TW3402

TALLYSMAN®

When **precision** matters.®

TW3402 GPS/GLONASS Antenna

Frequency Coverage: **L1/G1**

Overview

The TW3402 employs Tallysman's patented Accutenna® technology and covers the GPS-L1, GLONASS-G1 and SBAS (WAAS, EGNOS & MSAS) frequency band (1574 to 1606 MHz). It is especially designed for precision industrial, agricultural, safety and security applications. The TW3402 provides truly circular response over the antennas' entire bandwidth thereby producing superior multipath signal rejection.

The TW3402 features a highly circular dual-feed wideband patch element, with a two-stage Low Noise Amplifier, comprised of one input LNA per feed, a mid section SAW to filter the combined output, and a final output gain stage. This configuration provides an excellent axial ratio that is constant across the full frequency band. A pre-filter on the TW3402 protects against saturation by high-level sub-harmonic and L-Band signals.

The TW3402 is housed in a permanent mount industrial-grade weather-proof enclosure. Optional components include a 10 cm ground plane (PN 23-0067-0), an L-bracket mount (PN 23-0040-0) or a pipe mount (PN 23-0065-0).

Applications

- High-accuracy & mission-critical global positioning
- Precision agriculture, mining & construction
- Safety & security
- Avionics
- Law enforcement & public safety
- Fleet management & asset tracking

Features

- Great axial ratio: 1.0 dB typ.
- Low noise LNA: 3.0 dB typ.
- High-rejection SAW filter
- Pre-filter
- High-gain LNA: 26 dB typ.
- Low current: 13 mA typ.
- Wide voltage input range: 2.5 to 12 VDC
- IP69K weather-proof housing

Benefits

- Excellent circular polarisation
- Excellent multipath rejection
- Excellent signal-to-noise ratio
- Great out-of-band signal rejection
- Increased system accuracy
- 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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Revision: 1.0

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Antenna

Technology Dual-feed RHCP ceramic patch

		Gain dBic typ. at Zenith	Axial Ratio dB at Zenith
GNSS			
GPS / QZSS	**L1**	4.25	≤ 1
	L2	-	-
	L5	-	-
GLONASS	**G1**	4.25	≤ 1
	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	-	**Efficiency**	-
PC Variation	-		

Mechanicals

Size 66.5 mm (dia.) x 21 mm (h.)

Weight 150 g

Radome Radome: EXL9330, Base: Zamak White Metal

Mount -

Environmental

Operating Temperature - 40 °C to + 85 °C

Storage Temperature - 50 °C to + 95 °C

Vibration MIL-STD-810-D

Shock Vertical axis: 50G, other axes: 30G

Salt Fog MIL-STD-810F Section 509.4

IP Rating IP69K (housing)

Compliance IPC-A-610, FCC, RED / CE Mark, RoHS, REACH

Warranty:

Parts and Labour One year (Extended warranty available)

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

Frequency Bandwith		Out of Band Rejection	
		Upper Band	Lower Band
1574 - 1606 MHz	-	< 1500 MHz ≥ 70 dB < 1550 MHz ≥ 50 dB > 1640 MHz ≥ 80 dB	-

Architecture SAW pre-filter → LNA Stage 1 → SAW filter → LNA stage 2

Gain 26 dB min.

Noise Figure 3.0 dB typ.

VSWR < 1.5:1 typ. | 1.8:1 max.

Supply Voltage Range 2.5 to 12 VDC nom. (16 VDC max.)

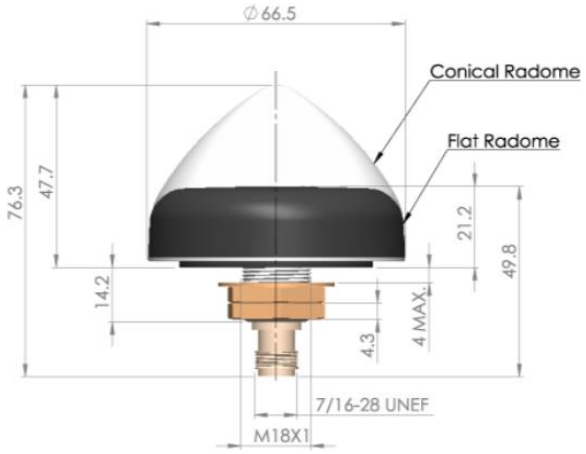
Supply Current 13 mA typ.

ESD Circuit Protection 15 KV air discharge

P1dB Output 4.0 dBm @ 1575 MHz

Group Delay Variation 11 ns typ. @ (1570.42 to 1580.42 MHz)

Mechanical Diagram



Ordering Information

Part Number **33-3402-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/