

SENSOR LOGGER AZ003 User's Manual

- Thank you for purchasing an SENSOR LOGGER AZ003.
- For safe and proper use of the product, please read the Manual prior to use.
- Keep the Manual in a safe place for future reference.

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Safety Precautions

Observe the safety precautions since they intend to prevent personal injury or property damage.

- The following symbols indicate the different levels of injury or damage that may result if the guidelines are not observed and the product is used improperly.

WARNING Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury, or property damage.

- The following symbols indicate specific directions.

⊘ Indicates prohibited actions.

⚠ Indicates compulsory actions in accordance with instructions.

WARNING

⊘ **Do not disassemble or modify the equipment.**
Doing so may cause fire, burns, injury or electric shock.

⚠ **If you notice anything unusual about the equipment, immediately stop using.**
If you notice anything unusual about the equipment such as an unusual odor, overheating, fuming, immediately power off the equipment and stop using.

⊘ **Do not leave the equipment in hot place.**
Doing so may cause internal battery to ignite, burst, or leak.

⊘ **Do not throw the equipment into fire.**
Doing so may cause internal battery to burst.

⊘ **Do not wet the equipment and do not touch the equipment with wet hands.**
The equipment is not waterproof. When the liquid enters the inside of the equipment, doing may cause failure, fire, or electric shock.

⚠ **If the liquid or other foreign materials enter the interior of the device, immediately stop using.**
Doing may cause fire, or electric shock.

⊘ **Do not use the equipment without battery cover.**
Doing so may cause fire, or electric shock, and failure of equipment.

⚠ **Turn off the equipment in airplane.**
The use of the equipment in airplane is prohibited.

⊘ **Do not use the equipment in a place (e.g., hospital) where the use is prohibited.**
Doing so may affect electronic equipment and electronic medical equipment.

CAUTION

⊘ **Do not use or store the equipment in the following locations.**

- In hot places (e.g., by the fire, near a heater)
- In humid places
- In the magnetic field
- In the place that static electricity produces
- In the place that a strong shock produces, or the place where the strong vibration occurs
- In corrosive gas (e.g., Cl₂, H₂S, NH₃, SO₂, or NO)
- In the place where a liquid (e.g., water, oil, or organic solvent) hangs
- In the place with many dusts

⊘ **Do not store in places which are exposed to direct sunlight.**
Doing so may cause failure of equipment.

⊘ **Keep the equipment out of the reach of babies and infants.**
Failure to do so may cause accidental swallowing or injury.

⊘ **Do not give a strong shock or drop it on a hard thing.**
Doing so may cause failure of equipment.

⊘ **Do not apply a load such as the case is deformed.**
Doing so may cause malfunction or failure of equipment.

⚠ **Please insert the battery in the correct orientation.**
If you insert the battery in the wrong direction, it may cause failure of equipment.

⊘ **Do not use this product at Countries did not obtain the wireless device certification.**
The acquired wireless certification of this product is described on page 7. Do not use this product at out of applicable countries.

SENSOR

- ✓ To perform a right measurement, do not soil the ambient light sensor portion or do not cover the ambient light sensor portion.
- ✓ To perform a right measurement, do not block up the hole of the humidity, temperature, and pressure sensor part.

INTERNAL BATTERY

- ✓ Please use the following batteries.
- ✓ In the low temperature environment, the battery usage time per one charge decrease.

Coin Type Primary Lithium Batteries CR2032

DISCARDING

When you discard, please remove the battery from equipment, and follow the laws and regulations.

Bluetooth® CAUTIONS

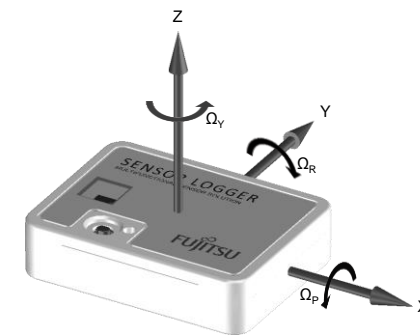
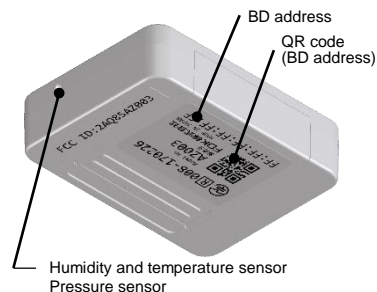
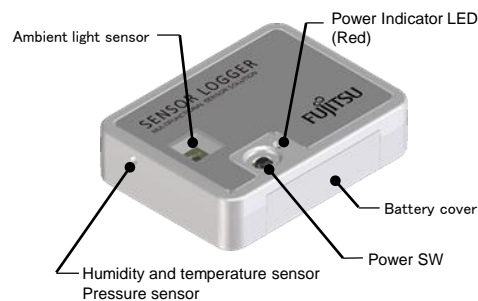
The operating frequency band of this product is used by industrial, scientific, consumer and medical equipment including microwave ovens, premises radio station for identifying mobile units used in the manufacturing lines of plants (radio stations requiring a license), specified low power radio station (radio station requiring no license) and amateur radio station (hereinafter referred to as "another station").

1. Before using this product, confirm that "another station" is not being operated nearby.
2. In the event of this product causing harmful radio wave interference with "another station", promptly change the operating frequency or stop radio wave emission by turning off the power, etc.

Introduction

This product is equipped with six sensors (3D accelerometer, 3D gyroscope, humidity sensor, temperature sensor, pressure sensor, and ambient light sensor), it is a SENSOR LOGGER that can wireless communication by *Bluetooth* Low Energy. It is available periodically sends the sensor data in real time by using advertisement packet of *Bluetooth* Low Energy and it have a function to save sensor data to internal memory. Also it supports the connection of *Bluetooth* Low Energy.

Part Names



Direction of detectable accelerations / magnetic fields

Usage

Use for the first time

The internal battery at the time of purchase is for testing. Please use it after exchanging with a new battery.

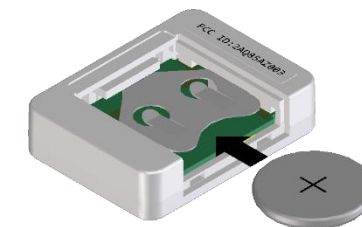
Coin Type Primary Lithium Batteries CR2032

Battery replacement

1. If you slide the battery cover with firmly pressing the two parts of the cover, you can remove the cover. At the first time, it may be hard to open the cover.



2. Please remove the old battery from the battery holder by using a thin tip like a ballpoint pen and replace with a new battery. The orientation of the battery is as shown below.

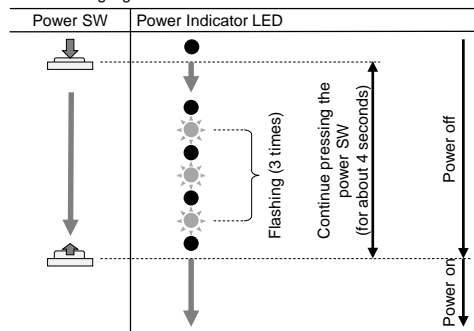


3. Please close the battery cover.

Power On/Off

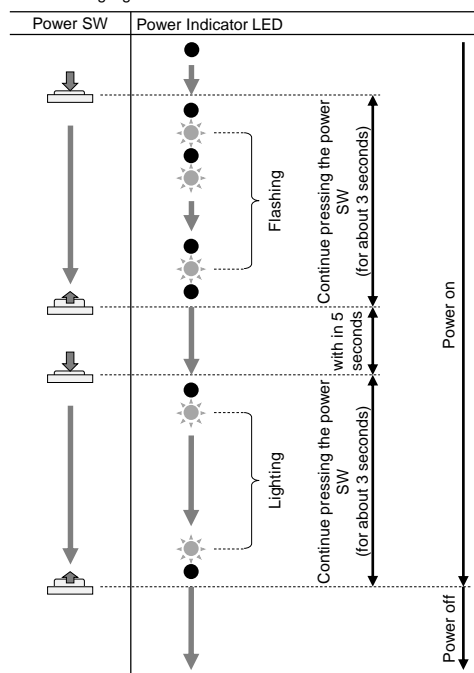
Power on

1. Until the LED flashes three times, please continue pressing the power switch. (for about 4 seconds)
2. Power is turned on, the product will start the sending of advertising signal.



Power off

1. Until flashing of LED is finished, please continue pressing the power switch. (for about 3 seconds)
2. When power supply switch is pressed again, an LED lights up. And then, until the LED is turned off, please continue pressing the power switch. (for about 3 seconds)
3. Power is turned off, the product will stop the sending of advertising signal.



Auto power off

When the product has passed for three hours in a stationary state, it will be power off automatically.

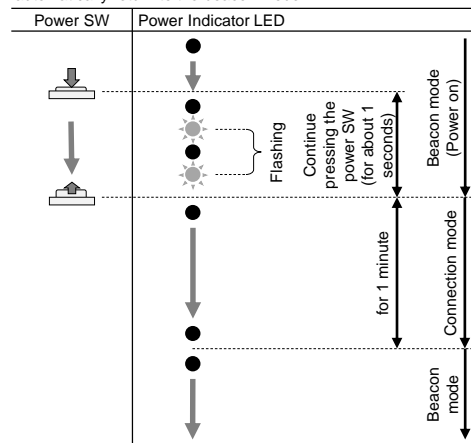
Confirmation of the power supply state

State of the power supply can be found in a state of LED when the power switch is pressed once.

- ✓ Power on LED will flash immediately.
- ✓ Power off LED remains off.

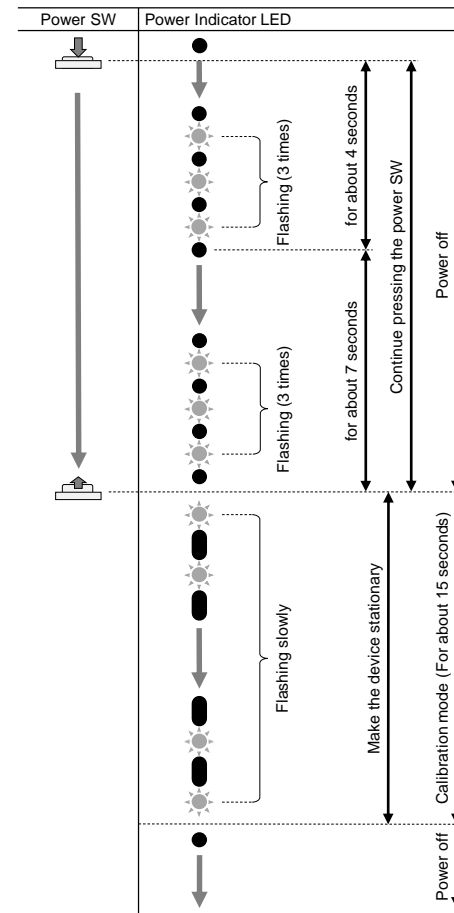
Connection to SENSOR LOGGER

1. In the state of power on, until the LED starts flashing, please continue pressing the power switch. (for about 1 second)
2. For one minute, the product will be connected mode, please connect using the application software which is prepared separately. How to operate the application software, please refer to the software manual.
3. If there is no connection within one minute, the product will automatically return to the beacon mode.



Gyroscope calibration

1. In the state of power off, for about 11 seconds, please continue pressing the power switch. While continue pressing the power switch, LED flashes three times, and then it will flash again three times.
2. The product becomes the calibration mode, and LED flashes slowly. Please make the device stationary.
3. The calibration is completed in 15 seconds after the product enters the calibration mode, and the power turns off automatically.



Certifications

Japan

- ✓ The AZ003 is Certified in Japan with certification Number 008-170226

FCC

- ✓ This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
- ✓ FCC CAUTION
Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
- ✓ This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.
- ✓ This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines as this equipment has very low levels of RF energy.
- ✓ The AZ003 FCC ID is 2AQ85AZ003

Specifications

Product Name	SENSOR LOGGER
Model Number	AZ003
Communication	Bluetooth Low Energy
Output Power	-30 to +4 dBm
Communication Range	5 to 10 m (Line-of-sight range) ¹
Sensor	3D accelerometer, 3D gyroscope, humidity sensor, temperature sensor, pressure sensor, and ambient light sensor
Memory	256kB
Power	Coin Type Primary Lithium Batteries CR2032
Continuous Usage Time	Approximately 1 year ² (In case only beacon signals)
Dimension	40.0 x 30.0 x 10.0 mm
Weight	9 g (Excluding battery)
Operating Temperature Range	-10 to +60 degree C
Storage Temperature Range	-20 to +70 degree C

¹ Communication range may vary, depending on use environment or the performance of the other party equipment.

² At room temperature. Continuous use time may vary depending on use environment.

Troubleshooting

Communication failure

- ✓ The operating frequency band of this product is 2.4GHz. When there are a radio apparatus or a radio station in the neighborhood, electric wave interference occurs, and communication may become impossible.
- ✓ Because the electromagnetic wave of the 2.4GHz band is easy to be taken in by the human body, it may not communicate when wrap up this product with palms or a person exists between this product and receivers.
- ✓ When do the registration, certification, pairing this product using the Bluetooth setting function of the receiver, operation of the application software may become out of condition. In that case, please cancel registration.
- ✓ Depending on the communication performance of the receiver, there is a case where a communication error occurs when you make a large amount of communication and long-term communication. If this is the case, please restart the receiver. If it still does not improve, turn off the power of this product and please turn on the power again.

For Inquiries

FDK CORPORATION

Shinagawa Crystal Square Bldg., 1-6-41 Konan, Minato-ku, Tokyo 108-8212 Japan

Product Inquiry

URL https://www3.fdk.co.jp/cyber-e/product_inq.htm

MADE IN JAPAN

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