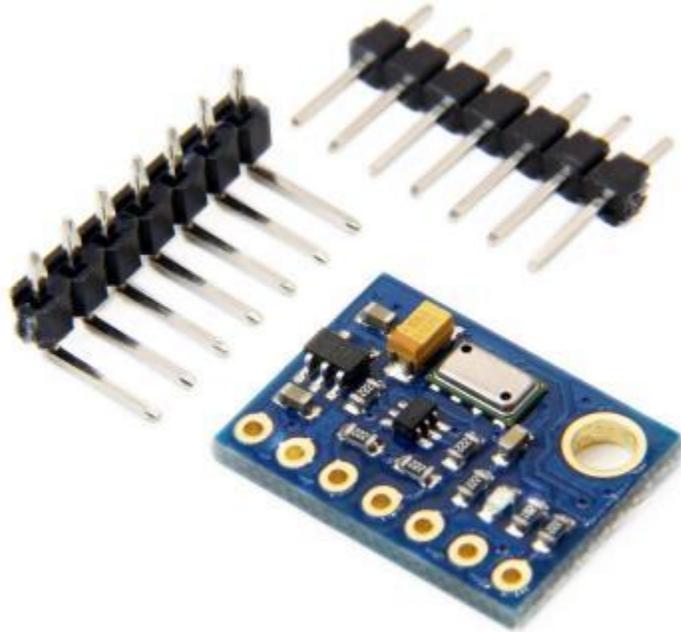


GY-63 Pressure Temperature Sensor Module



DESCRIPTION

The GY-63 MS5611 is a high performance pressure and temperature sensor module with I2C and SPI interface.

PACKAGE INCLUDES:

- GY-63 Pressure Temperature Sensor Module
- 7-pin male header straight
- 7-pin male header right-angle

KEY FEATURES OF GY-63 PRESSURE TEMPERATURE SENSOR MODULE:

- Temperature: -40 to 85°C
- Pressure: 10 to 1200 mb
- Altitude resolution: 10cm
- Fast conversion as short as 1ms
- I2C and SPI Interface
- 5V operation

Using the I2C Interface

The I2C interface is the most used interface as it only requires two pins on the MCU.

The **PS** (Protocol Select) pin determines which bus to use. A logic HIGH selects the I2C bus. A 1K pull-up resistor on the module pulls this pin HIGH and so the I2C bus is selected by default unless this pin is grounded.

The module supports two different I2C addresses, either 0x77 or 0x76 which allows up to 2 sensors to be used on the same bus. If the **CSB** pin is grounded, the address is 0x77. If it is connected to VCC the address is 0x76 (inverse logic). The CSB pin has a 2.2K pull-down resistor on the module so 0x77 is the default address if the CSB pin is not connected. Connect the CSB to Vcc to select 0x76 instead or if two sensors are used on the same I2C bus.

The **SCL** and **SDA** pins connect to the SCL and SDA pins on the MCU.

If more than 2 sensors are needed, then the SPI bus can be used.

Using the SPI Interface

To enable the SPI interface, connect **PS** to ground.

The other connections are:

- Connect **SCL** pin to the SPI SCK on MCU
- Connect **SDA** pin to SPI SDI on MCU
- Connect **SDO** pin to SPI SDO on MCU

Note that logic level shifters are included on the module for these lines to make them 5V compatible.

Module Connections

The module brings out the following connections.

1 x 7 Header

- **VCC** = 5V nominal. Connect to 5V output of the MCU
- **GND** = Ground
- **SCL** = Clock (SCL / SCK) for I2C and SPI
- **SDA** = Data (SDA / SDI) for I2C and SPI
- **CSB** = Chip Select. Chip Select for SPI. Address select for I2C
- **SDO** = Data Out (SDO) for SPI
- **PS** = Protocol Select. Default pulled HIGH for I2C. Connect to GND for SPI

Module Assembly

The module ships with the male header strips loose. It includes both a straight and right-angle header for flexibility. The header can be soldered to the top or bottom of the module depending on the planned use or wires can be used to make the connections.

For breadboard use, we put the straight headers on the bottom, though some people prefer to use the right-angle header so that the module stands vertical. Soldering is easiest if the header is inserted into a solderless breadboard to hold it in position during the soldering process.