Manuals+ — User Manuals Simplified.

WITMOTION WT931 Inclinometer Sensor User Manual

Contents

WITMOTION WT931 Inclinometer Sensor

Tutorial link

- [Google Drive](#)

Link to instructions DEMO:

- [WITMOTION Youtube Channel WT931 Playlist](#)

If you have technical problems or cannot find the information that you need in the provided documents, please contact our support team. Our engineering team is committed to providing the required support necessary to ensure that you are successful with the operation of our AHRS sensors.

Contact

- [Technical Support Contact Info](#)

Application

- AGV Truck
- Platform Stability
- Auto Safety System
- 3D Virtual Reality
- Industrial Control

- Robot
- Car Navigation
- UAV
- Truck-mounted Satellite Antenna Equipment

Introduction

The WT931 is a multi-sensor device detecting acceleration, angular velocity, angle as well as magnetic filed. The small outline makes it perfectly suitable for industrial retrofit applications such as condition monitoring and predictive maintenance. Configuring the device enables the customer to address a broad variety of use cases by interpreting the sensor data by smart algorithms. WT931's scientific name is AHRS IMU sensor. A sensor measures 3-axis angle, angular velocity, acceleration, magnetic field. Its strength lies in the algorithm which can calculate three-axis angle accurately. WT931 is employed where the highest measurement accuracy is required. It offers several advantages over competing sensor:

- Heated for best data availability: new WITMOTION patented zero-bias automatic detection calibration algorithm outperforms traditional accelerometer sensor
- High precision Roll Pitch Yaw (X Y Z axis) Acceleration + Angular Velocity + Angle + Magnetic Field output
- Low cost of ownership: remote diagnostics and lifetime technical support by WITMOTION service team
- Developed tutorial: providing manual, datasheet, Demo video, free software for Windows computer, and sample code for MCU integration including 51 serial, STM32, Arduino, Matlab, Raspberry Pi, communication protocol for project development
- WITMOTION sensors have been praised by thousands of engineers as a recommended attitude measurement solution

Warning Statement

- Putting more than 5 Volt across the sensor wiring of the main power supply can lead to permanent damage to the sensor.
- VCC cannot connect with GND directly, otherwise it will lead to the burning of the circuit board.
- For proper instrument grounding: use WITMOTION with its original factory-made cable or accessories.
- For secondary developing project or integration: use WITMOTION with its compiled sample code.
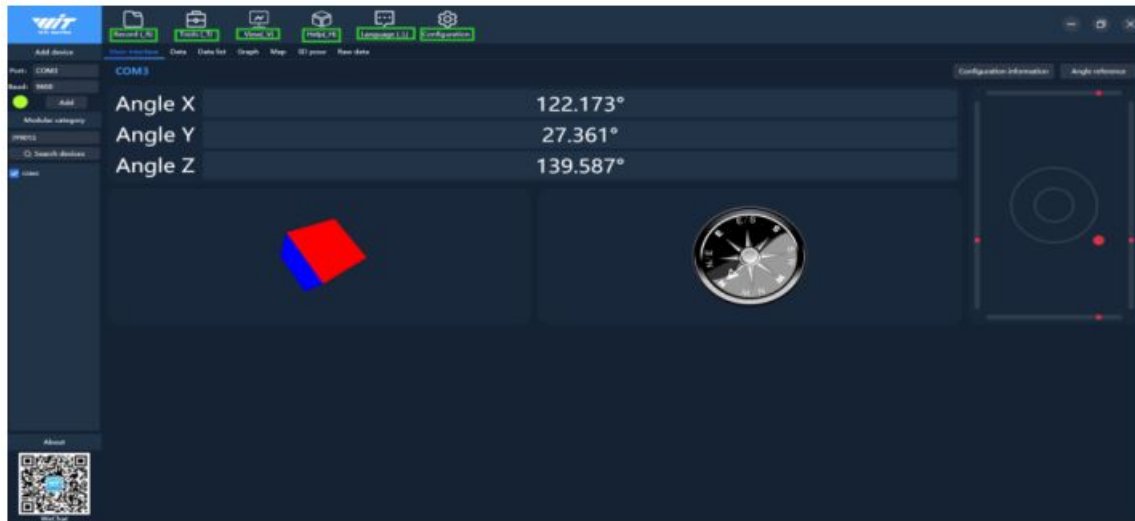
Use Instructions

Hit the hyperlink direct to the document or download center:

- **Software and driver download**
- **Quick-guide Manual**
- **Teaching Video**
- **Common Software with detailed instructions**
- **SDK(sample code)**
- **SDK Tutorial Documentation**
- **Communication Protocol**
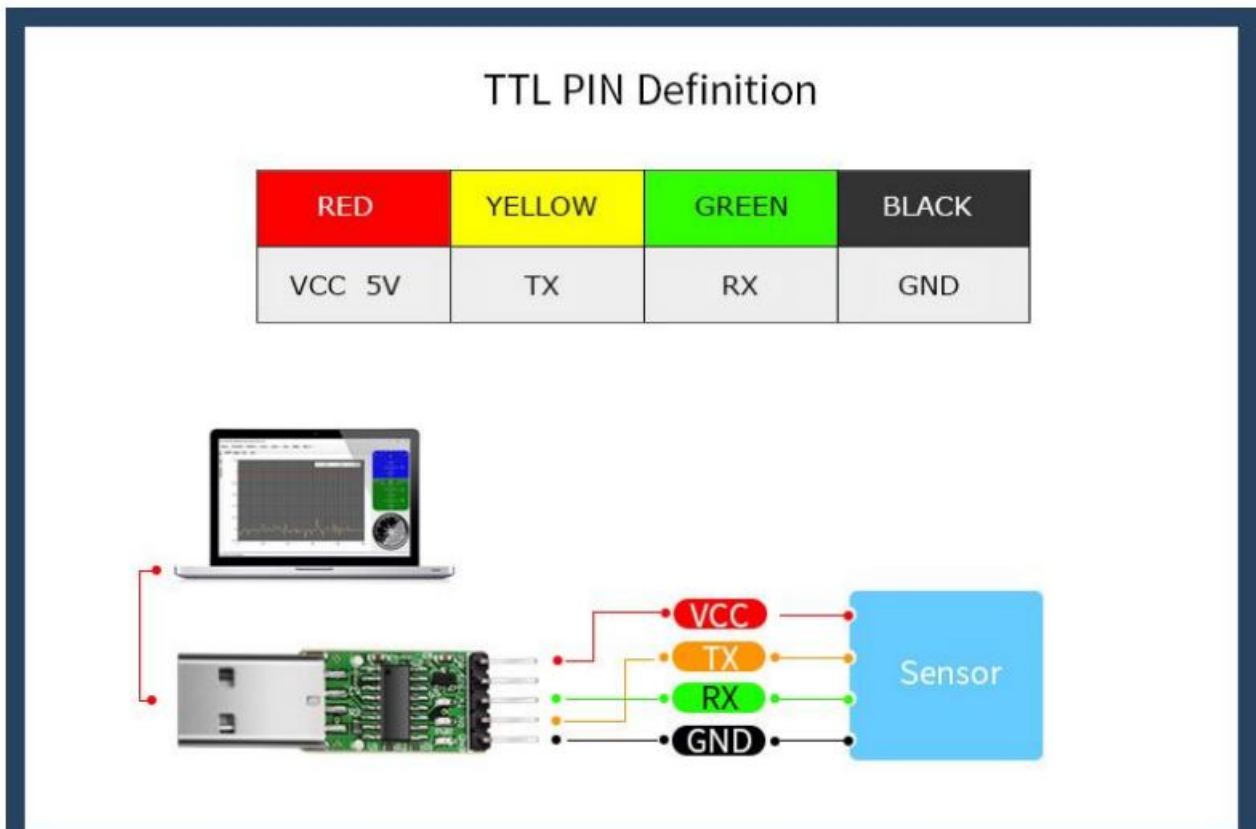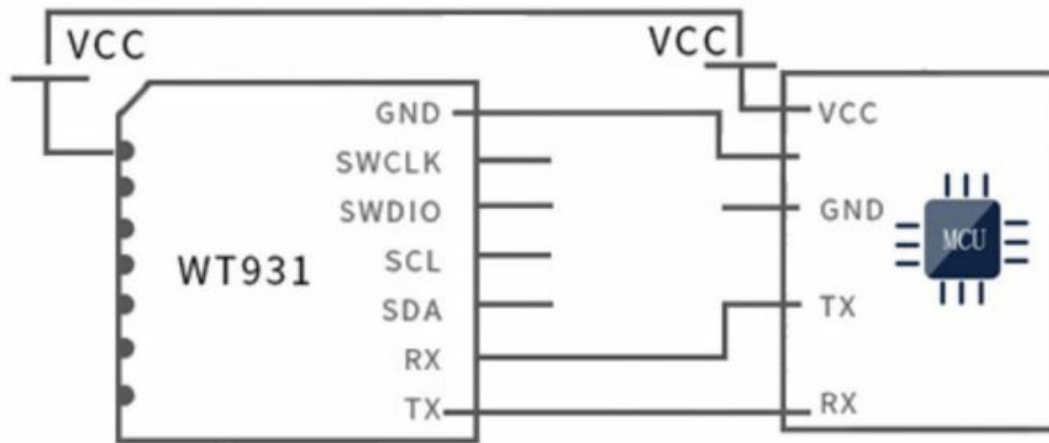
Software Introduction

MCU Connection

Step 1. Need to embed WT931 in evaluation board first and then connect the sensor with a serial converter / Micro-USB cable PIN Connection(serial cable is required):

- VCC: 5V
- TX: RX
- RX: TX
- GND: GND

(When connecting with computer, VCC 5V is recommended.)

- www.wit-motion.com

Documents / Resources

USER MANUAL WT931 Inclinometer Sensor	[**WITMOTION WT931 Inclinometer Sensor**](#) [pdf] User Manual WT931 Inclinometer Sensor, WT931, Inclinometer Sensor, Sensor

References

- 🌐 ___
- ⸭ [**Hukseflux | #1 in solar radiation & heat flux measurement**](#)
- ⦿ [**GitHub - WITMOTION/WitStandardProtocol_JY901:   (c#)**](#)
- 🌐 [**SDK - WITMOTION SDK**](#)
- [**User Manual**](#)