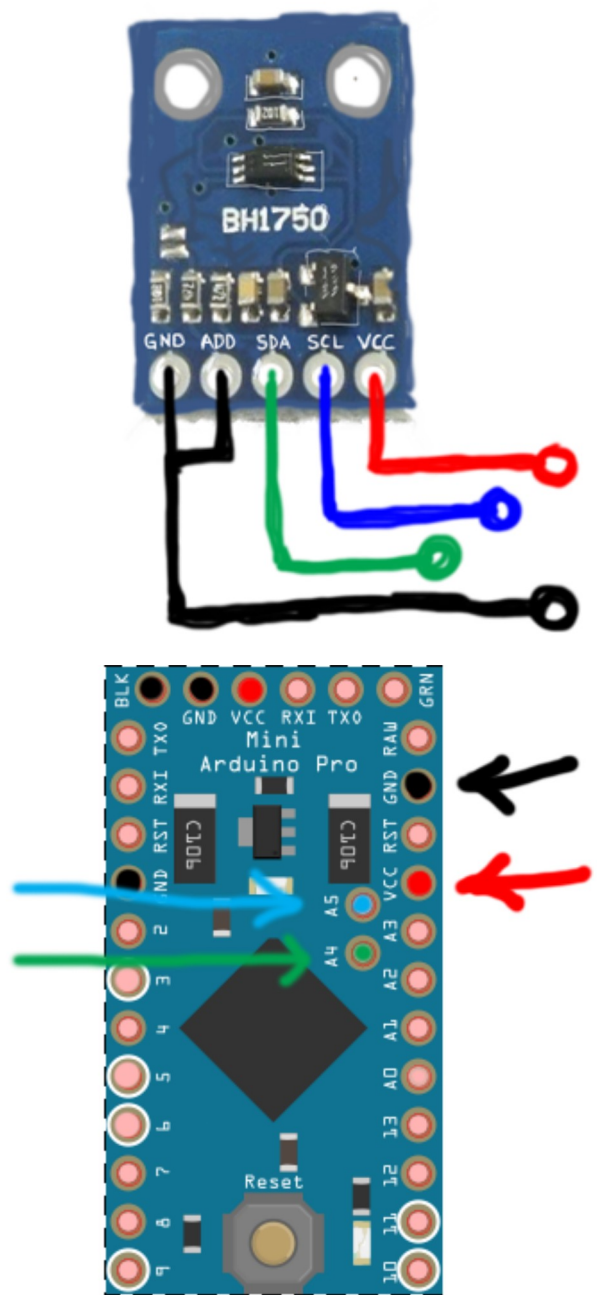# Light Level Sensor - BH1750

written by mfalkvidd

The BH1750 ambient light intensity sensor breakout board has a 16-bit A2D converter built-in that can directly output a digital signal. The output from the sensor is in Lux (Lx) and does not require advanced calculations in the sketch. The BH1750 communicates using I2C Protocol

Wiring Things Up

Start by connecting the radio module.

Sensor	Arduino	Comment
GND	GND	Black
VCC	VCC (3.3-5V)	Red
ADDR	GND	Black
SCL	Analog input 5 (A5)	Blue
SDA	Analog input 4 (A4)	Green

Example

This example uses the external BH1750 library found here. Please install it and restart the Arduino IDE before trying to compile.

 /mysensors/MySensorsArduinoExamples/examples/LightLuxSensor/LightLuxSensor.ino
Last updated by tbowmo, 11 Jul 2016, " "

```
/**
 * The MySensors Arduino library handles the wireless radio link and protocol
 * between your home built sensors/actuators and HA controller of choice.
 * The sensors forms a self healing radio network with optional repeaters. Each
 * repeater and gateway builds a routing tables in EEPROM which keeps track of the
 * network topology allowing messages to be routed to nodes.
 *
 * Created by Henrik Ekblad <henrik.ekblad@mysensors.org>
 * Copyright (C) 2013-2015 Sensnology AB
 * Full contributor list: https://github.com/mysensors/Arduino/graphs/contributors
 *
 * Documentation: http://www.mysensors.org
 * Support Forum: http://forum.mysensors.org
 *
 * This program is free software; you can redistribute it and/or
 * modify it under the terms of the GNU General Public License
 * version 2 as published by the Free Software Foundation.
 *
 *******************************
 *
 * REVISION HISTORY
 * Version 1.0 - idefix
 *
 * DESCRIPTION
 * Arduino BH1750FVI Light sensor
 * communicate using I2C Protocol
 * this library enable 2 slave device addresses
 * Main address  0x23
 * secondary address 0x5C
 * connect the sensor as follows :
 *
 *    VCC  >>> 5V
 *    Gnd  >>> Gnd
 *    ADDR >>> NC or GND
 *    SCL  >>> A5
 *    SDA  >>> A4
 * http://www.mysensors.org/build/light
 */


// Enable debug prints to serial monitor
#define MY_DEBUG

// Enable and select radio type attached
#define MY_RADIO_NRF24
//#define MY_RADIO_RFM69

#include <SPI.h>
#include <MySensors.h>
#include <BH1750.h>
#include <Wire.h>

#define CHILD_ID_LIGHT 0
unsigned long SLEEP_TIME = 30000; // Sleep time between reads (in milliseconds)

BH1750 lightSensor;
```

```
// V_LIGHT_LEVEL should only be used for uncalibrated light level 0-100%.
// If your controller supports the new V_LEVEL variable, use this instead for
// transmitting LUX light level.
MyMessage msg(CHILD_ID_LIGHT, V_LIGHT_LEVEL);
// MyMessage msg(CHILD_ID_LIGHT, V_LEVEL);
uint16_t lastlux;

void setup()
{
  lightSensor.begin();
}

void presentation()  {
  // Send the sketch version information to the gateway and Controller
  sendSketchInfo("Light Lux Sensor", "1.0");

  // Register all sensors to gateway (they will be created as child devices)
```
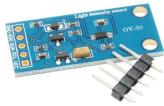
Datasheets

Name	Size	# Downloads
📥 bh1750fvi-e.pdf	545.46 kB	3091

Shopping Guide

	BHI750FVI Digital Light intensity Sensor Module	
	0-65535 lx. I2C interface.	
ebay	128 available - $2.13	🛒 Buy ▸
AliExpress®	Unavailable	🛒 Buy ▸

Related Content

Comments

Dennis van der Wolf commented last year

@checkup Hi, i have done that a few times now. Unfortunately, with the same result.

checkup commented last year

try to flash the "clear eeprom" sketch from the mysensors library and try again with your sketch.

Dennis van der Wolf commented last year

Hi,

I have connected my BH1750 to an Arduino nano as indicated above. After that i uploaded the sketch. I defined a node id 16 and child id 1. Nothing is happend. When i read the log it's says child id 255
debug [pimatic-mysensors]: <- I_LOG_MESSAGE 0;255;3;0;9;TSP:MSG:BC
19:55:26debug [pimatic-mysensors]: <- I_LOG_MESSAGE 0;255;3;0;9;TSP:MSG:READ 16-16-255 s=255,c=3,t=7,pt=0,l=0,sg=0:
19:55:25debug [pimatic-mysensors]: <- I_LOG_MESSAGE 0;255;3;0;9;!TSP:MSG:SEND 0-0-16-16 s=255,c=3,t=8,pt=1,l=1,sg=0,ft=0,st=fail:0
19:55:24debug [pimatic-mysensors]: <- I_LOG_MESSAGE 0;255;3;0;9;TSP:MSG:GWL OK
19:55:24debug [pimatic-mysensors]: <- I_LOG_MESSAGE 0;255;3;0;9;TSP:CHKUPL:OK (FLDCTRL)
19:55:24debug [pimatic-mysensors]: <- I_LOG_MESSAGE 0;255;3;0;9;TSP:MSG:FPAR REQ (sender=16)

I don't know what i did wrong. Anyone an idea?

checkup commented last year

The BH1750FVI IC can handle 4.5V max and the normal operating voltage is 2.4V-3.6V.
So it should be ok to desolder the voltage regulator and drive this thing from the 2xAlkaline or 3xNIMH

mfalkvidd commented last year

@riochicken yup. You're welcome 🙂

riochicken commented last year

@mfalkvidd : Cool! So just combine the sketches and go?!?!?!!?!

Thanks!

mfalkvidd commented last year

@riochicken yes. They both use the i2c bus, which supports multiple devices.

riochicken commented last year

Hi,

Is there a way to combine this sketch and sensor with the Atmospheric Pressure since they both use the same A4 and A5 connections on the Arduino...

Thanks!

รอเรือ commented last year

Another important note... If doing it the way I suggested below, You will need to reconfigure the BH1750FVI before every reading. Something like this will do:

```
lightSensor.configure(BH1750_ONE_TIME_HIGH_RES_MODE);
delay(500); // Allow some time
uint16_t lux = lightSensor.readLightLevel();// Get Lux value
```

Cheers!

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