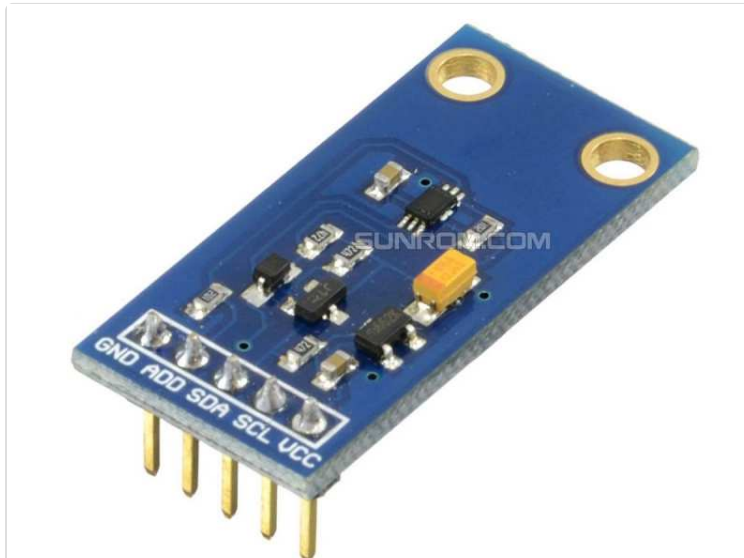


SUNROM ELECTRONICS (<https://www.sunrom.com>)

Digital Light Sensor - BH1750FVI

BH1750 calibrated sensor measures light level in Lux for making accurate light meter by I2C



Product Code 4378

Downloads

BH1750FVI Datasheet
(</get/264367>)

BH1750 @ GITHUB
(<https://github.com/search?q=BH1750>)

Digital Light Sensor - BH1750FVI

Sunrom Product Code for Ordering: **4378**

BH1750FVI is a digital Ambient Light Sensor having I2C interface. This IC is the suitable for obtaining the ambient light data. It is possible to detect wide range at high resolution.

Description:

- Chip: BH1750FVI
- Power Supply: 3.3V - 5V
- Light Range : 0 - 65535 lx(Lux)
- Sensor Built-in: 16 bit AD converter
- Size(L x W): Approx. 3.2cm x 1.5cm
- Direct digital output, bypassing the complex calculation, bypassing the calibration
- Close to the spectral characteristics of visual
- Widely used to 1-lux high precision measurement
- Standard NXP IIC communication

This is a BH1750 light intensity sensor breakout board with a 16 bit AD converter built-in which can directly output a digital signal, there is no need for complicated calculations. This is a more accurate and easier to use version of the simple LDR which only outputs a voltage that needs to be calculated in order to obtain meaningful data. With the BH1750 Light Sensor intensity can be directly measured by the luxmeter, without needing to make calculations. The data which is output by this sensor is directly output in Lux (Lx). When objects which are lighted in homogeneous get the 1 lx luminous flux in one square meter, their light intensity is 1lx. Sometimes to take good advantage of the illuminant, you can add a reflector to the illuminant. So that there will be more luminous flux in some directions and it can increase the illumination of the target surface.

For example:

Night: 0.001--0.02;
moonlight: 0.02--0.3;
cloudy indoor: 5--50;
cloudy outdoor: 50--500;
Sunny indoor: 100--1000;

Arduino Sample Code

```

/*
Sample code for the BH1750 Light sensor

Connection:

VCC-5v
GND-GND
SCL-SCL(analog pin 5)
SDA-SDA(analog pin 4)
ADD-NC
*/

#include <Wire.h> //BH1750 IIC Mode
#include <math.h>
int BH1750address = 0x23; //setting i2c address

byte buff[2];
void setup()
{
    Wire.begin();
    Serial.begin(57600); //init Serial rate
}

void loop()
{
    int i;
    uint16_t val=0;
    BH1750_Init(BH1750address);
    delay(200);

    if(2==BH1750_Read(BH1750address))
    {
        val=((buff[0]<<8)|buff[1])/1.2;
        Serial.print(val,DEC);
        Serial.println("[lx]");
    }
    delay(150);
}

int BH1750_Read(int address) //
{
    int i=0;
    Wire.beginTransmission(address);
    Wire.requestFrom(address, 2);
    while(Wire.available()) //
    {
        buff[i] = Wire.receive(); // receive one byte
        i++;
    }
    Wire.endTransmission();
    return i;
}

void BH1750_Init(int address)
{
    Wire.beginTransmission(address);
    Wire.send(0x10); //1lx resolution 120ms
    Wire.endTransmission();
}

```

