Sensor Evaluation Board
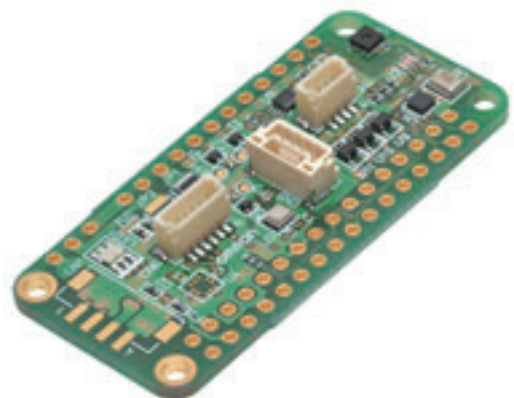
2JCIE-EV01-FT1

User's Manual

Sensor Evaluation Board

Safety Precautions

Be sure to read the data sheet, and use only if you agree to the contents.

Contents

1. Overview

This manual explains how to use the Feather (*1) compatible OMRON Sensor Evaluation Board (2JCIE-EV01-FT1), including special notes and other information. This Sensor Evaluation Board provides 6 sensing functions (temperature, humidity, barometric pressure, illumination, sound, acceleration). This manual explains how to acquire these sensing data.

To connect a sensor other than the 6 types of sensors provided on the Sensor Evaluation Board, check GitHub. For details on the provided sensor types, connector layout, and other specifications, see the data sheet for this product.

2. Items required

☐   Sensor Evaluation Board (2JCIE-EV01-FT1)   x1
☐   Feather (*1)   x1
☐   USB cable (to connect Feather to your PC)   x1
☐   PC with Arduino IDE (*2) installed   x1

(*1) Usable Feather types
✓   HUZZAH32

(*2)
Arduino IDE can be downloaded for free from the official Arduino website.

---

3. Sensor board setup
3-1 Checking Sensor Evaluation Board Components
Make sure the following components are included with the Sensor Evaluation Board.
☐   Sensor Evaluation Board   x1
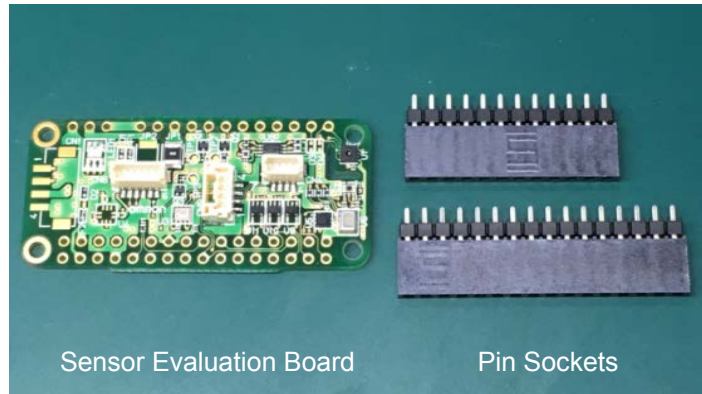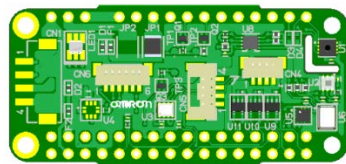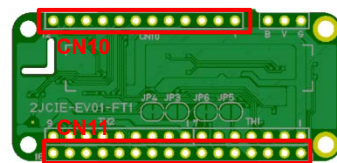☐   Pin sockets   x2

Fig. 1 Sensor Evaluation Board Components

3-2 Soldering
1) From the back of the Sensor Evaluation Board, insert the provided pin socket into the through-holes (CN10, CN11).
   Insert the pin socket firmly into the through-hole in the Sensor Evaluation Board so that the pin socket does not shift out of position.

Sensor Evaluation Board / front   Sensor Evaluation Board / back
Fig. 2 Appearance of Sensor Evaluation Board

Note:
This side with the printed OMRON logo is the front side.
If soldering fails and you need to purchase a pin socket, purchase a pin socket with a pitch of 2.54 mm.
Recommended pin socket: SAMTEC / ESQ-112-12-L-S , ESQ-116-12-L-S

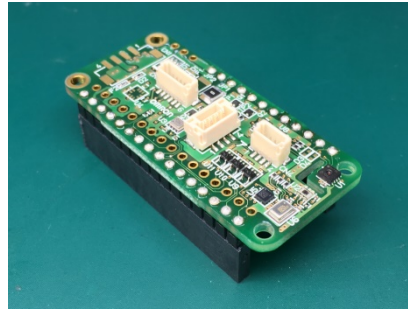2) Solder all pins from the front side of the Sensor Evaluation Board to secure them. (28 pins)

Fig. 3 Soldering the Pin Socket

Note:
Take care not to burn yourself when soldering.
Take care not to inhale smoke when soldering.

3-3 Connecting the Sensor Evaluation Board to Feather

Insert the pin header on the Feather into the pin socket on the Sensor Evaluation Board. The Sensor Evaluation Board is on top and Feather is on the bottom.
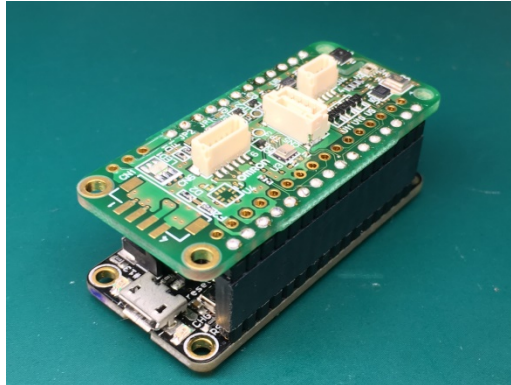

Fig. 4 Connection to Feather

Note:
The temperature sensor on the Sensor Evaluation Board may output a high value due to heat from the Feather unit. To eliminate this effect, either connect with a cable to separate the two, or use an externally connected temperature/humidity sensor.

3-4 Connecting Feather to your PC

Connect the USB port on Feather to a USB port on your PC with a USB (A - micro B) cable.

4. Downloading the Sample Program
Access GitHub at the URL below, download the zip file, and save it in any folder.

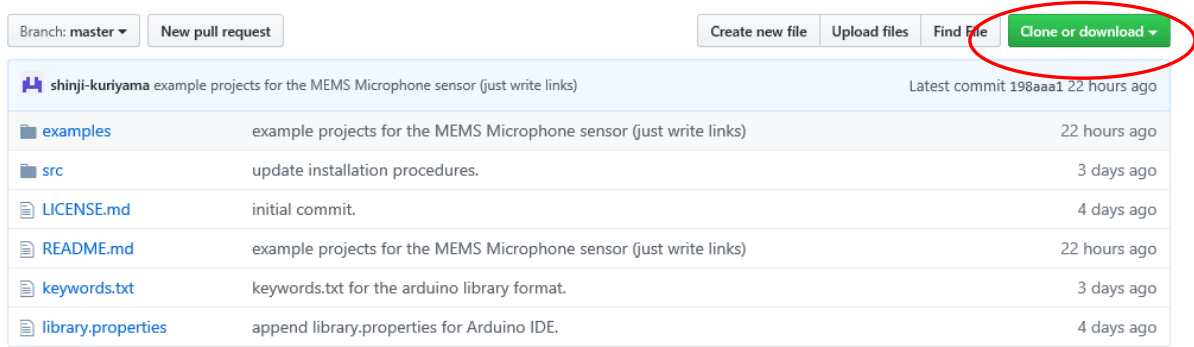GitHub URL
https://github.com/omron-devhub/2jcieev01-arduino

Fig. 5 Downloading the Zip File

Note:
In some cases it may take time to download the file.
The sample source code is only for testing purposes. OMRON does not guarantee its operation.
OMRON does not assume responsibility to make changes to the sample source code or correct mistakes or defects in the sample source code for any reason.
We cannot accept any inquiries regarding the sample source code.

5. Running the Sample Program on Arduino IDE
5-1 Installing the Zip Library on Arduino IDE
Click [Sketch] >> [Include Library] >> [Add .ZIP Library...].
Select the zip file you saved in 4-1 in "Select a zip file or a folder containing the library you'd like to add", and click [Open].
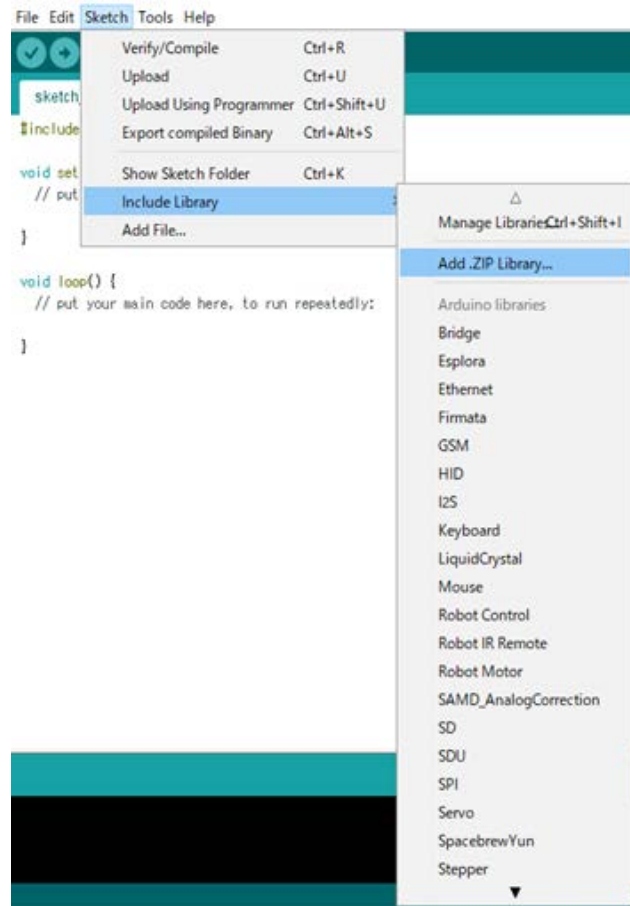

Fig. 6 Including the Library

5-2 Reading Sketch

Click [File] >> [Examples] >> [2JCIE-EV01], and select the sensing data you want to acquire.
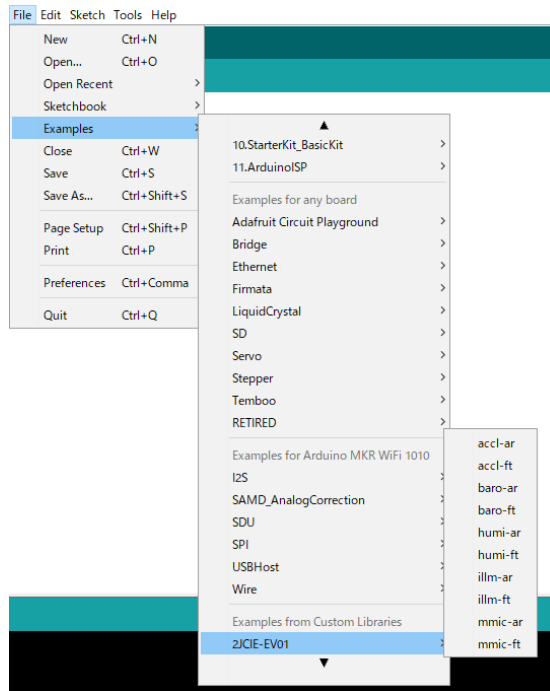

Fig. 7 Reading Sketch

Acceleration sensor sample	accl-ft
Barometric pressure sensor sample	baro-ft
Temperature/humidity sensor sample	humi-ft
Illumination sensor sample	illm-ft

Table 1. Sample Code List

For Microphone, click [Example for Adafruit ESP32 Feather] >> [I2S] >> [InputSerialPlotter].

5-3 Feather Board Settings in Arduino-IDE
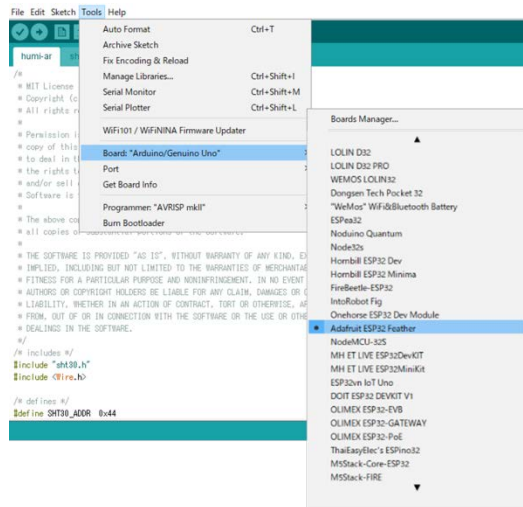Click [Tools] >> [Board:...] >> [Adafruit ESP32 Feather].

Fig. 8 Specifying Feather Board

5-4 COM Port Settings in Arduino-IDE
Specify the COM number in [Tools] >> [Port:...] >>.
You can check the COM number in Windows Device Manager.
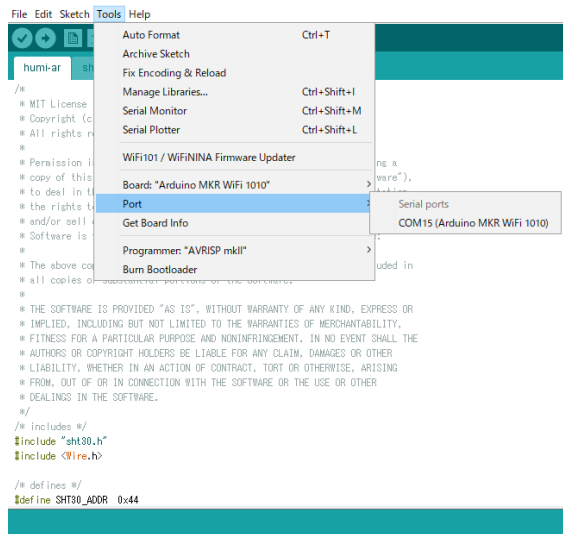

Fig. 9 Specifying the Serial Port

5-5 Writing to the Microcomputer Board

Compile (verify) the program, and if there are no errors, click to write to the Feather microcomputer board.

Fig. 10 Writing to the Microcomputer Board

5-6 Serial Monitor

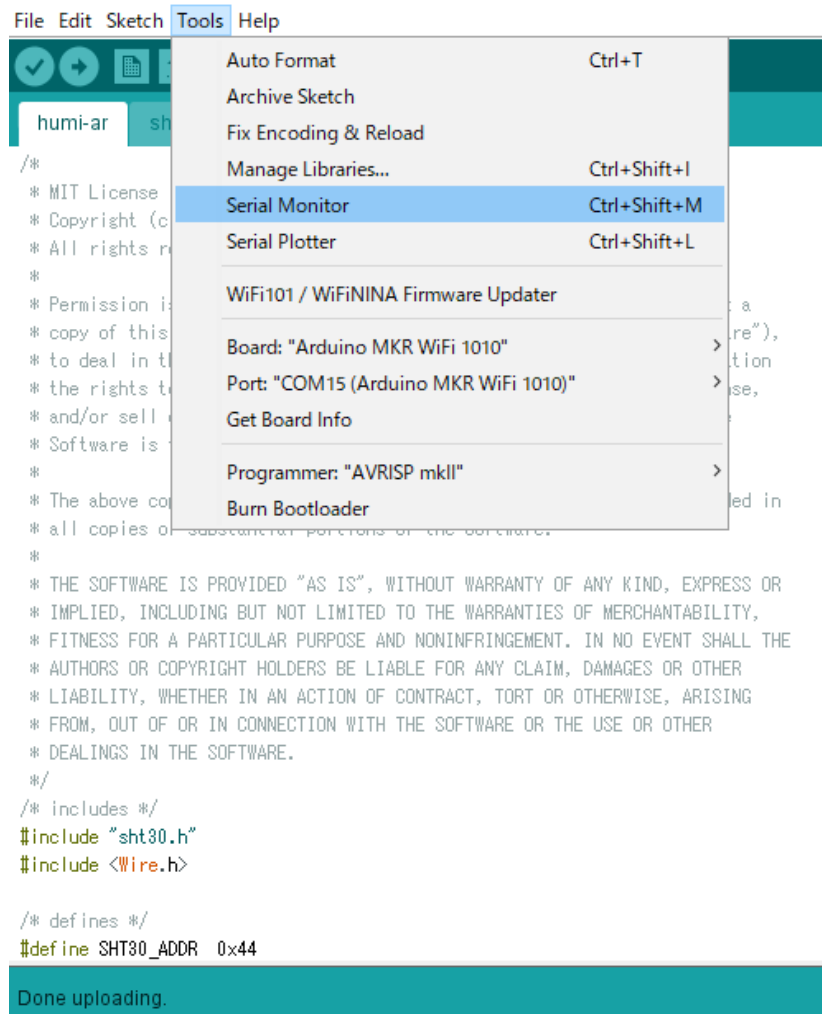Click [Tools] >> [Serial Monitor], and select the sensing data.

Fig. 11 Serial Monitor

6.   Removing the Sensor Evaluation Board

To remove the Sensor Evaluation Board from Feather, turn off the power to the Sensor Evaluation Board, grasp the sides of the board without touching the USB port, connector, or other mounted components, and slowly remove the board.

Please check each region's Terms & Conditions by region website.

OMRON Corporation
Electronic and Mechanical Components Company

Regional Contact

Americas
https://www.components.omron.com/

Europe
http://components.omron.eu/

Asia-Pacific
https://ecb.omron.com.sg/

China
https://www.ecb.omron.com.cn/

Korea
https://www.omron-ecb.co.kr/

Japan
https://www.omron.co.jp/ecb/