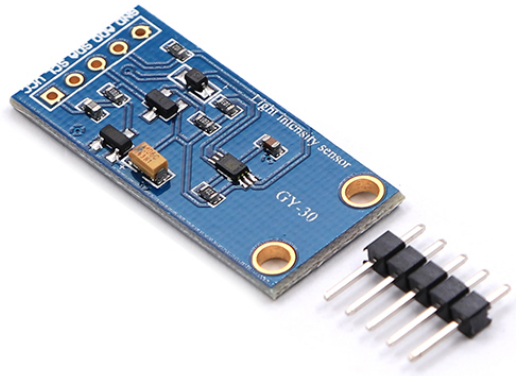
# *Arduino Sensor Light Intensity*
# *User Manual*




## *Introduction:*

The ARDUINO SENSOR LIGHT INTENSITY consists mainly of BH1750 IC. THE BH1750 senses the illuminance of light. What is illuminance? Illuminance is a measure of how much luminous flux is spread over a given area. One can think of luminous flux (measured in lumens) as a measure of the total "amount" of visible light present, and the illuminance as a measure of the intensity of illumination on a surface

Lumen : The unit for the quantity of light flowing from a source in any one second (the luminous power, or luminous flux) is called the lumen.

In our sensor we will take a reading from it in Lux which is equal to one lumen per square meter: Lux = 1 Lm/m2 .

## *Wiring Diagram:*

The module can also be powered by 3.3V.

ADD should be connected to ground to select this device. ADD is the equivalent to not(CS)

Library found in Software

## *Manual installation:*

To install the library, first quit the Arduino application.

Then uncompress the ZIP file containing the library. For example, if you're installing a library called "ArduinoParty", uncompress ArduinoParty.zip. It should contain a folder called ArduinoParty, with files like ArduinoParty.cpp andArduinoParty.h inside. (If the .cpp and .h files aren't in a folder, you'll need to create one. In this case, you'd make a folder called "ArduinoParty" and move into it all the files that were in the ZIP file, like ArduinoParty.cpp and ArduinoParty.h.)

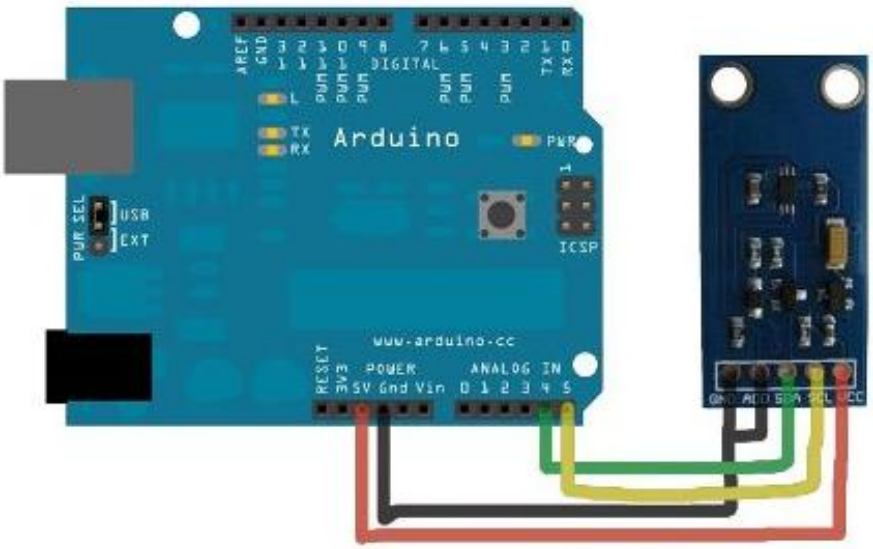
Drag the ArduinoParty folder into this folder (your libraries folder). Under Windows, it will likely be called "My Documents\Arduino\libraries". For Mac users, it will likely be called "Documents/Arduino/libraries". On Linux, it will be the "libraries" folder in your sketchbook.

Your Arduino library folder should now look like this (on Windows):

My Documents\Arduino\libraries\ArduinoParty\ArduinoParty.cpp
My Documents\Arduino\libraries\ArduinoParty\ArduinoParty.h
My Documents\Arduino\libraries\ArduinoParty\examples
....

or like this (on Mac):

Documents/Arduino/libraries/ArduinoParty/ArduinoParty.cpp
Documents/Arduino/libraries/ArduinoParty/ArduinoParty.h
Documents/Arduino/libraries/ArduinoParty/examples
...




or similarly for Linux.
There may be more files than just the .cpp and .h files, just make sure they're all there.
(The library won't work if you put the .cpp and .h files directly into the libraries folder or if they're nested in an extra folder. For example:
Documents\Arduino\libraries\ArduinoParty.cpp and
Documents\Arduino\libraries\ArduinoParty\ArduinoParty\ArduinoParty.cpp
won't work.)
Restart the Arduino application. Make sure the new library appears in the Sketch->Import Library menu item of the software.

## *Code:*

```
/*
Example of BH1750 library usage.
This example initalises the BH1750 object using the default
high resolution mode and then makes a light level reading every second.
```

## *Connection:*

```
 VCC-5v
 GND-GND
 SCL-SCL(analog pin 5)
 SDA-SDA(analog pin 4)
 ADD-NC or GND
*/
#include <Wire.h>
#include <BH1750.h>
BH1750 lightMeter;
void setup(){
  Serial.begin(9600);
  lightMeter.begin();
  Serial.println("Running...");
}
void loop() {
  uint16_t lux = lightMeter.readLightLevel();
  Serial.print("Light: ");
  Serial.print(lux);
  Serial.println(" lx");
  delay(1000);
}
```

## *Console Output:*

Moving the sensor from the dark to the window gives me the following output:

Light: 99 lx
Light: 99 lx
Light: 101 lx
Light: 101 lx
Light: 101 lx
Light: 99 lx
Light: 46 lx
Light: 1344 lx
Light: 1665 lx
Light: 17 lx
Light: 5 lx
Light: 1485 lx

## *How to open Software:*

- Enter to http://www.ekt2.com/products/productdetails?ProductId=D4B9CEE1-60E6-4DF2-888C-95853E86F7E7
- Press the icon to start the download