

TW5354



TW5354 Multi-Constellation Smart Antenna

Overview

The TW5354 is a multi-constellation GNSS Smart Antenna which provides simultaneous GPS/GLONASS+SBAS reception. It is designed for use in professional grade applications such as precision timing, network synchronization, low current applications, and tracking/positioning applications.

The TW5354 GNSS Smart Antenna uses a state of the art multi-constellation GNSS receiver which provides 72 high sensitivity tracking channels which can be configured to acquire and track 3 concurrent GNSS constellations (GPS, Galileo, GLONASS and Beidou) plus SBAS (WAAS, EGNOS, MSAS and GAGAN) and QZSS augmentation signals simultaneously. Differential GPS corrections may also be supplied via RTCM formatted corrections messages.

The TW5354 employs Tallysman's Accutenna™ dual feed antenna patch technology which greatly improves rejection of multi-path signal interference, across the whole GNSS band. The addition of pre- and post- filtering within the RF signal chain greatly improves immunity to jamming carriers typical within urban environments.

The TW5354 can be configured to output a variety of NMEA 0183 message lists with navigation update rates up to 5Hz. An RS422 interface is provided for extended range data communication with input voltage range from 5V to 36V suitable for industrial and Automotive applications.

A configurable one pulse-per-second (1PPS) synchronized to UTC time is made available as a RS422 differential signal.

Tallymatics' Windows™ based Configurator enables simple configuration of parameters such as baud rates, output message rates, constellation, tracking parameters and 1PPS configuration and Standby mode parameters.



Features

- Multi-Constellation Receiver/Antenna
- Concurrent tracking of 3 constellations
- 72 Channel simultaneous operation
- High performance tracking (-164 dBm)
- WAAS, EGNOS, MSAS & GAGAN + QZSS
- DGPS corrections using RTCM input
- Navigation rates 1 to 5 Hz
- 1 PPS RS422 outputs
- Accutenna™ Technology
- Pre- and Post- LNA filtering
- Superior multi-path signal rejection
- Industrial grade IP69K enclosure
- RoHS, Reach, RED compliant, CE Marking
- 5V to 36V automotive operation w/ low power standby

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Specifications

Antenna		Sensitivity	
Architecture	Dual Feed	Tracking & Nav	-167 dBm 1
Axial Ratio	< 1 dB typical	Cold starts	-148 dBm
Frequencies	GPS/QZSS L1 C/A, GLONASS L10F BeiDou B1I, Galileo E1B/C	Hot starts	-157 dBm
SBAS	WAAS, EGNOS, MSAS, GAGAN	Acquisition	
Channels	72-Channel u-blox M8 engine	Cold start	.26 sec
Interface			Aided 3 sec
Pwr, Gnd		Reacquisition	.1 sec
Tx, RX	.RS422 (30kV protection)	Accuracy	
Timepulse	.RS422 (30kV protection)	Position Accuracy	.25m CEP (Horizontal)
Mechanical		Velocity Accuracy	.05 m/s
Dimensions	.66.5 mm dia. x 21 mm H	Heading Accuracy	.0.3 deg
Weight	.135 g	Timing Accuracy	.30ns RMS
Mounting Method	.Fixed Mount	Operational Limits	
Cable Length	.5 m with RJ45 termination	Dynamics	.4 g
Enclosure	.Industrial grade fixed mount	Altitude	.50,000 m
Electrical		Velocity	.500 m/s
Voltages	.5-36 VDC (Overvoltage Protection)	Serial Protocol	
Current	.<500 mW nominal Operating	Output	.NMEA 0183
Environmental		Input	.RTCM
Operating Temperature	.-40°C to +85°C	Baud Rate	.Configurable up to 230400 bps
Storage Temperature	.-45°C to +85°C	Update Rate	.Configurable up to 5Hz
Weatherproof	.IP69K	Time Pulse	
Shock	.Vertical axis 50G, other axis 30G 3 axis sweep – 15 min	Duty Cycle	.Configurable
Vibration	.10-200 Hz log sweep 4G		

Ordering Information:

33-5354-7-yy-zz-PC0 (PC0 = 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)

TW5354 SDK Test Adaptor required for programming **33-0095-1**

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

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

Tallysman Wireless Inc.
36 Steacie Drive,
Ottawa ON
K2K 2A9 Canada

www.tallysman.com