Tallysman™

A Tallysman *Accutenna*®
TW3740 / TW3742 High Gain Multi-Constellation Antenna

The TW3740 / TW3742 is a precision high gain GNSS antenna covering the BeiDou B1, Galileo E1, GPS L1, GLONASS L1 and SBAS (WAAS, EGNOS, QZSS & MSAS) frequency band (1557 to 1606 MHz). It employs Tallysman's unique *Accutenna*® technology providing truly circular polarized signal reception through the entire bandwidth of the antenna, thereby providing superior multipath signal rejection. It is especially designed for precision timing, industrial, agricultural, military, and other precision applications.

The TW3740 features a three 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.

The TW3742 adds an additional pre-filter to provide extra strong protection from near frequency and strong harmonic signals.

The TW3740/ TW3742 is housed in a permanent mount metal base with two nickel coated nuts and a weather-proof enclosure. Two options for mounting are available: an L-bracket (P/N#23-0040-0) or a pipe mount (P/N#23-0065-0).

TW3740 / TW3742
Conical radome pictured here. Flat radome also available. Also available in White

Applications
- High Accuracy & Mission Critical Global Positioning
- Timing applications
- Precision Agriculture, Mining & Construction
- Military & Security
- Avionics
- Law Enforcement & Public Safety
- Fleet Management & Asset Tracking

Features
- *Accutenna*® technology
- Great axial ratio: 1 dB typ.
- Low noise LNA: 1 dB
- High rejection SAW filter
- High gain LNA: 40 dB typ.
- Low current: 19 mA typ.
- Wide voltage input range: 2.5 to 16 VDC
- IP67 weather proof housing

Benefits
- Circular polarisation throughout the full bandwidth
- Superior multipath signal rejection
- Excellent signal to noise ratio
- Great out of band signal rejection
- Increased system accuracy
- Ideal for harsh environments
- RoHS and REACH compliant

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Specifications Vcc = 3V, over full bandwidth, T=25°C

Antenna

Architecture	Dual, Quadrature Feeds
2 dB Bandwidth	47 MHz
Antenna Gain (with 100mm ground plane)	4.25 dBic
Axial Ratio (over full bandwidth)	<2 dB typ., 3 dB max.

Electrical

Filtered LNA Frequency Bandwidth	1559 to 1606 MHz	
Polarization	RHCP	
LNA Gain	TW3740: 40 dB min., TW3742: 38dB min	
Gain flatness	+/- 2 dB, 1559 to 1606 MHz	
Out-of-Band Rejection <1500 MHz	>32 dB (TW3740)	>50dB (TW3742)
>1640 MHz	>35 dB	>70 dB
VSWR (at LNA output)	<1.5:1 typ. 1.8:1 max	
Noise Figure	TW3740: 1 dB typ. TW3742: 3dB typ.	
Supply Voltage Range (over coaxial cable)	2.5 to 16 VDC nominal (12VDC recommended max.)	
Supply Current	19 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
Storage Temperature Range	-45 to +85 °C
Enclosure	Radome: EXL9330, Base: Zamak White Metal
Weight	150 g
Attachment Method	Permanent ¾" (19mm) through hole mount
Environmental	IP67, RoHS, REACH, and RED 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
Warranty	One year, parts and labour

Ordering Information

TW3740 – Multi-Constellation Antenna	33-3740-xx-yy-zzzz
TW3742 – Prefiltered Multi-Constellation Antenna	33-3742-xx-yy-zzzz

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

Please refer to the Ordering Guide (http://www.tallysman.com/index.php/gnss/ordering-guide/) for the current and complete list of available radomes and connectors.

An ISO 9001:2015 Certified Company SGS

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