

TW5790



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TW5790 Smart GNSS Antenna for Precise Positioning

Overview

The TW5790 is a multi-band (L1/L2), multi-constellation integrated GNSS receiver/antenna with Inertial Measurement Unit (Untethered Dead Reckoning) and integrated L-Band corrections receiver for stand alone RTK for Precise Point Positioning. The TW5790 is capable of providing sub 6 cm accuracy to support the most demanding navigation, automation and precision agriculture applications.

Interference Resilience

The TW5790 incorporates a latest generation multi-band (L1/L2) GNSS receiver with a Tallysman Accutenna™ multi-band (L1/L2) 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 RTK solutions with a quick convergence time. The multi-band (L1/L2) architecture is the most effective method for the removal of ionospheric error. The TW5790 employs multi-stage filtering with low noise figure LNAs, combined with the dual feed Accutenna™, which greatly improves the rejection of multi-path signal interference. The IMU Sensor Fusion further mitigates effects of severe multi-path reflections and provides continuous position availability during periods of GNSS outages caused by signal obstruction offering exceptional performance to meet the most challenging precise positioning applications.

Corrections Applications

The TW5790 incorporates an L-Band correction receiver which offers sub 6 cm accuracy through real-time PPP-RTK corrections via the Point Perfect subscription service. (No RTK base station is required, typical of traditional RTK applications.) The L-Band receiver offers quick convergence and continuous corrections for North America and Europe for geographic regions without IP/Network coverage. Point Perfect streaming corrections are available in continental US, Canada, Europe, South Korea and Australia.

The TW5790 may also be configured to operate in an RTK mode as a rover offering sub cm precision.



Features

- Integrated L-Band corrections receiver for exceptional precision
- Improved noise immunity with multi-band GNSS receiver
- Improved multi-path rejection with Dual feed Accutenna™
- Multi-band GNSS receiver is unaffected by ionospheric errors
- High reliability timing with expansive constellation array
- High position availability in urban environment with UDR
- 5V operation
- USB 2.0 signalling
- Industrial grade IP67 enclosure
- Rugged magnetic mount
- 5M cable lengths with USB Type A male
- L1/L5 option available

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Specifications

Antenna

Architecture	Multi-band (L1/L2), Dual Feed
Axial Ratio	L1: < 1 dB typical
Frequencies	GPS L1C/A L2C, GLO L10F L20F, GAL E1B/C E5b, BDS B1I B2I, QZSS L1C/A L2C
SBAS L1 C/A	WAAS, EGNOS, MSAS, GAGAN
Channels	184-channel u-blox F9 engine
Anti-jamming	Active CW detection
Corrections Receiver	L-Band PPP-RTK (SSR)
Signal Support	GPS: L1 C/A, L2P, L2C, L5 3 GLONASS: L1 C/A, L2 C/A Galileo 3: E1, E5A/B Beidou: B1I, B2I
Corrections Data Rate	Continental: 2400 bps
Coverage	EU, US, AUS. KR
Format	SPARTN, RTCM

Interface

Pwr, Gnd, DP, DM	USB 2.0, Type A Male
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Serial Protocol

Output	NMEA 0183, UBX Binary
Baud Rate	Configurable

Mechanical

Dimensions	.66.5 mm dia. x 21 mm H
Weight	.135 g
Mounting Method	Fixed Mount
Cable Length	.5m with USB 2.0 Type A termination

Electrical

Voltages	.5 VDC
Current	.1 Watts (nominal operating) Measured @ 5VDC supply

Environmental

Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +85°C
Weatherproof	IP67
Shock	Vertical axis 50G, other axis 30G 3 axis sweep – 15 min
Vibration	10-200 Hz log sweep 3G

Sensitivity

Tracking & Nav	-166 dBm
Reacquisition	-160 dBm
Hot starts	-158 dBm
Cold starts	-147 dBm

Acquisition

Cold start	.25 sec
Aided start	.3 sec
Reacquisition	.2 sec

Position

Standard Horizontal PVT	.1.5m CEP
Standard Horizontal SBAS	.1.0m CEP
SPARTN Corrected Horizontal	.<0.06m CEP*
Convergence	.<45 sec

Ordering Information:

33-5790-0

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



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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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