

# TW5350/ TW5351

## TW5350/TW5351 Multi-Constellation Smart Antenna

### Overview

The TW5350 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 TW5350 GNSS Smart Antenna uses the 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 TW5350 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 TW5350 can be configured to output a variety of NMEA 0183 message lists with navigation update rates up to 5Hz. An RS232 interface is provided for data communication with input voltage options of 3.3V and 5-36V with over-voltage protection.

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.

A non-magnetic version is available with Part Number TW5351.



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### Features

- Multi-Constellation Receiver/Antenna
- Concurrent tracking of 3 constellations
- 72 Channel simultaneous
- High performance tracking (-167 dBm)
- WAAS, EGNOS, MSAS & GAGAN + QZSS
- DGPS corrections using RTCM input
- Navigation rates 1 to 5 Hz
- 1 PPS RS422 outputs
- Low Current Standby Mode
- Accutenna™ Technology
- Pre- and Post- LNA filtering
- Superior multi-path signal rejection
- Industrial grade IP69K enclosure
- RoHS, REACH and RED Compliant. CE Marking

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## Specifications

### Antenna

Architecture	Dual Feed
Axial Ratio	< 1 dB typical.
Frequencies	GPS/QZSS L1 C/A, GLONASS L10F BeiDou B1I, Galileo E1B/C
SBAS L1 C/A	WAAS, EGNOS, MSAS, GAGAN
Channels	72-channel u-blox M8 engine

### Interface

Pwr, Gnd	
Tx, RX	RS232
Timepulse	RS422 (30 kV protection)

### Mechanical

Dimensions	.66.5 mm dia. x 21 mm H
Weight	.135 g
Mounting Method	Fixed Mount
Cable Length	.5 m with RJ12 termination
Enclosure	Industrial grade fixed mount weatherproof IP69K

### Electrical

Voltages	.5-36 VDC (Overvoltage Protection)
Current	<500 mW nominal Operating

### Environmental

Operating Temperature	-.40°C to +85°C
Storage Temperature	-.40°C to +85°C
Weatherproof	.IP69K
Shock	.Vertical axis 50G, other axis 30G 3 axis sweep – 15 min
Vibration	.10-200 Hz log sweep 3G

### Sensitivity

Tracking & Nav	-.167 dBm 1
Cold starts	-.148 dBm
Hot starts	-.157 dBm

### Acquisition

Cold start	.26 sec Aided 3 sec
Reacquisition	.1 sec

### Accuracy

Position Accuracy	.2.5m CEP (Horizontal)
Velocity Accuracy	.0.05 m/s
Heading Accuracy	.0.3 deg
Timing Accuracy	.30 ns RMS

### Operational Limits

Dynamics	.4 g
Altitude	.50,000 m
Velocity	.500 m/s

### Serial Protocol

Output	.NMEA 0183
Input	.RTCM
Baud Rate	.Configurable up to 230400 bps
Update Rate	.Configurable up to 10Hz

### Time Pulse

Duty Cycle	.Configurable
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## Ordering Information:

33-5350-x-yy-zz GPS/GLONASS /QZSS Smart Antenna, 33-5351-x-yy-zz Non-magnetic, GPS/GLONASS/ Smart Antenna

**DB9 Test adaptor (For CMOS versions a CMOS/RS232 converter will also be required)**

**27-0045-1**

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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