

TW5394

TW5394 Smart GNSS Antenna for Precise Positioning & Heading

Overview

The TW5394 is a multi-band (L1/L2), multi-constellation integrated GNSS receiver/antenna with integrated L-Band augmentation receiver for stand alone PointPerfect[®] PPP- RTK applications. The TW5394 is capable of providing sub 6 cm PPP-RTK accuracy and sub 1 cm RTK accuracy to support the most demanding navigation, automation and precision mobility applications. Two TW5394's may be combined as a Moving Base and Rover arrangement to offer a Precise Heading solution.

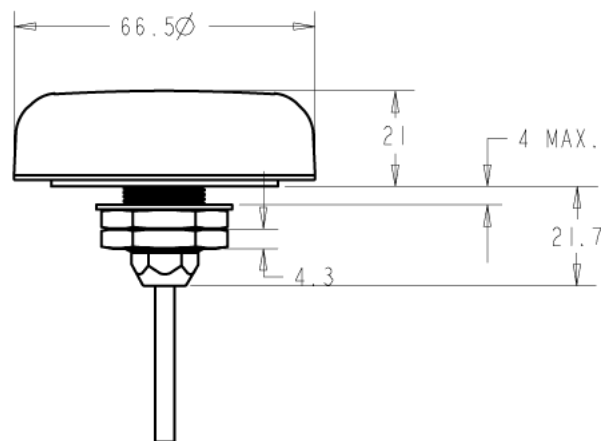
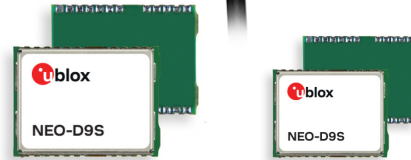
Interference Resilience

The TW5394 incorporates a latest generation multi-band (L1/ L2) GNSS receiver with a Tallysman Accutenna[™] multi-band dual-feed patch. The state of the art GNSS receiver supports concurrent tracking of all four major constellations (GPS, BeiDou, Galileo and GLONASS) in multiple frequency bands, offering high availability for PPP-RTK or RTK solutions with a quick convergence time. The multi-band architecture has proven to be a highly effective method for the removal of ionospheric error. The TW5394 employs multi-stage XF[™] filtering with low noise figure LNAs, combined with the dual feed Accutenna[™], which greatly improves the rejection of multi-path signal interference.

Corrections Applications

The TW5394 incorporates an L-Band correction receiver which offers sub 6 cm accuracy through real-time PPP-RTK corrections via the PointPerfect subscription service. (No RTK base station is required, typical of traditional RTK applications.) TW5394 offers quick convergence and continuous corrections for North America and Europe for remote regions without IP/Network coverage. PointPerfect IP streaming corrections are available in continental US, Canada, Europe, South Korea and Australia.

The TW5394 may also be configured to operate in an RTK mode as either a base or rover for sub cm precision. For Precise Heading applications, two TW5394's may be arranged as a moving base and rover pair. The moving base device may receive PPP-RTK corrections while concurrently sending RTCM correction messages to the rover.



Features

- An Out-of-the-Box, Plug and Play, Precise Positioning Solution
- Integrated L-Band corrections receiver for remote precision deployments
- High position availability with XF[™] filtering and expansive constellation
- Strong multi-path rejection with Dual feed Accutenna[™]
- Supports PointPerfect PPP-RTK and traditional RTK configurations
- Moving-base/rover pairing for Precise Heading
- Rugged Fixed Mount
- Industrial grade IP69K enclosure
- RS-422/485 or RS-232 signalling options
- Industrial grade IP69K enclosure
- Available with conical radome
- L1/L5 option available

TW5394 Smart GNSS Antenna for Precise Positioning & Heading

Specifications

Antenna	Environmental
Architecture Multi-band (L1/L2), Dual Feed	Operating Temperature.....-40°C to +85°C
Axial Ratio.....L1: < 1 dB typical.	Storage Temperature.....-40°C to +85°C
Signal SupportGPS L1C/A L2C, GLO L10F L20F, GAL E1B/C E5b, BDS B1I B2I, QZSS L1C/A L2C	WeatherproofIP69K
SBAS L1 C/A.....WAAS, EGNOS, MSAS, GAGAN	Shock.....Vertical axis 50G, other axis 30G 3 axis sweep – 15 min
Channels.....184-channel u-blox F9 engine	Vibration.....10-200 Hz log sweep 3G
Anti-jammingActive CW detection	Sensitivity
Corrections Receiver.....L-Band PPP-RTK (SSR)	Tracking & Nav-167 dBm
Corrections Data Rate.....Continental: 2400 bps	Reacquisition-160 dBm
Regions.....EU, US, AUS, KR	Hot starts-157 dBm
Format.....SPARTN, RTCM	Cold starts-148 dBm
Interface (2 options)	Acquisition
PWR, GND, DP, DMRS-422/485, RJ45 (-09)	Cold start25 sec
PWR, GND, TX, RX.....RS-232, RJ45 (-29)	Aided start2 sec
Serial Protocol	Reacquisition2 sec
Output.....NMEA 0183, UBX Binary, RTCM v3.3	Horizontal Position Accuracy (4 Constellations)
Baud Rate.....Configurable	Standard PVT1.5m CEP
Update Rate (PVT)9 Hz (4); 10 Hz (GPS+GAL+BDS); 20 Hz (GPS+GAL); 20 Hz (GPS+GLO); 16 Hz (GP+BDS); 25 Hz (GPS)	Standard SBAS1.0m CEP
Mechanical	Corrected RTK.....0.01m + 1ppm CEP
Dimensions.....66.5 mm dia. x 21 mm H	Augmented SPARTN (PPP-RTK).....<0.06m CEP
Weight.....135 g	SPARTN Convergence.....<45 sec
Mounting Method.....Fixed Mount	Heading
Cable Length......5m	Dynamic Heading Accuracy0.3° (30 m/sec)
Electrical	Precise Heading Accuracy0.4° (min 1m baseline)
Voltages5 VDC	Operational Limits
Current1 Watts (nominal operating) Measured @ 5VDC supply	Dynamics.....< 4g
	Altitude80,000m
	Velocity500 m/sec

Ordering Information:

33-5394-09-yy-05-PC0 (RS422/485 RJ45, 00 = grey conical 10= grey low profile 01= white conical 11= white low profile)

33-5394-29-yy-05-PC0 (RS-232, RJ45, 00 = grey conical 10= grey low profile 01= white conical 11= white low profile)

RS-232 to USB Bridge for 33-5394-29-10-05-PC0: **33-0095-3** (applicable only to RS-232)

RS-422/485 to USB Bridge for 33-5394-09-10-05-PC0: **33-0095-11** (applicable only to RS-422/485)

DB9 Configurator Adaptor **27-0045-0** (applicable only to RS-232)

Please refer to the Ordering Guide for the current and complete list of available products.



When precision matters.®

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

Contact us:
info@tallysman.com
T: +1 613 591-3131

© 2023 Tallysman Inc. All rights reserved. Tallysman, the "When Precision Matters" tag line and the Tallysman logo are trademarks or registered trademarks of Tallysman Inc. and/or its affiliates in Canada and certain other countries. All other trademarks mentioned in this document are the property of their respective owners. The information presented is subject to change without notice. Tallysman assumes no responsibility or any errors or omissions in this document. Tallysman Wireless Inc. hereby disclaims any or all warranties and liabilities of any kind.