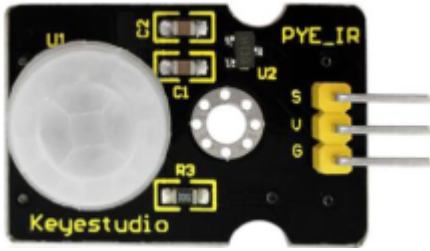# Project 10 Intelligent Fan for Human Body

1. Description

This motion sensor can detect infrared signals from moving objects, and output digital signals. It detects movement of human body and applies to a variety of occasions.
Compared with traditional PIR motion sensors, this module integrates a digital pyroelectric infrared sensor and connecting pins.
It features higher sensibility and reliability, low power consumption and working voltage, light weight, small occupation and simple peripheral circuits.
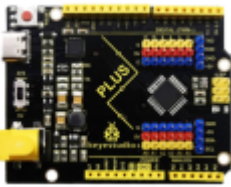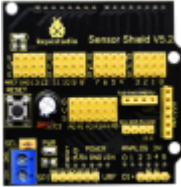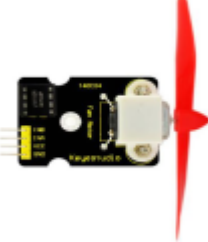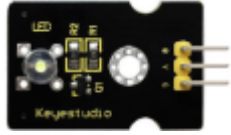
2. Parameters

- Input voltage: DC 3.3 ~ 5 V (Maximum 6V)
- Working current: 15uA
- Working temperature: -20 ~ 85℃
- Output voltage: High level of 3V; low level of 0 V
- Output delay time (high level): About 2.3 to 3 seconds
- Detection angle: About 100°
- Maximum detection distance: About 7m
- Output indicator (it lights on at a high level)
- Pin limit current: 100mA

NOTE
1. The maximum distance is 3-4m during testing.
2. In the test, open the white lens to check rectangular sensing part. When the long line of the sensing part is parallel to the ground, the distance is the best.
3. In the test, covering the sensor with white lens can measure the distance precisely.
4. When temperature exceeds 30℃, the detection distance value will reduce. 25℃ is the best.
5. After powering up and uploading the code, you can start testing after 5-10 seconds, otherwise the sensor detects inaccurately.
6. To avoid misinformation caused by great changes in environmental temperature, this module should avoid direct exposure to sunlight, car headlamps, incandescent lamps, heat sources(such as radiator and heater) as well as air conditioning. It is also susceptible to radio-frequency radiation.

3. Needed Components

PLUS control board*1	Expansion board*1	PIR motion sensor*1	Fan*1
White LED*1	**USB cable*1**	**3Pin F-F Dupont wire*2**	**4Pin F-F Dupont wire*1**

4. Wiring Diagram
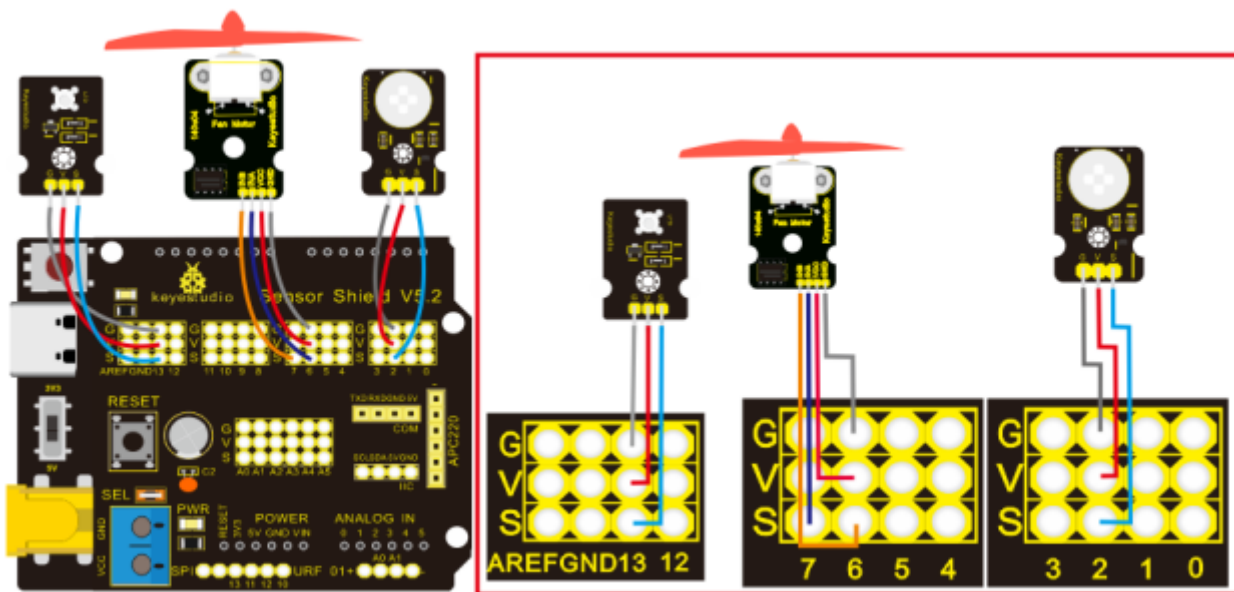
Note: On the expansion board, the G, V and S of PIR motion sensor are connected to G, V and 2; the GND, VCC, INA and INB of fan module are separately linked with G,V,7,6. The pin G, V and S of LED module are linked with G, V and 13.

5. Test Code
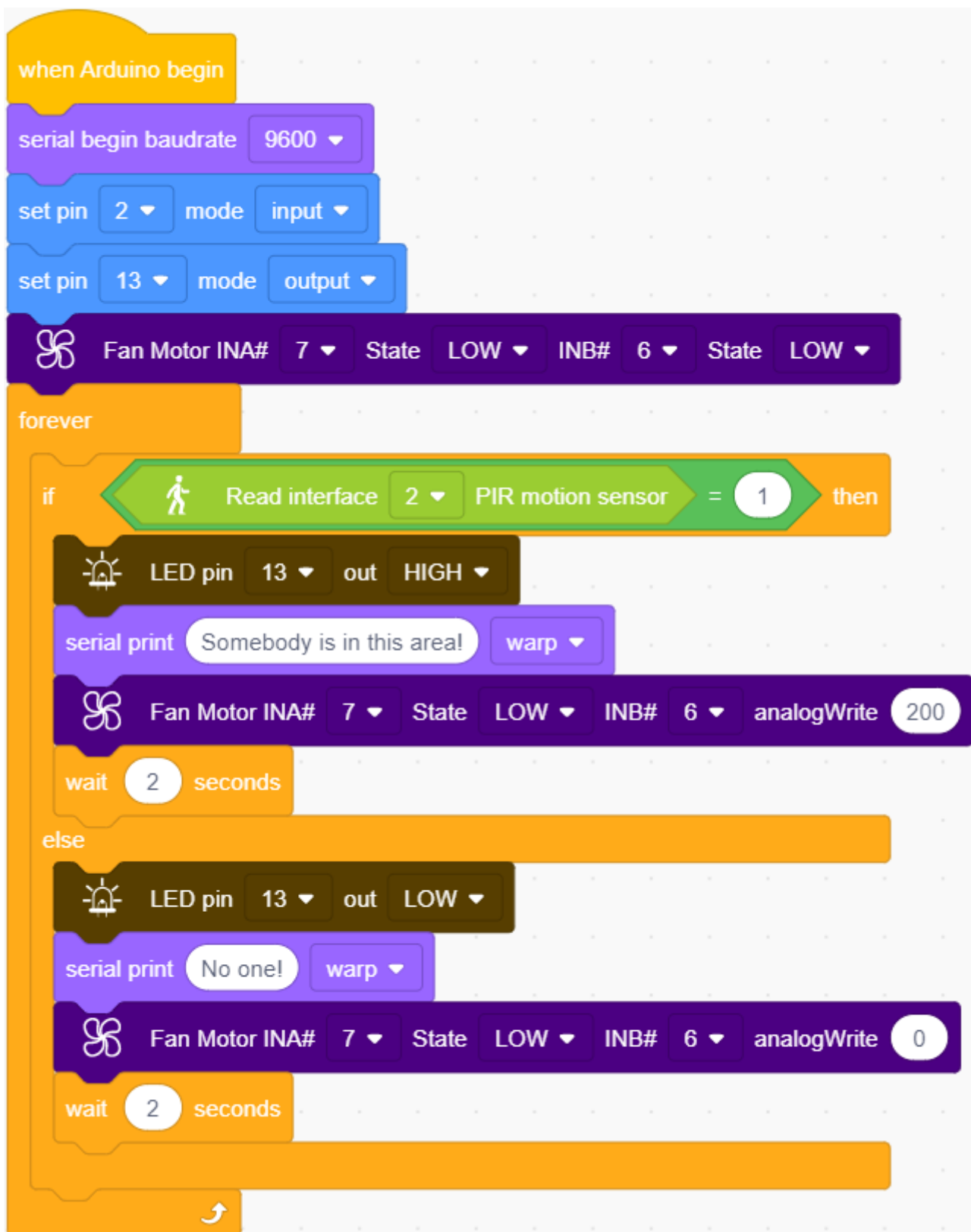
6. Test Result

After uploading code, wire components up and power the board on. Click 🔧 on the serial port to set the baud rate to 9600.

If PIR motion sensor detects someone nearby, LED will light up, the fan will rotate, and the serial port will display "Somebody is in this area!"; If nobody is around, the serial monitor will show "No one!",

LED will be off, and fan will stay still.
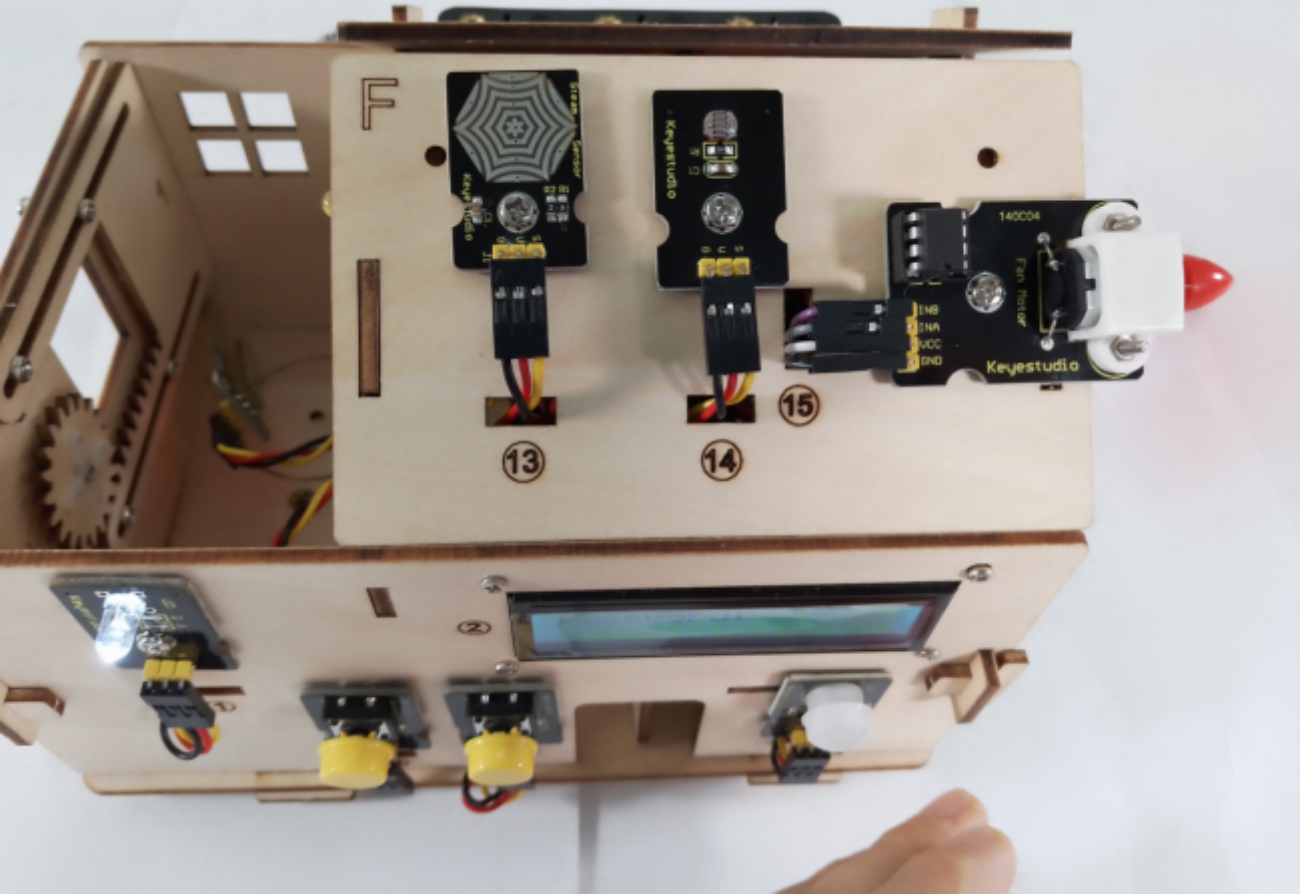
No one!
No one!
Somebody is in this area!
No one!
No one!
Somebody is in this area!
Somebody is in this area!
Somebody is in this area!
Somebody is in this area!
Somebody is in this area!
No one!
No one!
No one!
No one!
No one!
No one!
No one!
No one!
No one!

Buadrate 9600 ▼

End of line LF & CR ▼

Hex form ☐

Auto scroll ✔

Send