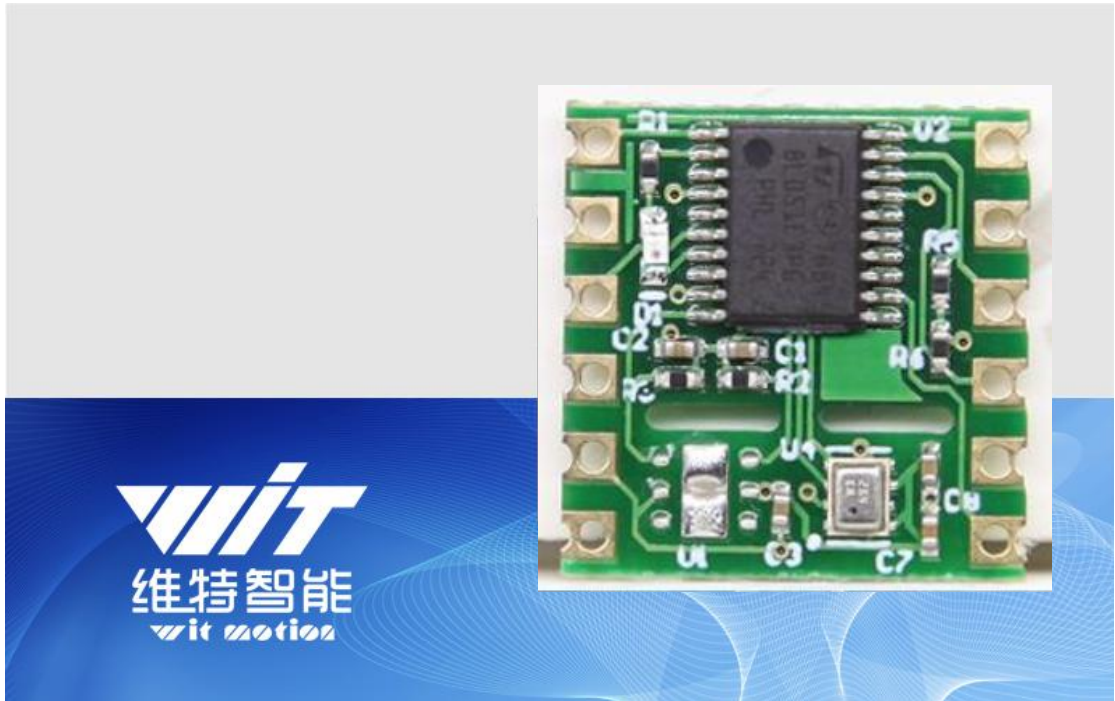


Barometric Height BMP280 Sensor



Model : BMP280

Description : Barometric Height Sensor

Production Standard

Enterprise quality system standard: ISO9001:2016

Tilt switch production standard : GB/T191SJ 20873-2016

Criterion of detection : GB/T191SJ 20873-2016

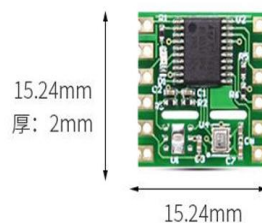
Revision date : 2019.07.26

Catalog

1	Description.....	- 3 -
2	Product parameters.....	- 4 -
3	Product display.....	- 4 -
4	Pin description	- 5 -
5	Connection	- 5 -
5.1	Serial connection	- 5 -
5.2	Connect with PC software.....	- 7 -
6	Communication protocol	- 8 -
6.1	Host computer to module	- 8 -
6.1.1	Set the return rate.....	- 8 -
6.1.2	Height set to 0.....	- 8 -
7	Application area	- 8 -

1 Description

- The BMP280 air pressure sensor is designed for mobile applications. The sensor module is available in a very compact package. Its small size and low power consumption allow for the use of devices such as battery powered mobile phones
- BMP280 proven piezoresistive pressure sensor technology with high accuracy, linearity and long-term stability and robustness. Many device operating options offer flexibility, optimized power consumption, resolution and filter performance. The module has its own voltage stabilization circuit, which is compatible with 3.3V embedded system.
- Advanced digital filtering technology can effectively reduce measurement noise and improve measurement accuracy
- Stamp hole gold plating PCB design, can be embedded in the user's PCB board.

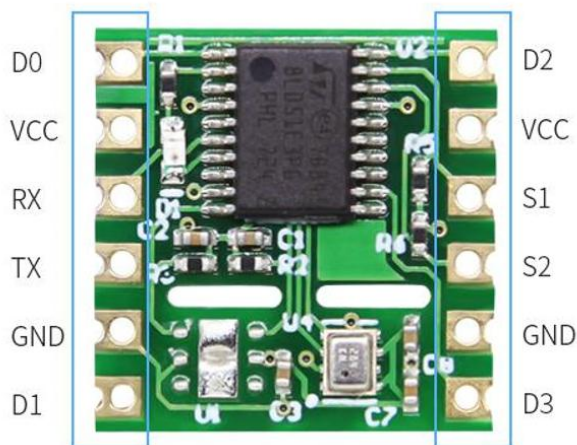


尺寸	15.24mmX15.24mm X 2mm
重量	0.8g

2 Product parameters

- 1) Voltage: 2.1~3.3V
- 2) Current: 0.21mA (10Hz 3.3v)
1.0 mA (0.1Hz 3.3v)
- 3) Size : 15.24mmx 15.24mm X 2mm
- 4) Pad pitch: up and down100mil (2.54mm), left and right 600mil(15.24mm).
- 5) Output content: Air pressure, altitude
- 6) Baud rate : 115200kps
- 7) Range: air pressure: 300~1100HPa
- 8) Measurement accuracy: Height: 0.1M
- 9) Data interface: serial port (UART/TTL)
- 10) Data format: digital output (ASCII code)
- 11) Return rate: 10 5 2 1 0.5 0.2 0.1HZ Optional

3 Product display



4 Pin description

VCC = Power Supply with 2.1-3.3 V.

RX = Serial Connection Data Input (TTL)

TX = Serial Connection Data Output(TTL)

GND = Ground line

Note: S1 S2 D0 D1 D2 D3 port is meaningless

5 Connection

5.1 Serial connection

Hardware connection :

USB - TTL serial module: Firstly connect the module with the USB - TTL and then connect them to the computer. The ways of connecting module with USB -TTL are:
VCC TX RX GND of the module connected to +5V RX TX GND of the serial module respectively. It is noteworthy that TX and RX need to be crossed--- RX connected to TX, TX connected to RX.

Module 6 in 1 Convert:

<https://www.aliexpress.com/item/Free-shipping-usb-converter-cp2102-usb-ttl-485-232-3-3v-and-5v-output-Six-multifunctional/32607767675.html>



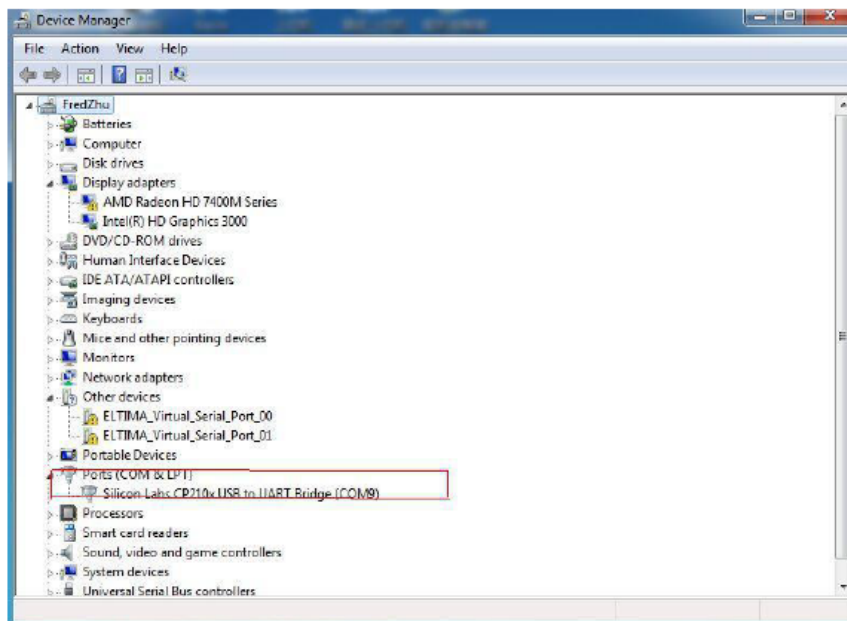
Driver installation:

First, install the driver CP2102 when we used the USB serial module, after installed the driver, then get the corresponding Com number in the device manager. Driver as followed:

https://wiki.wit-motion.com/english/doku.php?id=communication_module

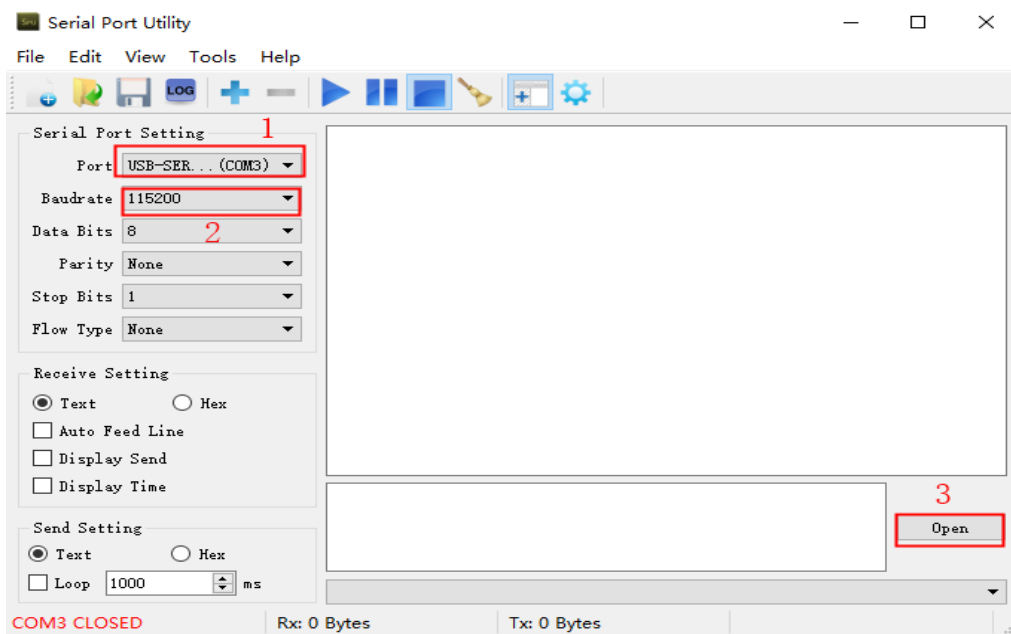
Resource Summary

User Manual and Development Documents : [communication_module document center](#)
Device driver: [serial_port_debugging_assistant](#) [CH340](#) [CP2102](#)

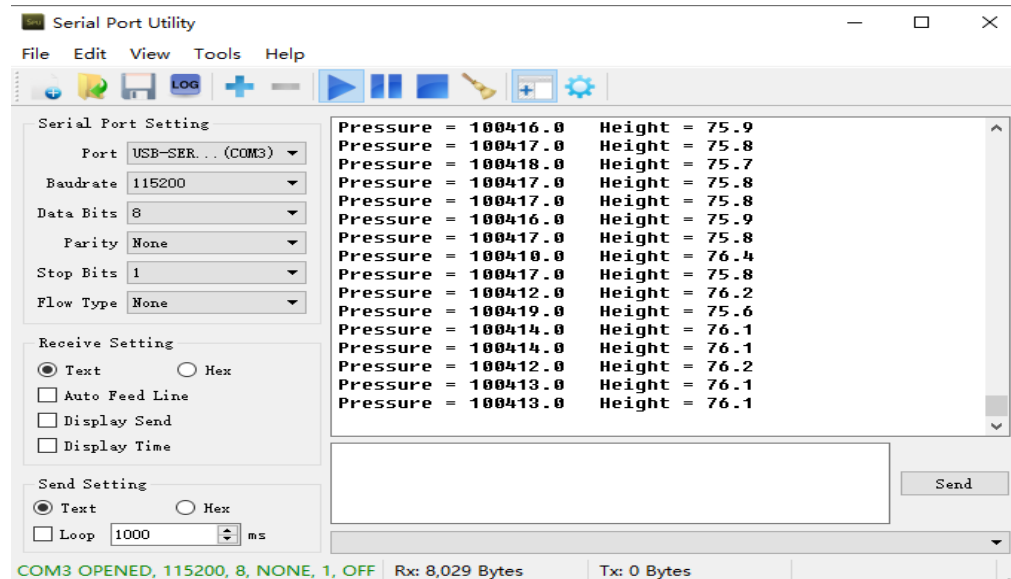


5.2 Connect with PC software

- 1) Open the software "SerialPorUtility.exe" and select the Com number which you have got in the device manager before.
- 2) Choose Baudrate 115200
- 3) Click open



Then the data will show



6 Communication protocol

6.1 Host computer to module

6.1.1 Set the return rate

0xFF	0xAA	0x09	RATE	0x00
------	------	------	------	------

RATE: return rate

0x00: 10Hz

0x01: 5Hz

0x02: 2Hz

0x03: 1Hz (default)

0x04: 0.5Hz

0x05: 0.2Hz

0x06: 0.1Hz

6.1.2 Height set to 0

Height zeroing is the operation of zeroing the height of the module output. The height output of the module is calculated based on the air pressure, and the height is 0. The operation is to calculate the current air pressure value as the zero height position.

0xFF	0xAA	0x0D	0X03	00
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7 Application area

Agricultural machinery



Internet of things



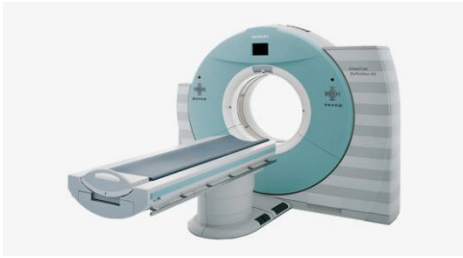
Solar energy



Power monitoring



Medical instruments



Construction machinery



Geological monitoring



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Barometric Height BMP280 Sensor

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- 9 -