Manuals+ — User Manuals Simplified.

WiT HWT9053 High Precision Accelerometer Angle User Manual

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Contents

Tutorial Link

Google Drive
Link to instructions DEMO:
WITMOTION Youtube Channel
HWT9053 RS485 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 HWT9053 integrates high-precision gyroscopes, accelerometers, and MMC3630 magnetic field sensors. It uses high-performance microprocessors and advanced dynamics calculation and Kalman dynamic filtering algorithms to quickly solve the current real-time motion posture of the module.

HWT9053 offers several advantages over competing sensor:

- The use of advanced digital filtering technology can effectively reduce measurement noise and improve measurement accuracy.
- The module integrates an attitude solver, with the dynamic Kalman filter algorithm, can accurately output the current attitude of the module in a dynamic environment, the attitude measurement accuracy is 0.001° (HWT9052 is 0.01°), the stability is extremely high, and the performance is even better than a certain Some professional inclinometers
- The module has its own voltage stabilization circuit, and the working voltage is 5V~36V.
- Support 485 interface. It is convenient for users to choose the best connection method. The serial port rate is adjustable from 4800bps to 921600bps.
- 4-layer PCB board technology, thinner, smaller and more reliable

Warning Statement

- Putting more than 36 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.
- Do not access the I2C interface.
- For secondary developing project or integration: use WITMOTION with its compiled sample code.

Use Instructions With PC

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
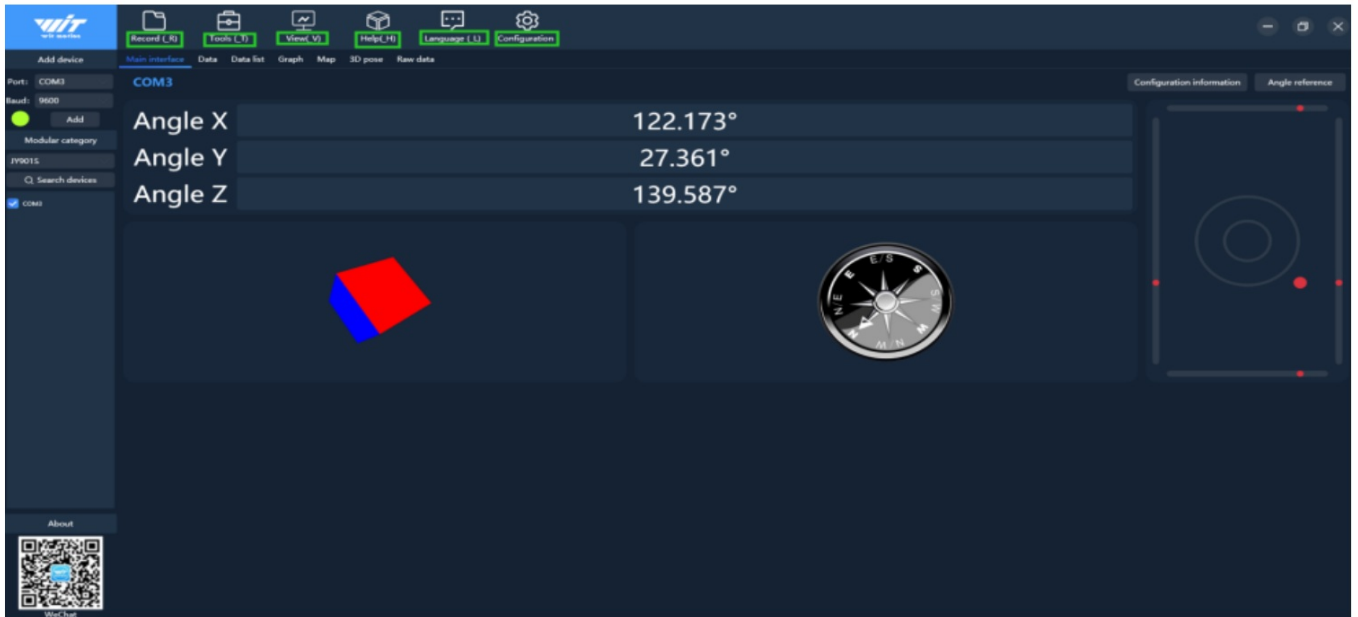
MCU Connection

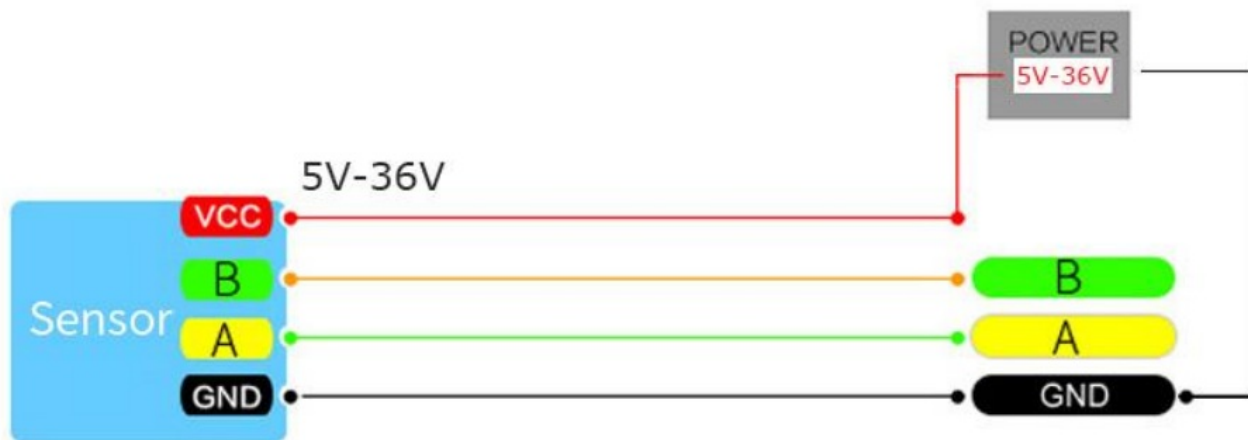**Step 1**. Connect the sensor with a serial converter PIN Connection:
VCC – 5~36V
B – B
A – A
GND – GND

(VCC 5~36V is recommended for connection)

RS485 PIN DEFINITION

RED	YELLOW	GREEN	BLACK
VCC 5V-36V	A	B	GND

Customer Support

Documents / Resources

	WiT HWT9053 High Precision Accelerometer Angle [pdf] User Manual HWT9053 High Precision Accelerometer Angle, HWT9053, High Precision Accelerometer Angle, Precision Accelerometer Angle, Accelerometer Angle, Angle

References

- ∫ **Market leader in solar radiation & heat flux measurement**
- *wit*_____

- ⓞ **[GitHub - WITMOTION/WitStandardModbus_WT901C485](#)**

- ⓦ **[WIT standard Modbus Protocol | WITMOTION SDK](#)**

- **[User Manual](#)**