HP203B, HP206C　　DEMO Specifications

Function：

1. 7-SEGMENT LCD display.
2. Display pressure, temperature and altitude.
3. Display model.（HP203, HP206）.
4. Altitude has relative altitude and absolute altitude two modes.
5. Key board：RESET, MODE, UNIT,SEL.
6. The USB2.0 connector can use serial port to accept data of sensor.
7. One indicator LED.
8. Use software to power on and power off.（Unit power ON/OFF）.
9. Support pressure sensor HP203B,HP206C,HP206F and TH02 (temperature and humidity sensor module).
10. Four passage sensors, such as CH1,CH2,CH3,CH4. CH1, CH2, CH3 can install HP203 or HP206 and CH4 can install TH02 module only.
11. Relative altitude and absolute altitude display can be set.
12. Timing boot regularly shutdown function. (Auto power switch can't be used in USB module.) 000 means not shutdown.
13. Periodic sampling timer can be set 0 to 30 second（DEFAULT 0 second）.When the timer set in 0 second, the pressure and altitude is average. When the timer set 1 to 30,the pressure and altitude actual value.
14. USB can be used in power on and off. Fixed baud rate is 38.4kbps
15. OSR data can be set. The maximum data is 4096 and the minimum data is 128.The more the OSR data is the High output readout resolution and stability data is. In the meanwhile the ADC can translate longer time.
16. Setup the display of current channel sensor in automatic or fixed scrolling between different channel sensors.
17. CR2032X2PCS .Power-up 6V. Steady state: 3.0V.

Key Board:

1. MODE key: Different function mode.
2. SEL key: Select the passage or select the data in the setting mode.
3. UNIT key: DEMO power switch.
4. RESET key: reset button.

Key Board Function：

[MODE]key：

---In the normal mode, single click then turn into setup mode.

---In the setup mode, single click: ALT(ABS,REL)→AUTO OF(0-30minutes)→CyC(0-30S)→USB（On/OFF）→OSr(128,256,512,1024,2048,4096)→Auto CH(On/OFF)→turn into normal mode.

Mode states refer to the following figure.

[SEL]Key：

---In the normal mode single click choose CH.1,CH.2,CH.3,CH.4.when 'CH' become 'ch'that means passage turn into SOROLL mode. Time is 5 seconds.(This function just used for more than to sensor)

---In the setup mode single click can select date and function.
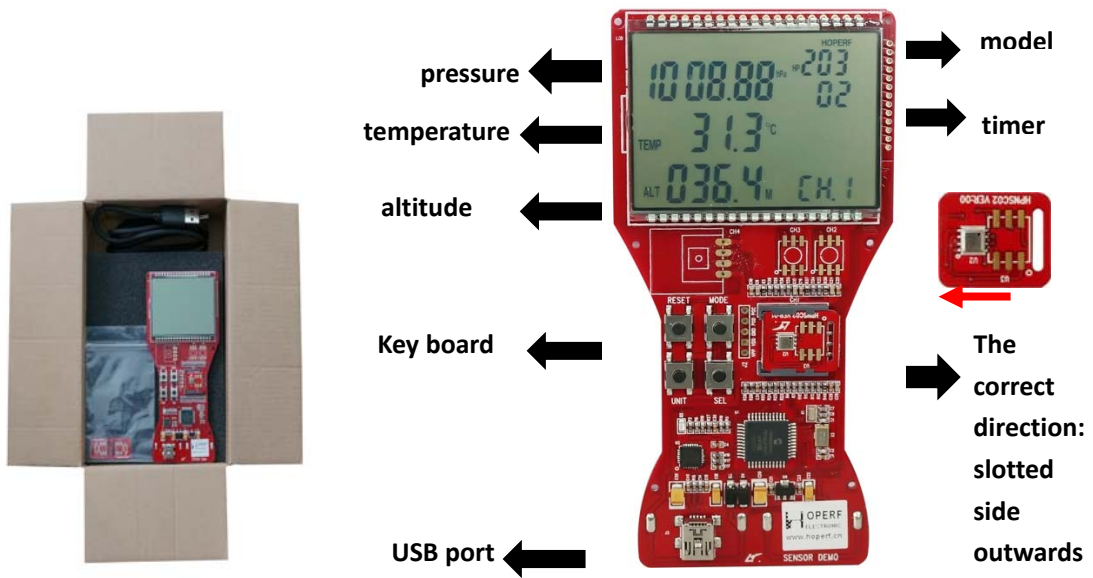
[UNIT]key：

--- Power Switch

Step Mode State

1. ALt(AbS/rEL): Altitude(Absolute/Relative)。
2. Auto OF　000-030: Auto turn off power timer。
3. CyC -- 000-030: Sampling Cycle
4. USB OFF/USB On 38.4kbps: Data output from USB port and set USB to UART Bridge Controller to 38.4kbps.
5. OSr-0128/0256/0512/1024/2048/4096: Over Sampling Rate.
6. Auto CH On/OFF: Change channel or close and open it。

Data State:

1. Data measured from sensor can output by USB port. Use serial tool can receive it. Install USB driver: CP2102 USB to UART Bridge Controller driver.
2. The data is two decimals different from LCD display.
3. While channel valid in the fixed channel display mode, demo just out puts the data of the current channel, if in the all channel scrolling display mode,the demo will output all channels sensor data via the USB port.
4. Sensor won't automatic shutdown in USB mode.However, it can't output data if you turn it off by yourself.
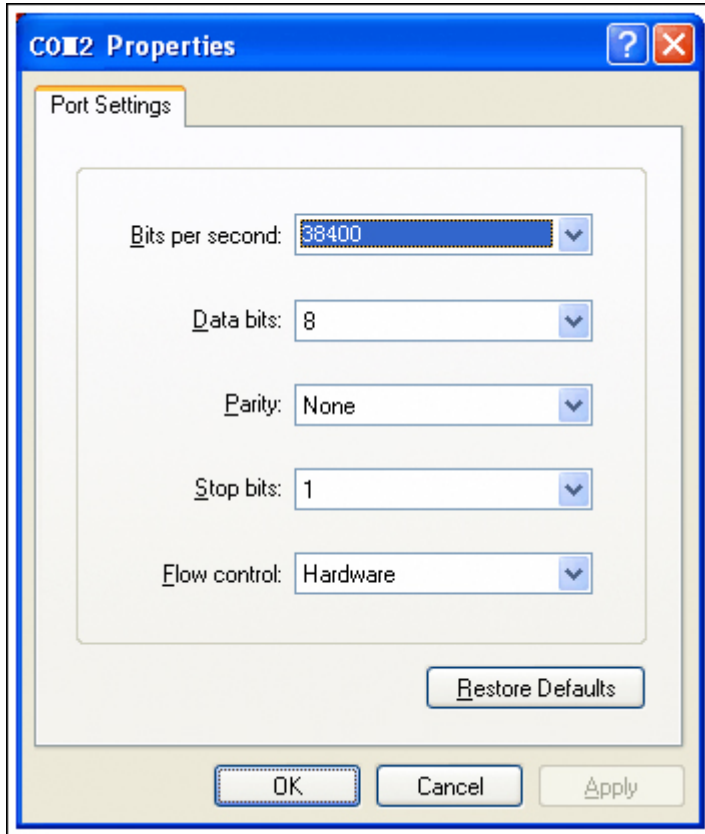
Demo

pressure
temperature
altitude
Key board
USB port

model
timer
The correct direction: slotted side outwards

Save data.

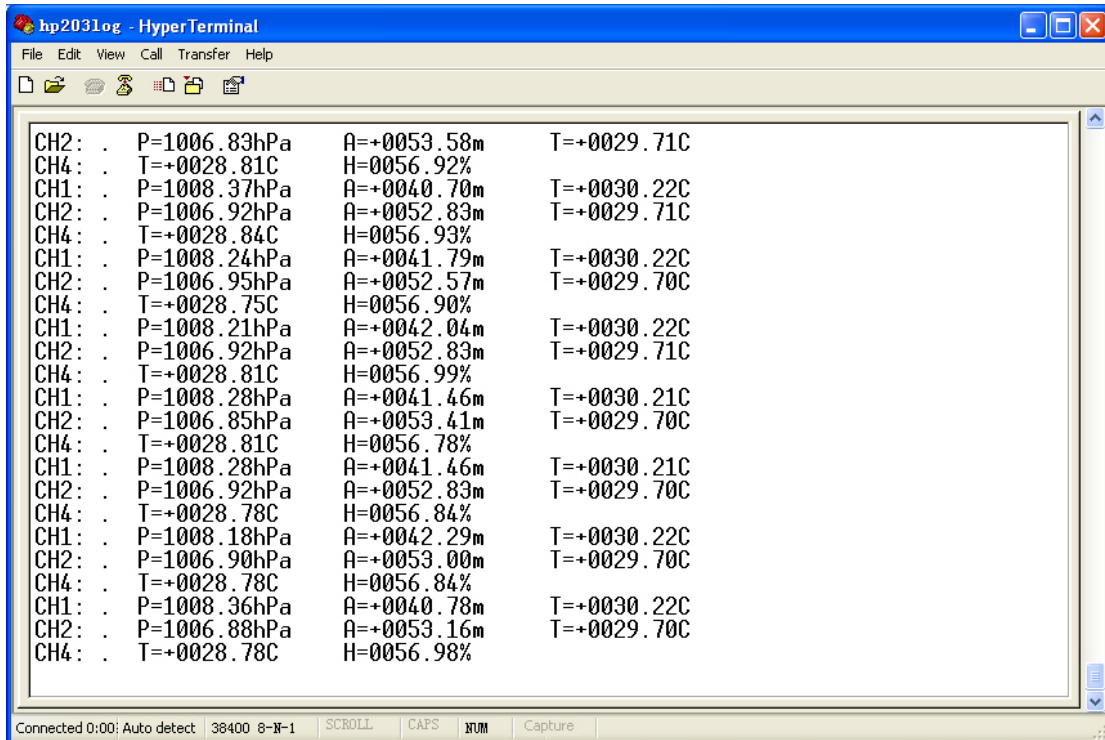Need USB driver: CP2102 USB to UART Bridge Controller driver.

1. Keep demo board USB on.

2. Set your PC: start-program- accessory-communication- hyperterminal
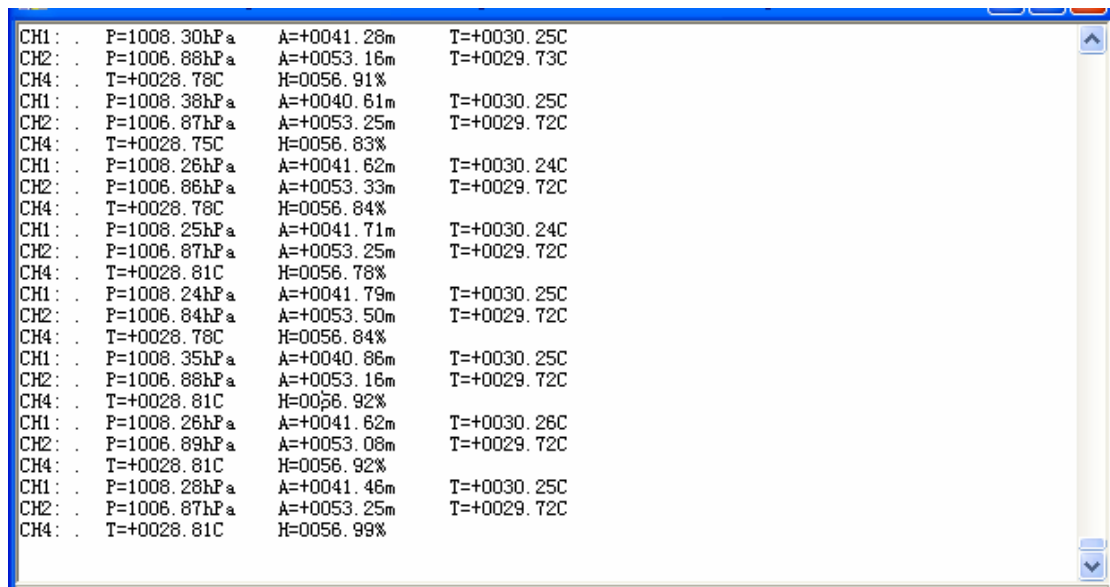
3. Building new connection.

4. Set COM port.

COM2 Properties

Port Settings

Bits per second: 38400

Data bits: 8

Parity: None

Stop bits: 1

Flow control: Hardware

Restore Defaults

OK   Cancel   Apply

5. Automatic data recording.

hp203log - HyperTerminal

File Edit View Call Transfer Help

```
CH2 :  .   P=1006.83hPa    A=+0053.58m     T=+0029.71C
CH4 :  .   T=+0028.81C     H=0056.92%
CH1 :  .   P=1008.37hPa    A=+0040.70m     T=+0030.22C
CH2 :  .   P=1006.92hPa    A=+0052.83m     T=+0029.71C
CH4 :  .   T=+0028.84C     H=0056.93%
CH1 :  .   P=1008.24hPa    A=+0041.79m     T=+0030.22C
CH2 :  .   P=1006.95hPa    A=+0052.57m     T=+0029.70C
CH4 :  .   T=+0028.75C     H=0056.90%
CH1 :  .   P=1008.21hPa    A=+0042.04m     T=+0030.22C
CH2 :  .   P=1006.92hPa    A=+0052.83m     T=+0029.71C
CH4 :  .   T=+0028.81C     H=0056.99%
CH1 :  .   P=1008.28hPa    A=+0041.46m     T=+0030.21C
CH2 :  .   P=1006.85hPa    A=+0053.41m     T=+0029.70C
CH4 :  .   T=+0028.81C     H=0056.78%
CH1 :  .   P=1008.28hPa    A=+0041.46m     T=+0030.21C
CH2 :  .   P=1006.92hPa    A=+0052.83m     T=+0029.70C
CH4 :  .   T=+0028.78C     H=0056.84%
CH1 :  .   P=1008.18hPa    A=+0042.29m     T=+0030.22C
CH2 :  .   P=1006.90hPa    A=+0053.00m     T=+0029.70C
CH4 :  .   T=+0028.78C     H=0056.84%
CH1 :  .   P=1008.36hPa    A=+0040.78m     T=+0030.22C
CH2 :  .   P=1006.88hPa    A=+0053.16m     T=+0029.70C
CH4 :  .   T=+0028.78C     H=0056.98%
```

Connected 0:00: Auto detect   38400 8-N-1   SCROLL   CAPS   NUM   Capture

6.Other serial debugging software can be used .

Data declaration：
Below 4 parts from left to right is passage, air pressure, altitude, temperature.
CH4 is temperature, humidity data.

CH1: .   P=1008.29hPa   A=+0041.36m   T=+0030.24C
CH2: .   P=1006.92hPa   A=+0052.83m   T=+0029.72C
CH4: .   T=+0028.84C   H=0057.54%
CH1: .   P=1008.25hPa   A=+0041.71m   T=+0030.26C
CH2: .   P=1006.90hPa   A=+0053.00m   T=+0029.72C
CH4: .   T=+0028.81C   H=0057.53%
CH1: .   P=1008.35hPa   A=+0040.86m   T=+0030.25C
CH2: .   P=1006.85hPa   A=+0053.41m   T=+0029.72C
CH4: .   T=+0028.81C   H=0057.39%