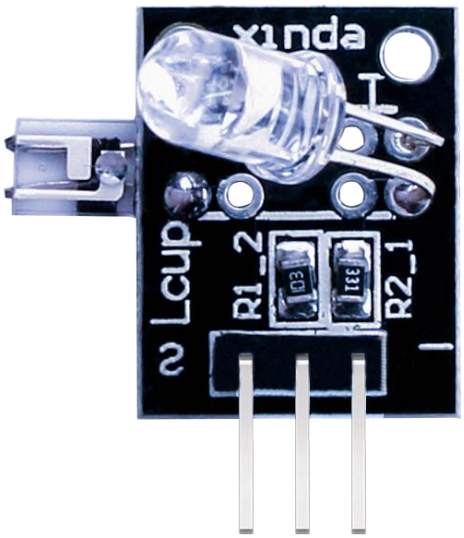
Heartbeat Sensor

DESCRIPTION:

This project uses bright infrared (IR) LED and a phototransistor to detect the pulse of the finger, a red LED flashes with each pulse. Pulse monitor works as follows: The LED is the light side of the finger, and phototransistor on the other side of the finger, phototransistor used to obtain the flux emitted, when the blood pressure pulse by the finger when the resistance of the photo transistor will be slightly changed.



Specification：

- Operation voltage: 5V
- 3 pin
- Size: 24.5*14.5mm
- Weight: 1.634g

PIN CONFIGURATION:

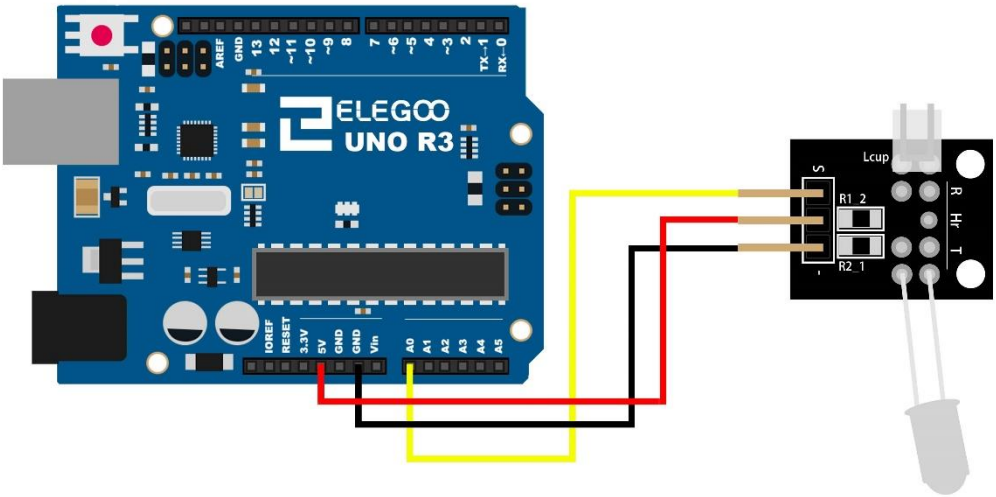
1、 “S”: Signal pin

2、 “+” : +5V

3、 “-” : GND

Example:

In this example, put your finger between the IR LED and the phototransistor, then open the Serial Monitor, you will see the voltage value changing.



Code:

```
int sensorPin = 0;
double alpha = 0.75;
int period = 100;
double change = 0.0;
double minval = 0.0;
void setup ()
{
Serial.begin (9600);
}
```

```
void loop ()
{
static double oldValue = 0;
static double oldChange = 0;
int rawValue = analogRead (sensorPin);
double value = alpha * oldValue + (1 - alpha) * rawValue;
Serial.print (rawValue);
Serial.print (",");
Serial.println (value);
oldValue = value;
delay (period);
}
```

Result: