Current Sensor
BM14270AMUV-EVK-001 Manual

User's Guide

＜High Voltage Safety Precautions＞

◇ Read all safety precautions before use

> Please note that this document covers only the BM14270AMUV evaluation board (BM14270AMUV-EVK-001) and its functions. For additional information, please refer to the datasheet.

To ensure safe operation, please carefully read all precautions before handling the evaluation board

Depending on the configuration of the board and voltages used,

Potentially lethal voltages may be generated.

Therefore, please make sure to read and observe all safety precautions described in the red box below.

Before Use
[1] Verify that the parts/components are not damaged or missing (i.e. due to the drops).
[2] Check that there are no conductive foreign objects on the board.
[3] Be careful when performing soldering on the module and/or evaluation board to ensure that solder splash does not occur.
[4] Check that there is no condensation or water droplets on the circuit board.

During Use
[5] Be careful to not allow conductive objects to come into contact with the board.
[6] **Brief accidental contact or even bringing your hand close to the board may result in discharge and lead to severe injury or death.**
Therefore, DO NOT touch the board with your bare hands or bring them too close to the board.
In addition, as mentioned above please exercise extreme caution when using conductive tools such as tweezers and screwdrivers.
[7] If used under conditions beyond its rated voltage, it may cause defects such as short-circuit or, depending on the circumstances, explosion or other permanent damages.
[8] Be sure to wear insulated gloves when handling is required during operation.

After Use
[9] The ROHM Evaluation Board contains the circuits which store the high voltage. Since it stores the charges even after the connected power circuits are cut, please discharge the electricity after using it, and please deal with it after confirming such electric discharge.
[10] Protect against electric shocks by wearing insulated gloves when handling.

This evaluation board is intended for use only in research and development facilities and should by handled **only by qualified personnel familiar with all safety and operating procedures.**
We recommend carrying out operation in a safe environment that includes the use of high voltage signage at all entrances, safety interlocks, and protective glasses.

Current Sensor

BM14270AMUV-EVK-001 Manual

BM14270AMUV-EVK-001 is an evaluation board for BM14270AMUV, which is a ROHM Current Sensor. This User's Guide is about how to use BM14270AMUV-EVK-001 together with SensorShield that is sold as Shield-EVK-001.

Preparation

- Arduino Uno   1pc
- Personal Computer installed Arduino IDE   1pc
  - Requirement : Arduino 1.6.7 or higher
  - Please use Arduino IDE which can be downloaded from the link below: http://www.arduino.cc/
- USB cable for connecting Arduino and PC   1pc
- SensorShield   1pc
- BM14270AMUV-EVK-001   1pc

Setting

1. Connect the Arduino and the SensorShield (Figure 1)
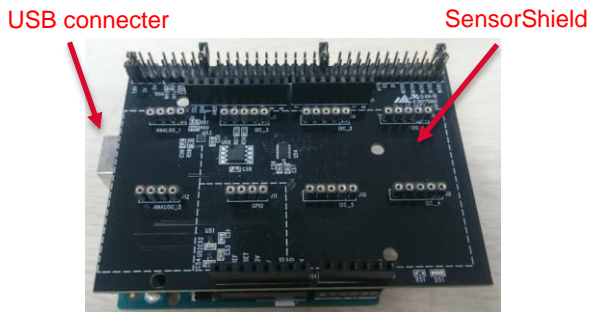
USB connecter   SensorShield

Figure 1. Connection between the Arduino and the SensorShield

2. Connect BM14270AMUV-EVK-001 to the socket of I2C area on the SensorShield (Figure 2)
3. Set Voltage of the SensorShield to 3.0V (Figure 2)
4. Set Interrupt pin to INTR1 (Figure 2)

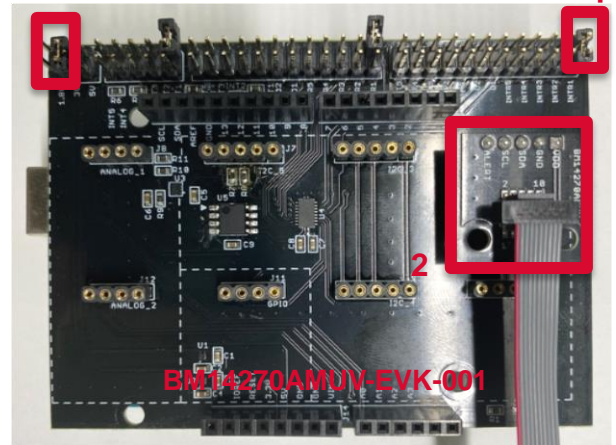**3 Voltage setting pin**   **4 Interrupt pin**

Figure 2. Connection between BM14270AMUV-EVK-001 and the SensorShield

5. Connect the Arduino to the PC using a USB cable
6. Download BM14270AMUV.zip from the link below: http://www.rohm.com/web/global/sensor-shield-support (Software is subject to change without no notice.)
7. Launch Arduino IDE
8. Select [Sketch]->[Include Library]->[Add.ZIP library...], install BM14270AMUV.zip
9. Select [File]->[Examples]->[BM14270AMUV]->[example]-> [BM14270AMUV]

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Measurement

1. Select [Tools] and check the contents enclosed in the red frame. (Figure 3) Board should be "Arduino/Genuino Uno" and Port should be COMxx (Arduino/Genuino Uno). COM port number is different in each environment.
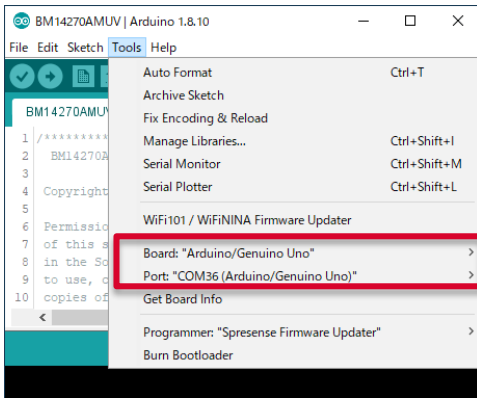

Figure 3. Board and COM Port setting

2. Write the program by pressing right arrow button for upload (Figure 4)

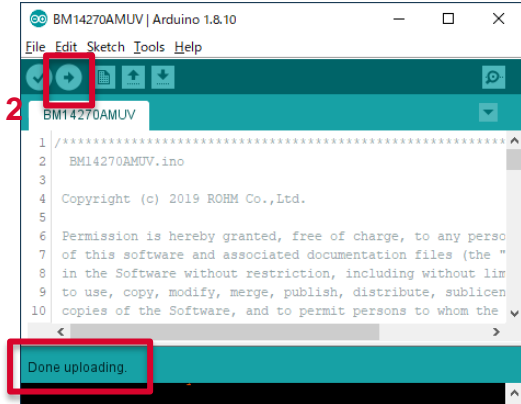3. Wait for the message "Done uploading" (Figure 4)

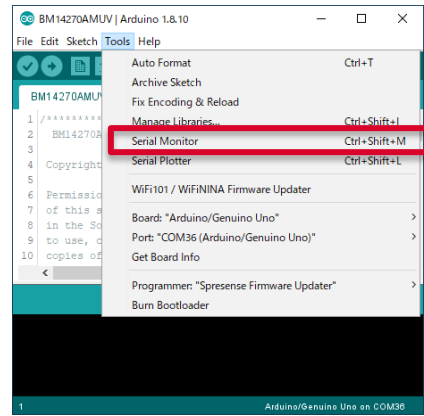Figure 4. Uploading

4. Select [Tools]->[Serial Monitor] (Figure 5)

Figure 5. Tools Setting

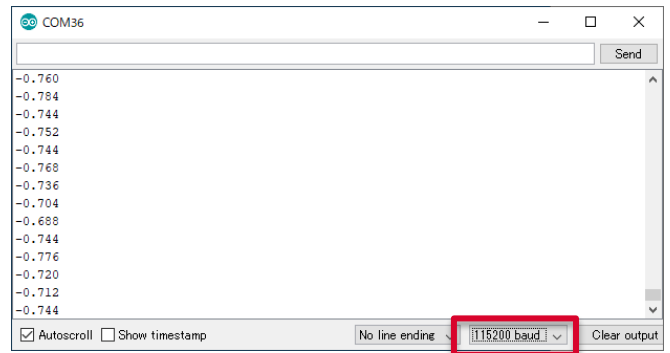5. Set baudrate to 115200 and check log of Serial Monitor (Figure 6)

Figure 6. Serial Monitor
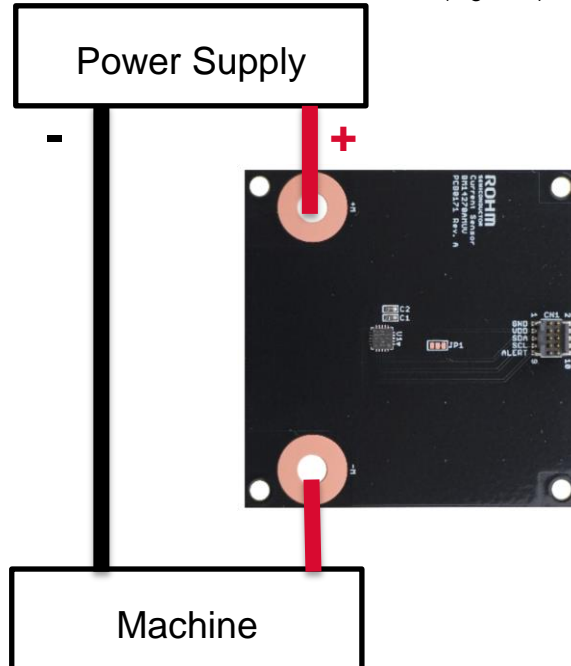
6. Set the board between current line (Figure 7)

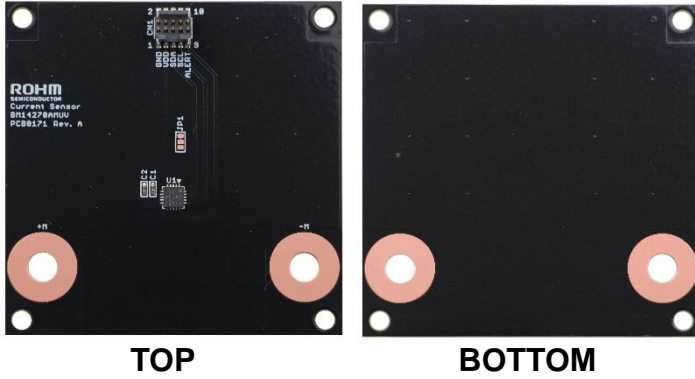Figure 7. Connection board example

Board Information
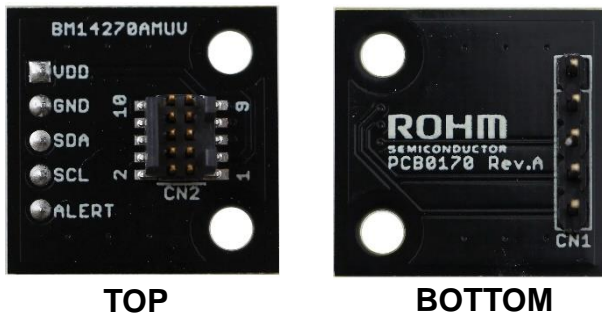

TOP　　　　　　　　　　**BOTTOM**

Figure 8. Picture of the current sensor board

TOP　　　　　　　　　　**BOTTOM**

Figure 9. Picture of the current sensor board

Parts number	Function
C1	Bypass capacitor for VDD (0.22uF)
C2	Bypass capacitor for VREG (0.22)
A2	PAD to change slave address : Default = L (GND)

Table 1. The current sensor board parts information