Z-Wave™ Multi Sensor

FGT-0002

User's Guide

Rev. 1.01

MITSUMI ELECTRIC CO., LTD.

Introduction

This product is "FGT-0002" that detects and notifies motion, temperature, humidity, and illuminance that support Z-Wave Plus™ as standard. Detects changes in the state of the place where the product is installed and notifies the controller.

This devices is a security enables Z-Wave Plus product that is able to use encrypted Z-Wave Plus messages to communicate to other security enabled Z-Wave Plus products.

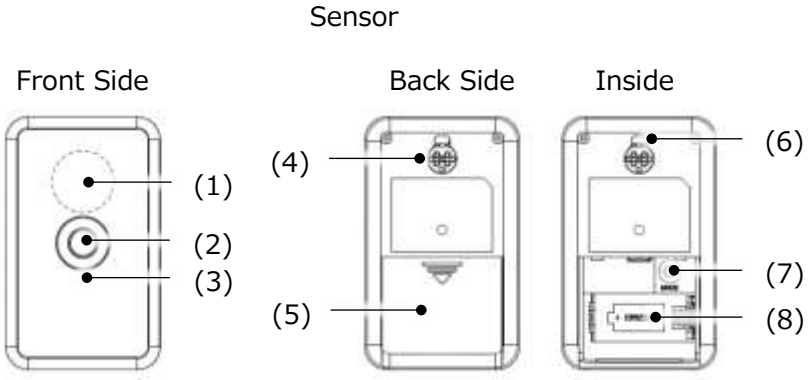
This device must be used conjunction with a Security Enabled Z-Wave Controller in order to fully utilize all implemented functions. This product can be operated in any Z-Wave network with other Z-Wave certified devices from other manufacturers. All mains operated nodes within the network will act as repeaters regardless of vendor to increase reliability of the network.

Inclusion can be via standard inclusion, SmartStart.

The Package contains

① Multi Sensor FGT-0002
② Battery (CR123A Sample 1pcs)
③ Manual

Part Names



(1) Illuminance sensor
(2) Motion sensor
(3) LED
(4) Temperature, Humidity sensor
(5) Battery cover
(6) Hook receiver
(7) Operation SW (Inside the Battery cover)
(8) Battery holder (Inside the Battery cover)

Installation

Please Work near the controller (within 1m).

■SmartStart

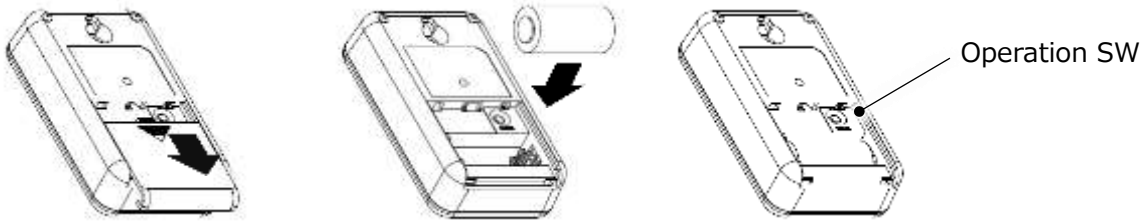
SmartStart enabled products can be added into a Z-Wave network by scanning the Z-Wave QR Code present on the product with a controller providing SmartStart inclusion. No further action is required and the SmartStart product will be added automatically within 10 minutes of being switched on in the network vicinity.

You can check the DSK and QR code on the label at back of this product.

■Installation by Operation SW

◇Preparation of this product

Remove the Battery cover and insert the battery.



◇Connection with controller

1 Set the controller in "Add (Inclusion)" mode.
(For the operation procedure, see the instruction manual of the controller.)

2 Push the Operation switch once and release it immediately.
The LED blinks green and the registration operation start.

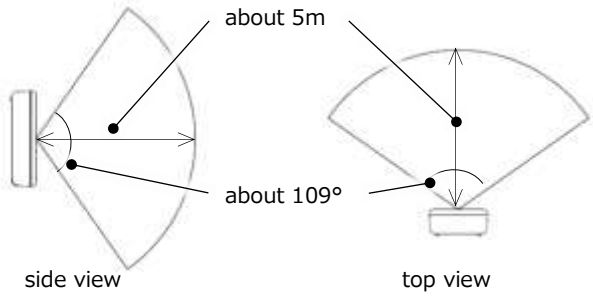
* If the LED does not brink green, remove the battery, check the insertion direction, and insert it again
* If that doesn't work, try inserting a new battery.
(The included battery is a sample. Battery life may be shorter than regular batteries on the market.)

3 Check the connection using a controller or a dedicated application.

Motion sensor detection range

The motion detection range is as shown in the figure below. The actual sensing range is affected by environmental conditions, so people should actually move to check the sensing range.

Even if it is within the sensing range, it cannot detect movements that approach the sensor straight through the glass.



Sensor detection

■Motion

Detects human movements. When it is detected, it notifies the controller. However, it does not detect continuous movements. Motion sensing is stopped for about 3 minutes after detection.

■Temperature / Humidity (Relative) / Illuminance

When the motion sensors detect, these sensors measure and notify the controller.

Even if there is no motion detection, this product measures these once every 3 minutes and sends information if any of the following changes takes place.

Temperature : ±1℃ or more.
Humidity : ±10% or more.
Illuminance : ±10% or more.

* Illuminance is reported as a logarithmic percentage with 1000 lx as 100.

Other operations

■Battery replacement

1 Remove the Battery cover.
2 Remove the Battery and insert a new one.
※Insert the battery in the correct direction.
3 Attach the Battery cover
4 Put in the original place

■Remove (Excursion)

1 Remove the Battery cover.
2 Set the controller in "Remove (Exclusion)" mode.
(For the operation procedure, see the instruction manual of the controller.)
3 Push the Operation switch once and release it immediately.
The LED blinks red and the remove operation start.
4 LED turns off when removed. Check the disconnection using a controller or a dedicated application.
5 Attach the Battery cover
※Remove the battery when not using this product.

■Factory Reset

Please use this procedure only in the event that the primary controller is lost. All the settings and the controller information are cleared to return to the factory default.

1 Remove the Battery cover.
2 Press and hold the Operation SW for about 10 seconds, and release the Operation SW.
3 Push the Operation switch once and release it immediately. The reset is complete when the LED brink green. Push and release the Operation switch again to turn off the LED.
4 Attach the Battery cover
※Remove the battery when not using this product.

Specification

Title	
Product name	Z-Wave Multi Sensor
Part number	FGT-0002
Power supply	CR123A (3V) × 1
Indicator	LED (Red / Green) × 1
Operation temperature	-10 ~ 40℃
Installation location	Indoor use only
Communication mode	Z-Wave
Available frequency	922.5 / 923.9 / 926.3 MHz
Communication distance	About 30m (prospect)
Outside dimensions	Sensor: 90 x 55 x 25 [mm]
Mass	Sensor: About 60g (excluding battery)

Z-Wave Overview

Z-Wave+ Product Info

- ・Manufacturer: MITSUMI
- ・Z-Wave Device Type: Multi Sensor
- ・Z-Wave Role Type: Reachable Sleeping Slave (RSS)
- ・Product ID: 0x0001
- ・Product Type ID: 0x0016

Supported Command Classes

Command Class List (Security: None)

- ・COMMAND_CLASS_ZWAVEPLUS_INFO V2
- ・COMMAND_CLASS_TRANSPORT_SERVICE V2
- ・COMMAND_CLASS_SECURITY_2 V1
- ・COMMAND_CLASS_SUPERVISION V1

Command Class List (Security: S2)

- ・COMMAND_CLASS_ASSOCIATION V2
- ・COMMAND_CLASS_ASSOCIATION_GRP_INFO V3
- ・COMMAND_CLASS_BATTERY V1
- ・COMMAND_CLASS_DEVICE_RESET_LOCALLY V1
- ・COMMAND_CLASS_BASIC V2
- ・COMMAND_CLASS_FIRMWARE_UPFATE_META_DATA V5
- ・COMMAND_CLASS_INDICATOR V3
- ・COMMAND_CLASS_MANUFACTURER_SPECIFIC V2
- ・COMMAND_CLASS_MULTILEVEL_SENSOR V11
- ・COMMAND_CLASS_NOTIFICATION V8
- ・COMMAND_CLASS_POWERLEVEL V1
- ・COMMAND_CLASS_VERSION V3
- ・COMMAND_CLASS_WAKE_UP V2
- ・COMMAND_CLASS_CONFIGURATION V4

ASSOCIATION & ASSOCIATION GROUP INFORMATION

Group 1 is the Lifeline group. It can contain up to 5 nodes. The command classes reported to the Lifeline are as follows.

- ・BATTERY REPORT
- ・NOTIFICATION REPORT
- ・DEVICE_RESET LOCALLY NOTIFICATION

BATTERY

The Battery Get request can be used to get the status of the battery.

DEVICE RESET LOCALLY

When the Z-Wave module is reset it sends a report to tell the controller it has been reset.
This product is reset by pressing and holding the operation switch for 5 seconds.
Please use this procedure only when the primary controller is missing or otherwise inoperable.

BASIC

This product reports the motion detection status with Basic Report.

	Undetected	Detected
Value	0x00	0xFF

FIRMWARE UPFATE META DATA

This product supports firmware update of the Z-Wave module over the air.
Firmware ID = 0x0000

INDICATOR

You can use the Indicator Set request to make the LED blink.
The corresponding Indicator ID and Property ID are as follows.

Indicator ID	0x50	Node Identify
Property ID	0x03	On/Off Periods
	0x04	On/Off Cycles
	0x05	On time within an On/Off period

MANUFACTURER SPECIFIC

Upon receiving a Manufacturer Specific Get request, it returns a Manufacturer Specific Report.

	Value	Comment
Manufacturer ID	0x0112	MITSUMI
Product Type ID	0x0016	Multi Sensor
Product ID	0x0001	Multi Sensor Vol.1

NOTIFICATION

Sends the reaction of the motion sensor to the controller.

Notification Type	Home Security (0x07)
Event	Motion detection (0x08)

POWERLEVEL

Can be used under inclusion to test signal strength from the controller and to the device.

SENSOR MULTILEVEL

When the motion sensor responds, this product measures temperature, humidity, and illuminance and sends information. In addition, this product measures temperature, humidity, and illuminance once every three minutes, and sends information if any of the following changes occur.

Temperature :	±1℃ or more.
Humidity :	±10% or more.
Illuminance :	±10% or more.

VERSION

This Command Class is used to get information about which version of the different command classes this product supports and the software version of this product.

CONFIGURATION

Set and check the configuration parameters to control this product.

Parameter Number 1

Configuration Set request sets the measurement interval for the sensor. (The default value is 3 minutes.)

Size = 2

Configuration Value1 = 0x0001 … 1 minute
…
0x05A0 … 1440 minutes (24 hours)

Configuration Get request reports the measurement interval for the sensor.

Configuration Value1 = 0x0001 … 1 minute
…
0x05A0 … 1440 minutes (24 hours)

Parameter Number 2

Configuration Set request sets the battery alert level. (The default value is 28%.)

Size = 1

Configuration Value1 = 0x01 … 1%
…
0x32 … 50%

Configuration Get request reports the battery alert level.

Configuration Value1 = 0x01 … 1%
…
0x32 … 50%

Parameter Number 3

Configuration Set request sets the amount of change that the temperature sensor notifies the controller. (The default value is 1℃.)

Size = 1

Configuration Value1 = 0x01 … 1℃
…
0x32 … 50℃

Configuration Get request reports the amount of change that the temperature sensor notifies the controller.

Configuration Value1 = 0x01 … 1℃
…
0x32 … 50℃

Parameter Number 4

Configuration Set request sets the amount of change that the humidity sensor notifies the controller. (The default value is 10%.)

Size = 1

Configuration Value1 = 0x01 … 1%
…
0x32 … 50%

Configuration Get request reports the amount of change that the humidity sensor notifies the controller.

Configuration Value1 = 0x01 … 1%
…
0x32 … 50%

Parameter Number 5

Configuration Set request sets the amount of change that the illuminance sensor notifies the controller. (The default value is 10%.)

Size = 1

Configuration Value1 = 0x01 … 1%
…
0x32 … 50%

Configuration Get request reports the amount of change that the illuminance sensor notifies the controller.

Configuration Value1 = 0x01 … 1%%
…
0x32 … 50%