

TW5382

Preliminary



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TW5382 Smart GNSS Antenna for High Accuracy Timing

Overview

The TW5382 is a multi-band, multi-constellation integrated GNSS receiver and precision timing reference antenna. The TW5382 is capable of providing nanosecond-level timing accuracy to support the most demanding infrastructure applications.

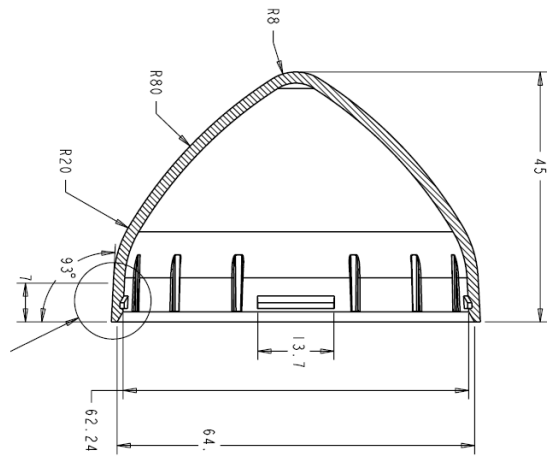
The TW5382 incorporates a latest generation multi-band GNSS receiver with a Tallysman Accutenna™ multi-band dual feed patch. The state of the art GNSS receiver supports concurrent tracking of all four major constellations (GPS, BeiDou, Galileo and GLONASS) in multiple frequency bands. The multi-band architecture is the most effective method for the removal of ionospheric error. Combined with the dual feed Accutenna™, which greatly improves the rejection of multi-path signal interference, the TW5382 offers exceptional performance to meet the most stringent 5G timing requirements.

Precision Timing

The TW5382 is designed to meet the strictest timing synchronization requirements in 5G mobile networks on a global scale. The concurrent multi-band access to all four satellite constellations improves the receiver's capability to deliver a precise and reliable solution which is unaffected by ionospheric errors.

The TW5382 timing module's multi-band capability reduces the timing error under clear skies to less than 5ns without the need for an external GNSS correction service.

The TW5382 offers an optional master and slave configuration that features a differential timing mode that exchanges correction data with a neighboring TW5382 timing receiver via a RS-485 communication link. Under optimal conditions the timing accuracy can be further improved to less than 2.5ns.



Mechanical Dimensions (mm)

Features

- 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
- Exceptional timing performance without correction services
- T-RAIM to support the highest level of timing integrity
- Broad 5V-36V operation
- RS-485 differential signalling
- Industrial grade IP67 enclosure
- Rugged fixed mount
- Multiple cable lengths (5m, 15m and 25m)
- Available with conical radome

TW5382 Smart GNSS Antenna

Specifications

Antenna		Environmental	
Architecture	Multi-Band, Dual Feed	Operating Temperature.	-40°C to +85°C
Axial Ratio	L1: < 1 dB typical.	Storage Temperature.	-40°C to +85°C
Frequencies	GPS L1C/A L2C, GLO L1OF L2OF, GAL E1B/C E5b, BDS B1I B2I, QZSS L1C/A L2C	Weatherproof	IP67
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-jamming	Active CW detection		
Interface		Sensitivity	
Pwr, Gnd		Tracking & Nav	-166 dBm
Tx, RX, Timepulse . . . . .	.RS-485 levels	Reacquisition	-160 dBm
Opt: TP2, RTCM IN or OUT . . . . .	.RS-485 level	Hot starts	-157 dBm
		Cold starts	-148 dBm
Serial Protocol		Acquisition	
Output. . . . .	.NMEA 0183, UBX Binary, RTCM v3.3	Cold start . . . . .	.26 sec
Baud Rate. . . . .	.Configurable	Aided start . . . . .	.2 sec
Update Rate. . . . .	.Configurable up to 20Hz	Reacquisition . . . . .	.1 sec
Mechanical		Position	
Dimensions . . . . .	.66.5 mm dia. x 21 mm H	Position Accuracy. . . . .	.2.0m CEP
Weight. . . . .	.135 g	Timing	
Mounting Method . . . . .	.Industrial grade fixed Mount	Timing Accuracy.	<5ns (<2.5ns Differential Mode)
Cable Length. . . . .	.5, 15 and 25m with RJ termination	Time Pulse Jitter	+/- 4ns
		Time Pulse resolution. . . . .	.8 ns
Electrical		Survey-in period. . . . .	.Configurable
Voltages . . . . .	.5 V to 36 VDC	Integrity Reports. . . . .	.T-RAIM active, phase uncertainty Time pulse/duty-cycle, inter-constellation biases
Current . . . . .	.0.5 Watts (nominal operating) Measured @ 5VDC supply		

Ordering Information:

33-5382-7-yy-zz-PCO (PCO = NMEA out, no adaptor cable.)

yy = Radome (00=grey conical, 10=grey low profile, 01=white conical, 11=white low profile)

zz = Cable length in meters. Standard is 5m. (15m and 25m are special order only)

TW5382 Configuration Adaptor 27-0147-0

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



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Tallymatics manufactures high performance, telematics products and solutions for a wide range of applications. With support for both RF wireless and data networks, Tallymatics enables high-resolution location awareness of mobile field assets across any type of wireless network. Tallymatics is a division of Tallysman.

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