Safety Precautions

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

![Sensor Evaluation Board Components](image1)

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 Appearance](image2)

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](image)

**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.

![Image of Sensor Evaluation Board and Feather](image)

**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

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**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](image-url)
5-2 Reading Sketch
Click [File] >> [Examples] >> [2JCIE-EV01], and select the sensing data you want to acquire.

![Reading Sketch](image)

**Table 1. Sample Code List**

<table>
<thead>
<tr>
<th>Sensor Type</th>
<th>Sample Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acceleration sensor sample</td>
<td>accl-ft</td>
</tr>
<tr>
<td>Barometric pressure sensor sample</td>
<td>baro-ft</td>
</tr>
<tr>
<td>Temperature/humidity sensor sample</td>
<td>humi-ft</td>
</tr>
<tr>
<td>Illumination sensor sample</td>
<td>illm-ft</td>
</tr>
</tbody>
</table>

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](image)

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](image)
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.
5-6 Serial Monitor
Click [Tools] >> [Serial Monitor], and select the sensing data.

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

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Electronic and Mechanical Components Company

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