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TW5352
Installation Manual

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Rev 1_0	6 Dec 2021	Preliminary Release
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1 Introduction

The TW5352 is a multi-constellation GNSS L1 Receiver/Antenna with SBAS. The TW5352 is a professional grade tracking solution offering high-performance/high-reliability positioning in a compact IP69K rated enclosure.

The TW5352 incorporates a latest generation GNSS receiver that supports simultaneous GPS/GLONASS/Galileo + SBAS reception and the Tallysman 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.

Figure 1 TW5352 Hardware

2 Regulatory Notice

This device complies with Part 15 of the FCC Rules. Operation is subject to the condition that the device does not cause harmful interference. This device may only be used if operated or installed in a transportation vehicle including motor vehicles and aircraft, all other modes of use are prohibited. When used in a transportation vehicle it is exempt under FCC Part 15 Subpart B and ICES-003 from radiated and conducted emission test requirements.

3 Equipment Installation and Operation

3.1 Information regarding installation

Tallymatics provides wiring instructions to electrically connect the TW5352 device to the vehicle battery in a manner consistent with industry best practices.

Improper installation of aftermarket electronics within a vehicle can negatively impact the safety and security of the Driver (and Passengers) and could result in serious injury or death in the event of a collision. Selection of appropriate installation hardware and mounting location within the vehicle remain the exclusive responsibility of the Fleet Operator.

Standard industry recommendations for installation and use of aftermarket electronics within a vehicle include:

1. Do not install device in a location that could interfere with or negatively impact:
    a. Driver's field of view
    b. Operation of steering wheel
    c. Operation of foot pedals, transmission levers
    d. Deployment of Airbags

2. Please ensure that you are fully aware of the rules and regulations governing the use of aftermarket electronics within a vehicle in your operational jurisdiction or service area.
3. Ensure that you are up to date on any supplemental vehicle manufacturer installation notes for aftermarket equipment.

	Placement of components shall not impede driver visibility nor render the vehicle unsafe to operate.
	Ensure equipment placements and cable/wire routes do not impede vehicle air bag deployment.

3.2 Installation Considerations

The TW5352 is mounted using the integrated fixed mount feature. For optimal performance, the device should be securely mounted to the surface of a large ground plane when possible. Recommended minimum 10cm ground plane with the antenna located at the center.

The TW5352 has a 5-meter cable terminated with an RJ45 connector. Adaptor cables are available to interface to a PC and a variety of mobile radio devices. Please contact Tallymatics for details.

3.3 RJ45 Cable Connector

The smart antenna cable is terminated with an 8 position RJ45 signal connector which provides the following signals:

PIN	Description	Notes	Color
1	<OPEN>	Leave Unconnected	White/Green
2	PWR	(5-36 VDC)	Green
3	IGN Loop Input	LMR Radio CTRL	White/Orange
4	IGN Loop Output	LMR Radio CTRL	Blue
5	RX	IN	White/Blue
6	TX	OUT	Orange
7	GND	GND	White/Brown
8	<OPEN>	Leave Unconnected	Brown

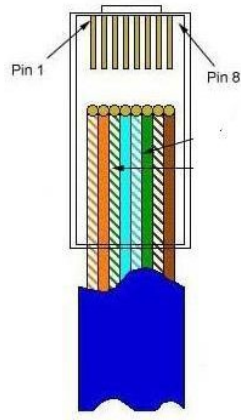

Figure 2 RJ45 - I/O Connector (looking onto the connector contacts)

3.4 Device Communication

The TW5352 smart antenna has been factory configured for out of the box operation. When the device is powered and enabled, NMEA messaging will be active immediately on the RS-232 TX signal pin.

The device has been factory configured as: **9600,8,N,1**

3.5 NMEA Messages

The TW5352 has the following NMEA messages active by default:

GNRMC
GNVTG
GNGGA
GNGSA
GPGSV
GLGSV
GAGSV
GNGLL

3.6 TW5352 Configured Settings

The TW5352 has been configured with the following specific settings set:

- NMEA Version -> 4.1 (Required to support Galileo Constellation)
- GNSS Configuration
  - GPS
  - GALILEO
  - GLONASS
- Navigation Dynamic Model -> Automotive

3.7 Flash Configuration

The TW5352 contains flash storage memory for persisting customized configuration settings. Configuration settings may be adjusted using a PC with the 27-0124-0 configuration cable.

The Tallymatics TW5352 configuration tool may be downloaded from the following link: https://tallysman.com/downloads/TW5X5X.zip

Please contact Tallymatics for assistance regarding factory programmed custom configuration requirements.

4 TW5352 Mechanical

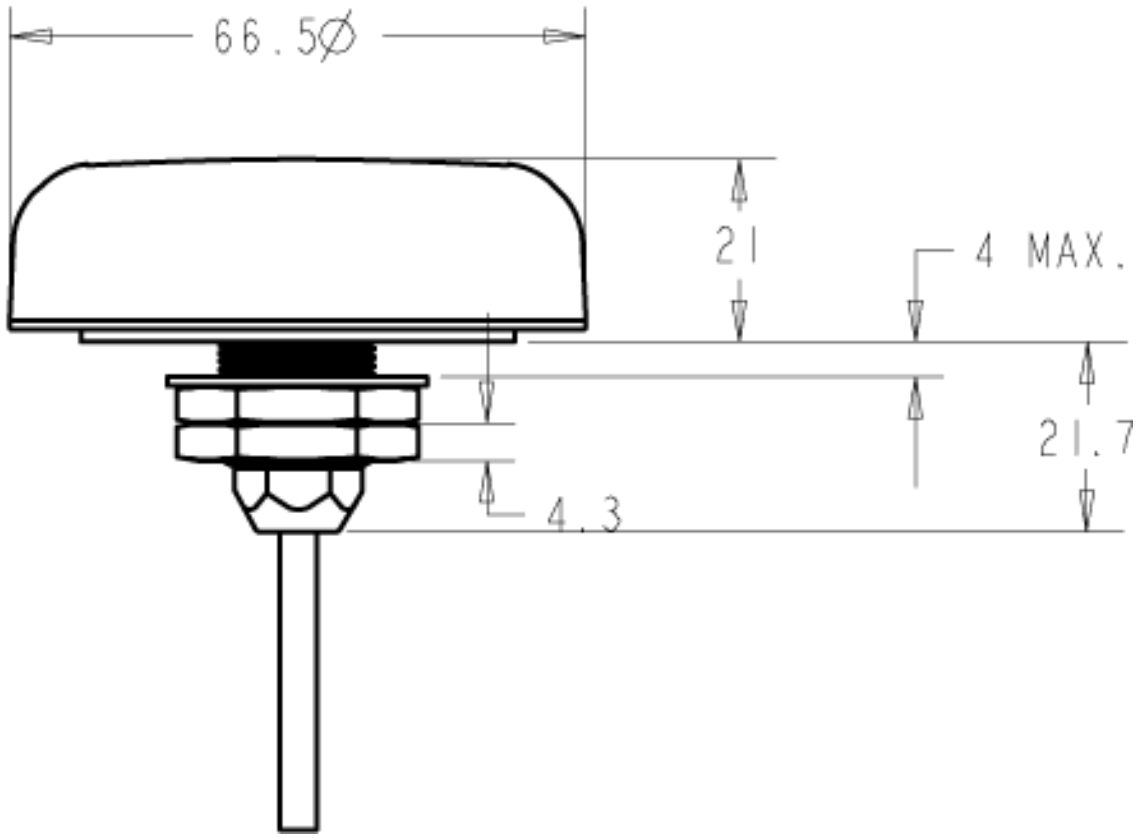

Figure 3 Mechanical dimensions of the TW5352