- Great axial ratio: 1 dB typ.
- Low noise LNA: 1 dB (TW3100) 2 dB (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 12 VDC)
- weatherproof housing: IP69K

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

About Tallysman: With global headquarters and manufacturing in Ottawa, Canada, Tallysman is a leading manufacturer of high-precision antennas and components for Global Navigation Satellite System (GNSS) applications. Tallysman's mission is to support the needs of a new generation of positioning systems by delivering unprecedented antenna precision at competitive prices. Learn more at www.tallysman.com

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Antenna			
Technology	Dual-feed RHCP ceramic patch		
		Gain	Axial Ratio
		dBic typ. at Zenith	dB at Zenith
GNSS			
GPS / QZSS	L1	4.25	≤ 1
	L2	-	-
	L5	-	-
GLONASS	G1	-	-
	G2	-	-
	G3	-	-
Galileo	E1	-	-
	E5A	-	-
	E5B	-	-
	E6	-	-
BeiDou	B1	-	-
	B2	-	-
	B2a	-	-
	B3	-	-
IRNSS / NavIC	L5	-	-
QZSS	L6	-	-
L-Band Services (1525 MHz - 1559 MHz)			
Satellite Communications			
Iridium	-	-	-
Globalstar	-	-	-
Other			
Axial Ratio at 10°	-	Efficiency	-
PC Variation	-	PCO	-

Mechanicals	
Size	66.5 mm (dia.) x 21 mm (h.)
Weight	150 g
Radome	Radome: Dark Gray or White EXL9330
Mount	Through Hole
Available Connectors	Please refer to ordering guide

Environmental	
Operating Temperature	-40 °C to +85 °C
Storage Temperature	-50 °C to +95 °C
Vibration	MIL-STD-810D Method 514.4 and 514.5
Shock	Vertical axis: 50 G, other axes: 30 G
Salt Fog	MIL-STD-810F Section 509.4
IP Rating	IP69K
Compliance	IPC-A-610, FCC, RED / CE Mark, RoHS, REACH

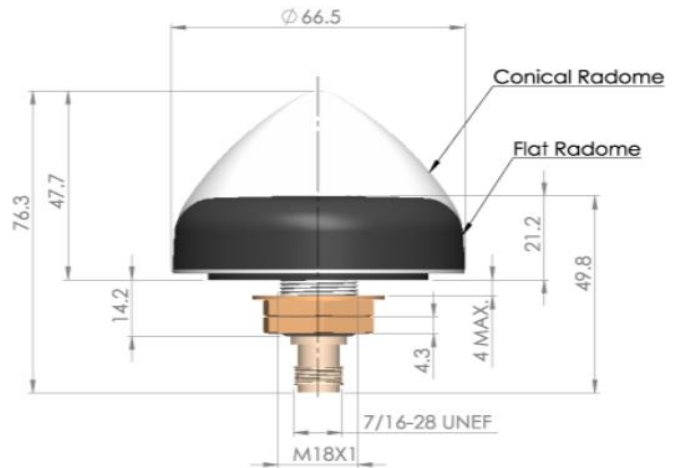
Warranty:	
Parts and Labour	3-year standard warranty

Low Noise Amplifier (LNA) - Measured at 3V and 25°C

	Frequency Bandwidth	Out of Band Rejection
Lower Band	-	-
L-Band - Correction Services	-	-
Upper Band	1575.42 Mhz ± 10 Mhz	< 1545 Mhz > 65 dB < 1560 Mhz > 45 dB > 1600 Mhz > 50 dB > 1620 Mhz > 80 dB

Architecture	Pre-filtered
Gain	25 dB min.
Noise Figure	2 dB typ.
VSWR	< 1.5:1 typ. 1.8:1 max.
Supply Voltage Range	2.5 to 12 VDC nom.
Supply Current	14 mA typ., 20 mA max
ESD Circuit Protection	15 kV air discharge
P 1dB Output	-
Group Delay	-

Mechanical Diagram



Ordering Information

Part Number **33-3102-xx-yy-zzzz**

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

Please refer to our **Ordering Guide** to review available radomes and connectors at: <https://www.tallysman.com/resource/tallysman-ordering-guide/>