

# 2JCIE-BL

Environment Sensor

## Sense a variety of environmental information

- Includes six sensors, wireless functionality, and built-in battery
- Adopts Bluetooth low energy beacon technology for simple construction of a 1:n sensor network
- Embedded memory for data loss prevention
- Lineup including PCB models



RoHS compliant



⚠ Refer to *Safety Precautions* on page 4.

## Model Number Structure

2JCIE-□01-□  
(1) (2)

- (1) Communication interface  
BL: BLE
- (2) Appearance  
None : Bag model  
P1 : PCB model

## Ordering Information

Appearance	Model	Communication interface	Output data	Minimum packing unit (Unit: pcs)
	2JCIE-BL01	Bluetooth <sup>®</sup> *1 low energy	Temperature, Humidity, Light, UV index <sup>*2</sup> , Barometric pressure, Sound noise, Discomfort index <sup>*3</sup> , Heat stroke warning level <sup>*3</sup>	1
	2JCIE-BL01-P1	Bluetooth <sup>®</sup> *1 low energy	Temperature, Humidity, Light, UV index <sup>*2</sup> , Barometric pressure, Sound noise, Discomfort index <sup>*3</sup> , Heat stroke warning level <sup>*3</sup>	1

## Specifications

### Ratings

Item	Model	2JCIE-BL01	2JCIE-BL01-P1
Power Supply		3 VDC (Lithium battery CR2032 × 1)	3 VDC
Sensors		Temperature, Humidity, Light, UV index <sup>*2</sup> , Barometric pressure, Sound noise	
Interface		Bluetooth <sup>®</sup> low energy <sup>*1</sup> : GAP advertisement/Custom GATT profile	
Communication Range		Approx. 10 m <sup>*4</sup>	
Operating Temperature		-10 to 60°C	
Operating Humidity		30 to 85%RH	
Dimensions		Approx. 46.0 × 39.0 × 15.0 mm	Approx. 27.2 × 24.0 × 1.0 mm
Weight		Approx. 16 g (incl. battery)	Approx. 2.5 g
Absolute maximum ratings	Power supply	-0.3 to 3.6 V	
Absolute maximum ratings	Output current	±20 mA	
Absolute maximum ratings	Temperature	-20 to 70°C	
Recommended operating condition	Power supply	2.7 to 3.3 V	
Battery Life		Approx. 6 months <sup>*4</sup> (5 min. measurement interval/one time per day connection)	-

## Characteristics

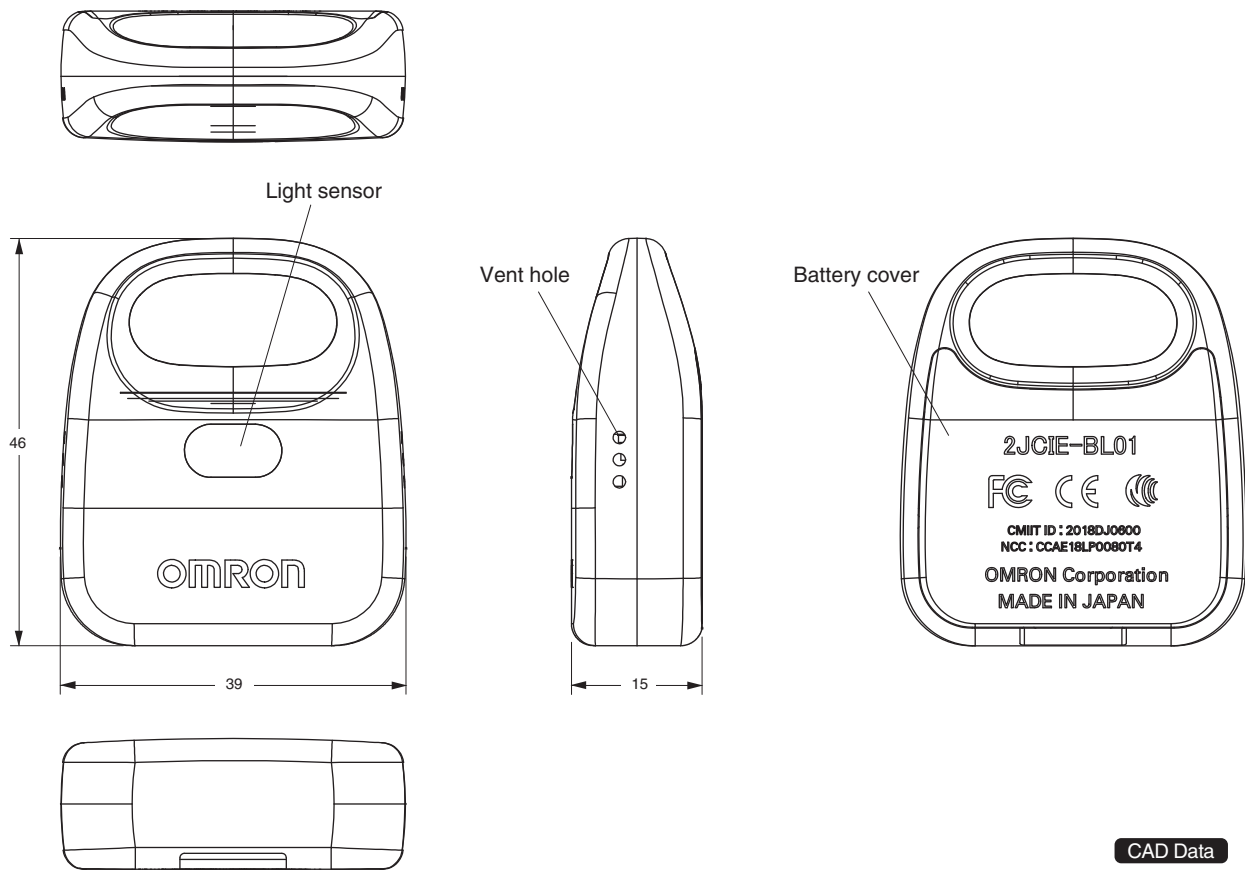
Item	Measurable range	Accuracy (Vcc = 3.0 V, Ta = 15 to 35°C if not specified) *5
Temperature	-10 to 60°C	±2°C
Humidity	30 to 85%RH	±5%RH
Light	10 to 2,000 lx	±100 lx
UV Index	0 to 11	For reference *2 *6
Barometric pressure	700 to 1,100 hPa	±4 hPa
Sound noise	37 to 89 dB	For reference *6

- \*1. The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by OMRON Corporation is under license.
- \*2. Information on UV Index is just for reference. And it may not be the same as that issued by public institutions.
- \*3. Information for heat stroke and discomfort index are only guidelines to be used for air conditioning and physical condition management. An individual difference and physical condition will greatly affect an individual feeling. Sensor output is not to be used for determining the presence of symptoms. Use only as a guideline. Warning levels for heat stroke may not be the same as those issued by public institutions.
- \*4. Communication distance and battery life may vary according to obstacles between the communication equipment, radio wave conditions.
- \*5. These values are specified under standard test condition, and do not guarantee the performance under the complex conditions.
- \*6. These types of output are provided for referential use only, and these values do not guarantee the normal operation within that range.

## Dimensions

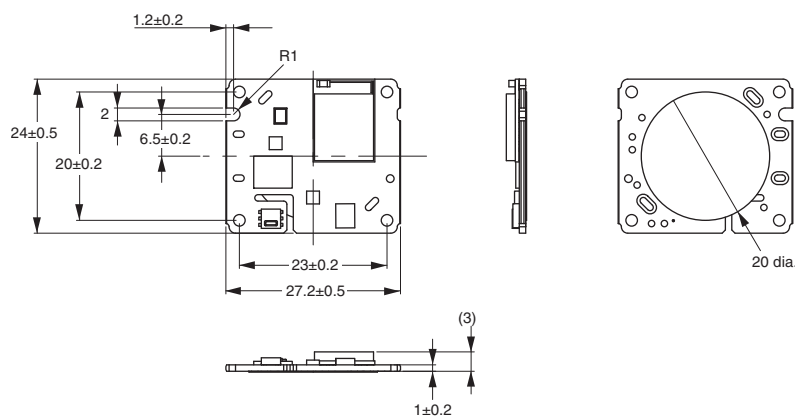
(Unit: mm)

### 2JCIE-BL01



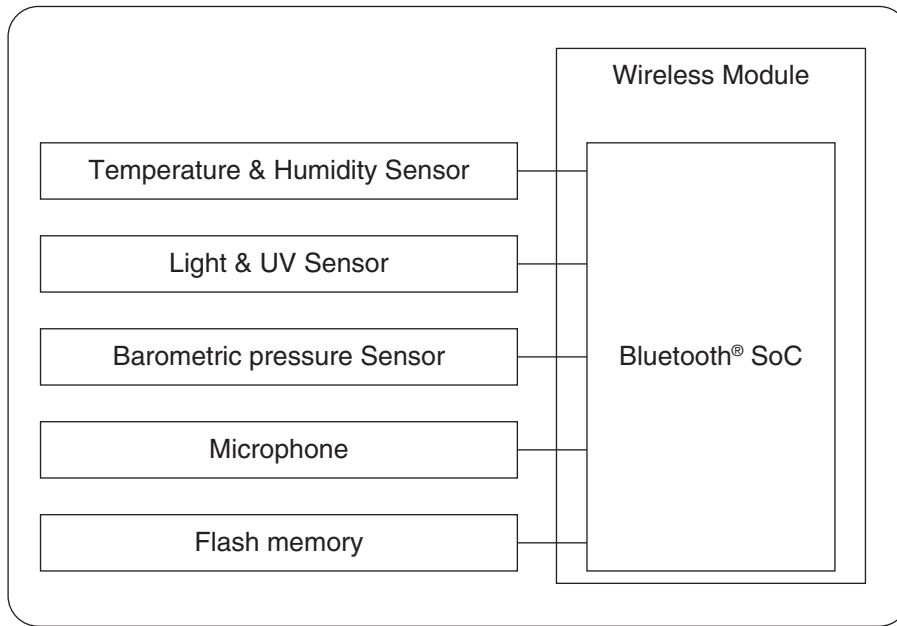
CAD Data

### 2JCIE-BL01-P1



CAD Data

## Block Diagram



## Accessories

### For 2JCIE-BL01

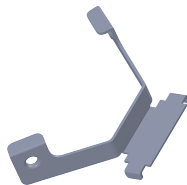
- Lithium battery (CR2032 × 1)

### For 2JCIE-BL01-P1

- Battery terminal (+)
- Battery terminal (-)



Battery terminal (-)



Battery terminal (+)

## Safety Precautions

To assure the correct use of the product basic safety measures should always be followed including the warnings and cautions listed in this document.

### Warning

Warning: Improper use may result in death or serious injury.

#### <2JCIE-BL01>

- Keep the battery out of the reach of young children.  
If young children swallow the battery, immediately consult a doctor.
- Do not throw the battery into fire.  
The battery may explode.

#### <Common>

- In places where radio communications are prohibited, remove the battery to turn off the Bluetooth®.
- Do not place the unit closer than 22 cm (9 inches) from implantable medical devices such as pacemakers.
- Keep the unit out of the reach of young children.  
If young children swallow any small piece, immediately consult a doctor.
- Please stop using the unit immediately, if there is strange smell or smoke from the unit.
- Do not subject the unit to extreme temperatures, humidity, moisture, or direct sunlight. Internal condensation due to severe change in temperature may cause malfunction.
- In high temperature or low temperature environment, battery life may be extremely short due to the characteristics of the battery used.
- Please do not leave in the car.  
Prolonged exposure to the high temperature causes explosion, fire or malfunction of the internal battery.

### Caution

Caution: Improper use may result in minor or moderate injury to the user or damage to the equipment.

\* Property damage refers to damage related to houses and household belongings, as well as domestic animals and pets.

#### <2JCIE-BL01>

- Do not insert the battery with the polarities in the wrong direction.
- Always use the type of battery indicated.
- Remove the battery from this unit when you are not going to use it for a long period of time (approximately 3 months or more).
- Please read the instruction manual of your smartphone or tablet for the wireless communication.
- Do not replace the battery during the wireless communication.
- Do not swing the unit by the strap.  
Swinging the unit while holding the strap may cause an injury.

#### <Common>

- Do not use the unit in the field of strong electromagnetic waves and static electricity.
- This unit is not a measurement instrument.  
The measured values must be treated as a reference, and do not use it for the purpose of verification or diagnosis.

### Precautions for Correct Use

#### <2JCIE-BL01>

- Batteries are not a part of your regular household waste.  
You must return batteries to your municipality's public collection or wherever batteries of the respective type are being sold.
- Dispose of the unit, battery, and components according to applicable local regulations.  
Unlawful disposal may cause environmental pollution.

#### <Common>

- Do not disassemble or modify the unit.
- Do not subject the unit to strong shocks or vibrations, drop it, step on it.
- Do not apply a strong force, twist, deflection and mechanical stress on the ring portion.
- Do not immerse the unit or any of the components in water.  
The unit is not waterproof. Do not wash it or touch it with wet hands. Be careful that water does not get into the unit.
- Depending on the surrounding environment and the mounting position, the measured characteristic may vary. The measured values must be treated as a reference.
  1. Do not subject the unit to extreme temperatures, humidity, moisture, or direct sunlight.
  2. Do not subject the unit to water, oil or chemical materials.
  3. Do not use the unit where it will be exposed to dew condensation.
  4. Do not use the unit where it will be exposed to flammable gas or corrosive vapors.
  5. Do not use the unit where it will be exposed to dust, saline matter or iron powder.
- This Product operates in the unlicensed ISM band at 2.4 GHz. In case this Product is used around the other wireless devices including microwave and wireless LAN, which operate same frequency band of this Product, there is a possibility that interference occurs between this Product and such other devices.
- If such interference occurs, please stop the operation of other devices or relocate this Product before using this Product or do not use this Product around the other wireless devices.
- Due to the use of radio waves, third parties may intercept transmissions either deliberately or accidentally. Do not use this Product for matters related to vital secrets or human lives.
- Application examples provided in this document are just for reference. In actual applications, confirm its functions, limitations and safety before using this Product.

#### Acknowledgement

This work was funded by ImPACT Program of Council for Science, Technology and Innovation (Cabinet Office, Government of Japan).

Program: "Innovative Cybernic System for a ZERO Intensive Nursing-care Society" (Program Manager: Yoshiyuki Sankai)

- This product is designed and manufactured as a general-purpose item for general industrial products. Usage for the following applications is not intended and OMRON shall not provide any warranty for this product if customers in fact use this product for such applications.
  - (a) Applications requiring high levels of safety (Ex. Nuclear control equipment, combustion equipment, aviation/space equipment, railroad equipment, lift equipment, amusement park machinery, medical instruments, safety devices, and other applications that may cause the loss of life or injury)
  - (b) Applications requiring high reliability (Ex. Gas/water/electricity supply systems, systems that operate continuously for 24 hours, applications regarding rights and assets such as payment systems, etc.)
  - (c) Applications in severe conditions or environments (Ex. Equipment installed outdoors, equipment subjected to chemical contamination, equipment subjected to electromagnetic interference, equipment subjected to vibration and shock, equipment operated continuously for long period of time, etc.)
  - (d) Applications in conditions or environments not listed in these specifications
- In addition to the contents of (a) through (d) above, this product is also not designed for use with automobiles (including two-wheel vehicles, the same applies hereinafter). Do not use for applications where mounted on automobiles. Ask your OMRON representative for details regarding products for mounting on automobiles.



# Terms and Conditions Agreement

## Read and understand this catalog.

Please read and understand this catalog before purchasing the products. Please consult your OMRON representative if you have any questions or comments.

## Warranties.

- (a) Exclusive Warranty. Omron's exclusive warranty is that the Products will be free from defects in materials and workmanship for a period of twelve months from the date of sale by Omron (or such other period expressed in writing by Omron). Omron disclaims all other warranties, express or implied.
- (b) Limitations. OMRON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PRODUCTS. BUYER ACKNOWLEDGES THAT IT ALONE HAS DETERMINED THAT THE PRODUCTS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE.

Omron further disclaims all warranties and responsibility of any type for claims or expenses based on infringement by the Products or otherwise of any intellectual property right. (c) Buyer Remedy. Omron's sole obligation hereunder shall be, at Omron's election, to (i) replace (in the form originally shipped with Buyer responsible for labor charges for removal or replacement thereof) the non-complying Product, (ii) repair the non-complying Product, or (iii) repay or credit Buyer an amount equal to the purchase price of the non-complying Product; provided that in no event shall Omron be responsible for warranty, repair, indemnity or any other claims or expenses regarding the Products unless Omron's analysis confirms that the Products were properly handled, stored, installed and maintained and not subject to contamination, abuse, misuse or inappropriate modification. Return of any Products by Buyer must be approved in writing by Omron before shipment. Omron Companies shall not be liable for the suitability or unsuitability or the results from the use of Products in combination with any electrical or electronic components, circuits, system assemblies or any other materials or substances or environments. Any advice, recommendations or information given orally or in writing, are not to be construed as an amendment or addition to the above warranty.

See <http://www.omron.com/global/> or contact your Omron representative for published information.

## Limitation on Liability; Etc.

OMRON COMPANIES SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCTS, WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, NEGLIGENCE OR STRICT LIABILITY.

Further, in no event shall liability of Omron Companies exceed the individual price of the Product on which liability is asserted.

## Suitability of Use.

Omron Companies shall not be responsible for conformity with any standards, codes or regulations which apply to the combination of the Product in the Buyer's application or use of the Product. At Buyer's request, Omron will provide applicable third party certification documents identifying ratings and limitations of use which apply to the Product. This information by itself is not sufficient for a complete determination of the suitability of the Product in combination with the end product, machine, system, or other application or use. Buyer shall be solely responsible for determining appropriateness of the particular Product with respect to Buyer's application, product or system. Buyer shall take application responsibility in all cases.

NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY OR IN LARGE QUANTITIES WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCT(S) IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

## Programmable Products.

Omron Companies shall not be responsible for the user's programming of a programmable Product, or any consequence thereof.

## Performance Data.

Data presented in Omron Company websites, catalogs and other materials is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of Omron's test conditions, and the user must correlate it to actual application requirements. Actual performance is subject to the Omron's Warranty and Limitations of Liability.

## Change in Specifications.

Product specifications and accessories may be changed at any time based on improvements and other reasons. It is our practice to change part numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the Product may be changed without any notice. When in doubt, special part numbers may be assigned to fix or establish key specifications for your application. Please consult with your Omron's representative at any time to confirm actual specifications of purchased Product.

## Errors and Omissions.

Information presented by Omron Companies has been checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical or proofreading errors or omissions.

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/>

#### **Asia-Pacific**

<https://ecb.omron.com.sg/>

#### **Korea**

<https://www.omron-ecb.co.kr/>

#### **Europe**

<http://components.omron.eu/>

#### **China**

<https://www.ecb.omron.com.cn/>

#### **Japan**

<https://www.omron.co.jp/ecb/>