

# TW5365

## TW5365 Smart GNSS Antenna with UDR (RS-422)

### Overview

The TW5365 is a multi-constellation GNSS Receiver/Antenna fused with inertial sensor data. It is an easy-to-use tracking solution that enables high performance positioning in places where GNSS signals are poor or not available.

The TW5365 incorporates a latest generation GNSS receiver that supports simultaneous GPS/GLONASS/Galileo reception and a Tallysman's Accutenna™ patch antenna. This dual feed antenna greatly improves rejection of multi-path signal interference, making it the most precise antenna for tracking in dense urban environments.

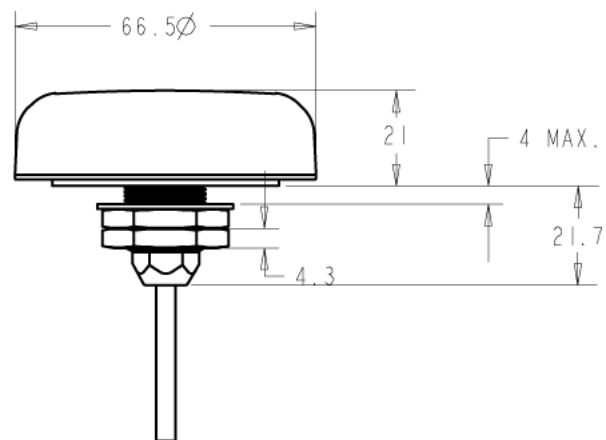
### Untethered Dead Reckoning (UDR)

The TW5365 Untethered Dead Reckoning (UDR) technology provides continuous navigation without requiring speed information from the vehicle. This innovative technology brings the benefits of dead reckoning to installations previously restricted to using GNSS alone, significantly reducing the cost of installation for Dead Reckoning applications.

The strength of UDR is particularly apparent under poor signal conditions, where it brings continuous positioning in urban environments, even when the antenna is installed within the vehicle. Useful positioning performance is also available during complete signal loss, for example in parking garages or short tunnels. UDR positioning starts as soon as the ignition signal is applied and before the first GNSS fix is available.

The TW5365 may be installed in any position in a vehicle without electrical connection to the vehicle speed sensor. The on-board accelerometer and gyroscope sensors result in a self-contained UDR which is self-calibrating and provides reliable and consistent navigation.

A Timepulse output generates pulse trains synchronized with GPS or UTC time grid with intervals configurable over a wide frequency range.



Mechanical Dimensions (mm)

### Features

- Complete positioning solution with integrated 3D sensors
- Positioning accuracy in dense cities and covered areas
- Independent of any sensor connection to the car
- Robust communication with RS-422 Differential Transceiver
- 5V-36V automotive operation
- Superior multi-path signal rejection
- Industrial grade IP69 enclosure
- RoHS, REACH, RED compliant. CE marking

# TW5365 Smart GNSS Antenna

## 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, Ignition Input	
Tx, RX	RS422 (RS485) Half-Duplex
Timepulse	RS232 level

### Mechanical

Dimensions	.66.5 mm dia. x 21 mm H
Weight	.135 g
Mounting Method	Fixed Mount
Cable Length	.5 m with RJ45 termination
Enclosure	Industrial grade fixed mount weatherproof IP69

### Electrical

Voltages	.5 V to 36 VDC
Current	<500 mW nominal operating

### Environmental

Operating Temperature	-40°C to +85°C
Storage Temperature	-45°C to +85°C
Weatherproof	IP69
Shock	Vertical axis 50G, other axis 30G 3 axis sweep – 15 min
Vibration	10-200 Hz log sweep 3G

### Sensitivity

Tracking & Nav	-160 dBm 1
Cold starts	-148 dBm
Hot starts	-157 dBm

### Acquisition

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

### Position

Position Accuracy	.1.5m CEP (w/SBAS)
UDR Position Error	Typically <10% of distance covered without GNSS (up to 60 s)

### Serial Protocol

Output	NMEA 0183
Baud Rate	Configurable
Update Rate	Up to 30Hz (via HNR)

## Ordering Information:

33-5365-7-10-05-PC0

PC0 = NMEA out, no adaptor cable.

**TW5365 SDK/Configuration Kit**

**33-0095-5**

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



The **connection** of things.®

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.

© 2019 Tallymatics Inc. All rights reserved. Tallymatics, "The connection of things" tag line and the Tallymatics logo are trademarks or registered trademarks of Tallymatics 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 for any errors or omissions in this document. Tallymatics is a division of Tallysman Inc. Tallymatics hereby disclaims any or all warranties and liabilities of any kind.

**Contact us:**  
[info@tallymatics.com](mailto:info@tallymatics.com)  
**T: +1 613 591-3131**

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

[www.tallymatics.com](http://www.tallymatics.com)