GY-25 tilt Module Manual V1.0

PInout:
Pin1   VCC   Power + (3v-5v)
Pin 2 RX   Receiving data from serial
Pin 3 TX   Serial data transmission
Pin 4 GND   Power Ground
Pin 5 RST   Internal use, no connection, vacant
Pin 6 B0   Internal use, no connection, vacant
Pin 7 SCL   I2C clock
Pin 8 SDA   I2C data

Facts:

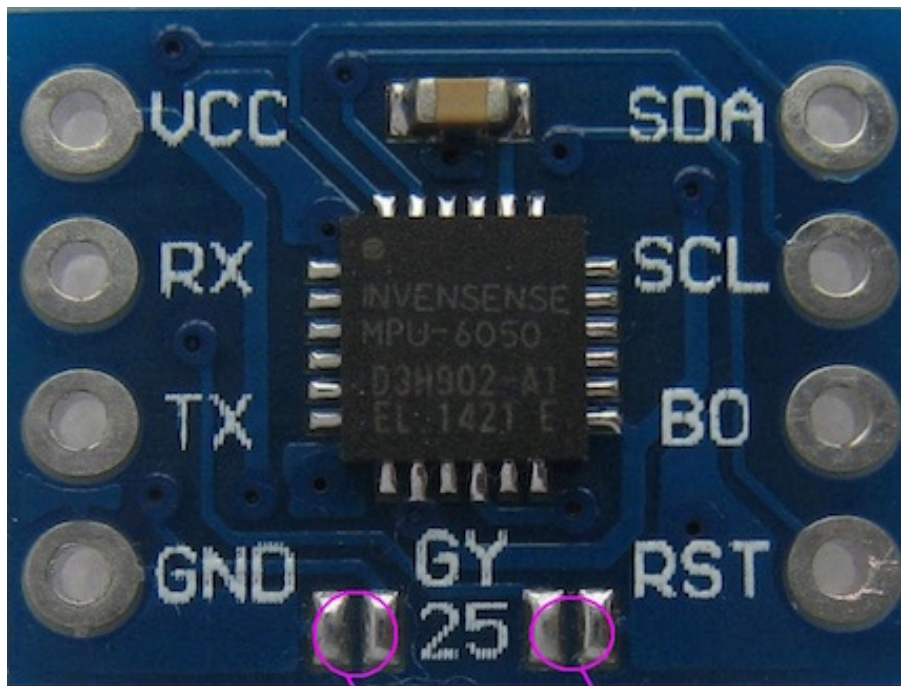|	
Measuring range	-180 ° 1 °
Resolution	0.01 °
measurement accuracy	1
Repeatability	1
Frequency response	100 HZ (115200bps)
Operating Voltage	35 V
Working current	15mA
Operating temperature	-20 ° 8 °
Storage temperature	-40 ° 1 °
size	11.5mm × 15.5mm

Communication protocol:
UART
Baud rate: 115200 bps   Parity bit: N   Data bits: 8   Stop bits: 1 (DEFAULT)
Baud rate: 9600 bps   Parity bit: N   Data bits: 8   Stop bits: 1

Note: The baud rate selection is operated by solder jumper, see below.

ouvert : I2C vers MPU6050
fermé : I2C vers sorties

ouvert : 115200
fermé : 9600

Output format :
each frame contains 8 bytes (hex):
①.Byte0:   0xAA   Preamble Flags
②.Byte1:   0x00-0xFF   HIGH heading high
③.Byte2:   0x00-0xFF   LOW heading lower
④.Byte3:   0x00-0xFF   HIGH pitch angle
⑤.Byte4:   0x00-0xFF   LOW pitch angle
⑥.Byte5:   0x00-0xFF   HIGH roll angle
⑦.Byte6:   0x00-0xFF   LOW roll angle
⑧.Byte7:   0x55   Frame end flag

Calculation method:
Angle = ((HIGH << 8) | LOW) / 100;

Example:
Given the following data [0xAA, 0x00, 0x64, 0x03, 0XE8, 0x27, 0x10, 0x55]
heading angle = 1.00 °
Pitch angle = 10.00 °
Roll Angle = 100.00 °

COMMANDS:

①. 0xA5 + 0x51: query mode, return directly to the angle value, to be sent each read

②. 0xA5 + 0x52: Automatic mode, send a direct return angle, only initialization

③. 0xA5 + 0x53: Automatic mode, ASCII code output, serial port for direct computer assistant View

④. 0xA5 + 0x54: correction mode, the pitch correction roll angle of 0 degrees, need to stay level when sending

⑤. 0xA5 + 0x55: correction mode, 0 degree course correction, heading cleared at any angle

(1), due to self-correction at power up the module must be held in a stationary position for at least 3000ms, hand-held of this module is not recommended

(2), module heading will drift after a while without magnetometer.

(3), due to the angle of the Euler angles universal lock problem, roll, pitch, have an impact on each other at 90 degrees.

(4), The module IOs are 5.0V tolerant, the module can be used with 5.0 and 3.3V system and serial adapters without any risk.