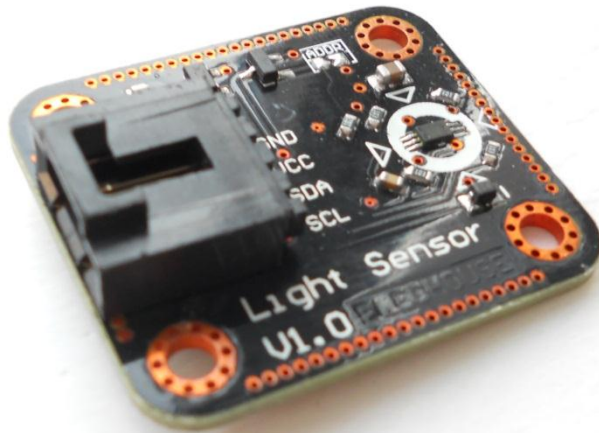


# FH1750FIV Digital Light Sensor Module



## Introduction

This is a BH1750 light intensity sensor module with built-in a 16 bit AD converter generating digital signal. The data from this module is light intensity in lx ([lux meter](#)).

Here are some lx examples:

- Night: 0.001~0.02;
- Moonlight night: 0.02~0.3;
- Cloudy indoor: 5~50;
- Cloudy outdoor: 50~500;
- Sunny indoor: 100~1000;

## Features

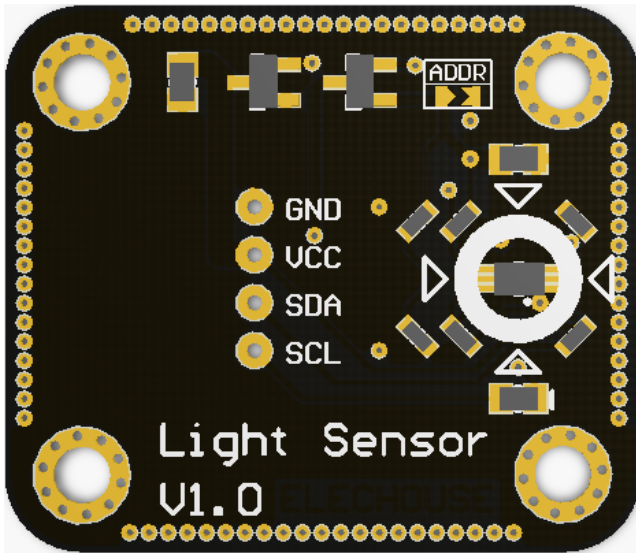
1. Switchable Voltage: 4.5V~6V or 3.3V
2. I2C bus Interface with 2 alternative address (f/s Mode Support)
3. Spectral responsibility is approximately human eye response
4. Wide range and High resolution (1 ~ 65535 lx)
5. 50Hz / 60Hz Light noise reject-function
6. Light source dependency is little. (ex. Incandescent Lamp. Fluorescent Lamp. Halogen Lamp. White LED. Sun Light)
7. Adjustable measurement result for influence of optical window (It is possible to detect min. 0.11 lx, max. 100000 lx by using this function.)
8. The influence of infrared is very small.
9. Small measurement variation (+/- 20%)

## Specification

Operation on this module is pretty easy. We supply sample code. More details will be shown later.

Address of this module can be changed. By default, the address is "0100011". You can connect the solder bridge in the ADDR box as shown below. Then the address becomes "1011100".

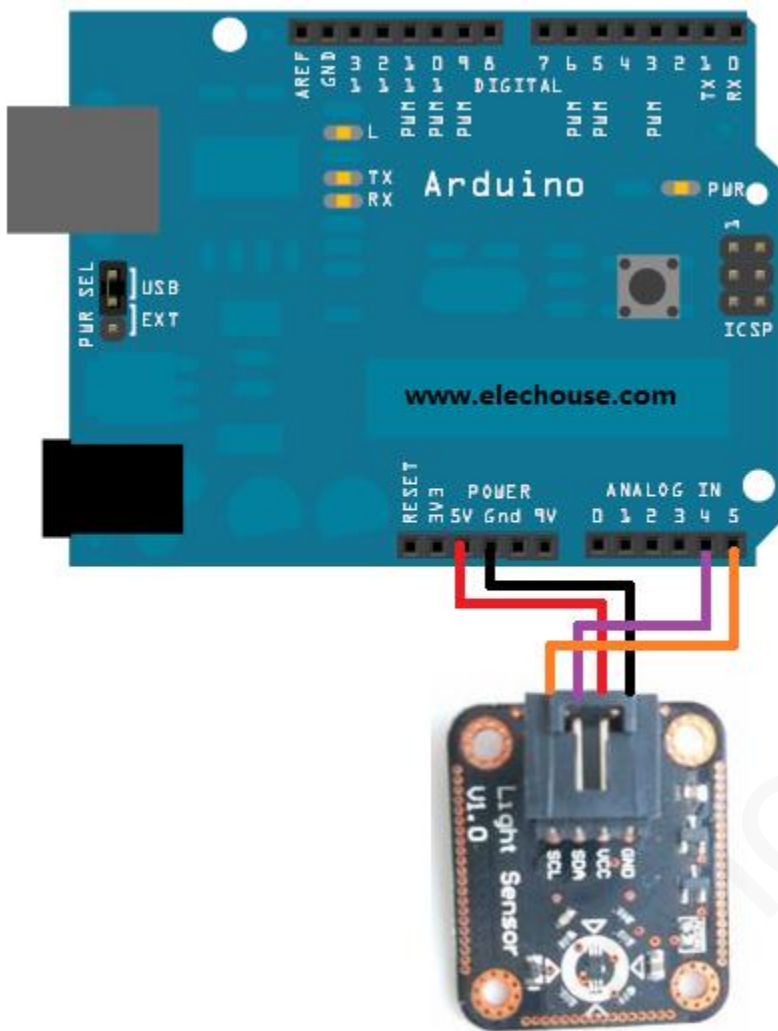
You can also do other configurations. Please refer to the datasheet.



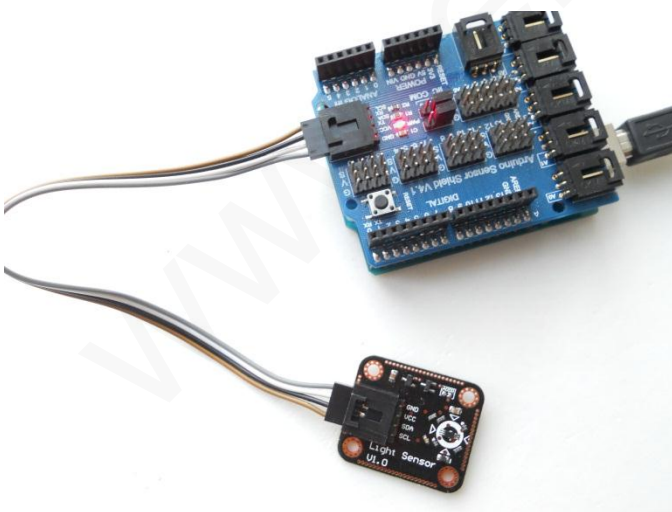
## Hardware Connection

Connect Arduino with this module:

Arduino		Light Sensor Module
5V	<-->	VCC
GND	<-->	GND
A4	<-->	SDA
A5	<-->	SCL



If you have [Arduino Sensor Shield](#), connection becomes much easier:



## Code

This code is for Arduino

```
#include <Wire.h> //IIC
#include <math.h>

int BH1750address = 0x23;
byte buff[2];

void setup()
{
  Wire.begin();
  Serial.begin(9600);
}

void loop()
{
  int i;
  uint16_t val=0;

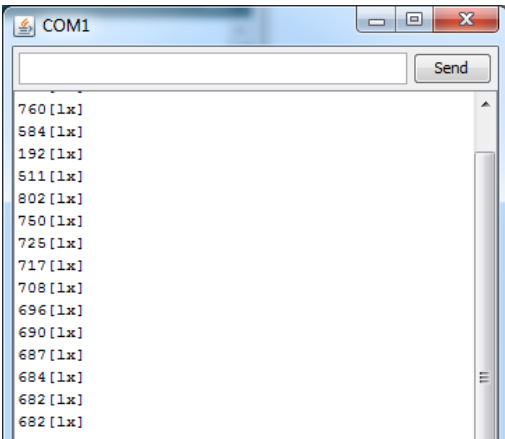
  BH1750_Init(BH1750address);
  delay(200);
  if(2==BH1750_Read(BH1750address))
  {
    val=((buff[0]<<8)|buff[1])/1.2;
    Serial.print(val,DEC);
    Serial.println("[lx]");
  }
  delay(150);
}

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;
}

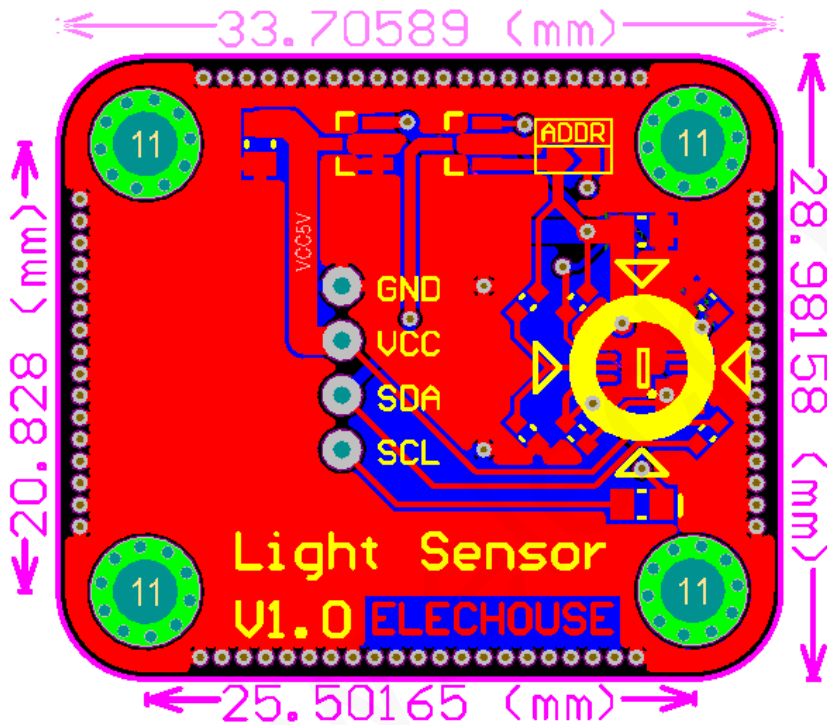
void BH1750_Init(int address)
{
  Wire.beginTransmission(address);
  Wire.send(0x10); //1lx resolution 120ms
  Wire.endTransmission();
}
```

## Result

Upload the code to Arduino and then open the Serial Monitor:



**Dimension**



**Disclaimer and Revisions**

The information in this document may change without notice. Please refer to [www.elehouse.com](http://www.elehouse.com) for information updating.

**Revision History**

Rev.	Date	Author	Description
A	Dec. 5 <sup>th</sup> , 2011	Wilson Shen	Initial version

# Appendix---Schematic

