WATER LEAKAGE DETECTOR

In the front casing, there is button that is used to carry out include, exclude or reset factory default settings on PCB Board.

When power is first supplied, the LED will flash on and off alternately at one second intervals within 5 seconds if the detector has not been added a Z-Wave network. Please get familiar with the terms below before starting the operations.

This product can be included and operated in any Z-Wave network with other Z-Wave certified devices from other manufacturers and/or other applications. All non-battery operated nodes within the network will act as repeaters regardless of vendor to increase reliability of the network.

Add the Sensor to Z-Wave Network

1. Remove the sensor cover.
2. Make sure the sensor is powered.
3. Set Z-Wave controller or Z-Wave gateway into inclusion mode (Refer to the controller or gateway operating manual)
4. Press the button three times within 1.5 second, the device will enter inclusion mode. And the LED will flash on and off alternately five times.

Remove the Sensor from Z-Wave Network

1. Remove the device cover.
2. Make sure the sensor is powered.
3. Set Z-Wave controller or Z-Wave gateway into exclusion mode (Refer to the controller or gateway operating manual)
4. Press the button three times within 1.5 second, the device will enter exclusion mode.

Restore the Sensor to Factory Default Settings

Reset procedure will remove all information on the Z-Wave network and Z-Wave controller or Z-Wave Gateway, and restore the sensor to factory default settings.

1. Remove the device cover.
2. Make sure the sensor is powered.
3. Press and hold the button for 10 seconds, led will blink once.
4. Release the button.

Wakeup the Sensor Manual

User can press button once to wake-up this sensor to send wakeup notification to controller, the Led will be blink one time.

Associations (Association Command Class Version 2)

This Sensor supports four association groups. This has the effect that when the sensor is triggered, all devices associated with the sensor will receive the relevant reports. Through an

association the sensor may control another Z-Wave network device, e.g. siren device, wall plug, lamp etc.

GROUP 1 is lifeline service that assigned to Sensor (Water leakage detector) status. It enables the sensor to send reports and readings to Z-Wave Controller or Z-Wave Gateway whenever the sensor is triggered. This Group Support:

NOTIFICATION_REPORT_V4,
BATTERY_REPORT,
SENSOR_BINARY_REPORT_V2,
DEVICE_RESET_LOCALLY_NOTIFICATION

GROUP 2 allows for sending control commands to associated devices such as relay module, lighting, etc. This association group is configured through the advanced parameters no. 7. If the sensor clears the Notification Event that a Basic Set with 0x00 is sent to the nodes associated in Group 2 in order to turn off the device. This Group Support:

BASIC_SET.

GROUP 3 allows for Send Notification to associated devices in this group. This Group Support:

NOTIFICATION_REPORT_V4

GROUP 4 allows for Send Notification to associated devices in this group. This Group Support:

SENSOR_BINARY_REPORT_V2

Advanced Configuration

Fig.1 Alarm Time Setting Figure

1. Configuring Alarm Duration Time

This configuration parameter that can be used to adjust the time for beep and LED turned on when water leakage is detected. If this parameter is set to '0', the beep and LED will be turn on always until water leakage is not detected. Prefer to Figure 1.

Parameter Number	Size	Available Settings	Default
1	1	0 ~255 (minute)	120(minute)

2. Configure Alarm Interval

This Parameter defines beep on /off interval time when water leakage is detected. Prefer to Figure 1.

Parameter Number	Size	Available Settings	Default

2	1	1 ~255 (minute)	1(minute)

3. Configure First Alarm On Time Duration

This parameter defines beep on duration first time when water leakage is detected. Prefer to Figure 1.

Parameter Number	Size	Available Settings	Default
3	1	10 ~ 255 (second)	60(second)

4. Configure Alarm on Time Duration

This parameter defines beep on duration after fist beep on when water leakage is detected. Prefer to Figure 1.

Parameter Number	Size	Available Settings	Default
4	1	5 ~ 255 (second)	5(second)

5. Configure Alarm Enable/Disable

This parameter defines beep on is enabled or disabled when water leakage is detected. '0' indicate beep on is disable, but LED will be turned on when water leakage detected. '1' indicate beep on is enabled, the BEEP and LED will be turned on when water leakage detected.

Parameter Number	Size	Available Settings	Default
5	1	0 ,1	1

6. Configure Water Leakage Detected Enable/Disable

This parameter defines the function than water leakage detect is enabled or disabled. '0' indicate disable water leakage detect, '1' indicate enable water leakage detect.

Parameter Number	Size	Available Settings	Default
6	1	0, 1	1

7. Basic Set Level

Basic Set Command will be sent where contains a value when the door/window is opened or closed, the receiver will take it for consideration; for instance, if a lamp module is received the Basic Set Command of which value is decisive as to how bright of dim level of lamp module shall be.

Parameter Number	Size	Available Settings	Default
7	1	0 ~ 99, 255	255

Notification Command Class

Once the detector detected a water leakage, it will send NOTIFICATION_REPORT and SENSOR_BINARY_REPORT to the nodes of lifeline to inform there is a water leakage event. When water leakage is not detected, NOTIFICATION_REPORT and SENSOR_BINARY_REPORT will be sent again to the nodes in lifeline.

For compliant to Z-Wave 300 Series, There also realize the Binary Sensor Command Class.

Notification Report Command:
Event Present:
Command Class: COMMAND_CLASS_NOTIFICATION
Command: NOTIFICATION_REPORT
Notification Type: NOTIFICATION_TYPE_WATER_ALARM
Event:
NOTIFICATION_EVENT_WATER_ALARM_WATER_LEAK_DETECTED_UNKNOWN_LOCATION
Event Clear:
Command Class: COMMAND_CLASS_NOTIFICATION,
Command: NOTIFICATION_REPORT,
Notification Type: NOTIFICATION_TYPE_WATER_ALARM,
Event: NOTIFICATION_EVENT_WATER_ALARM_NO_EVENT

Binary Sensor Report Command:
Event Present:
Command Class: COMMAND_CLASS_SENSOR_BINARY
Command: SENSOR_BINARY_REPORT
Sensor Type: SENSOR_WATER
Value: 0xFF
Event Clear:
Command Class: COMMAND_CLASS_SENSOR_BINARY
Command: SENSOR_BINARY_REPORT
Sensor Type: SENSOR_WATER
Value: 0x00

Battery Check Command

The users can also enquire the battery status of the water detector by sending BATTERY_GET command. Once the water detector receivers the command, it will return BATTERY_REPORT command. The water detector will send BATTERY_LEVEL = 0xFF command to the Z-Wave Controller to inform that the water detector is in dead battery status, otherwise BATTERY_LEVEL value range is 0% to 100%.

Wakeup Command Class

The water detector stays in sleep status for the majority of time in order to conserve battery life.
The minimum wakeup interval is 300s
The maximum wakeup interval is 16,777,200s (about 194 days)
Allowable interval among each wakeup interval is 60 second, such as 360, 420, 480…

Note: The default value is 12 hours. This value is longer, the battery life is greater.

Manufacture ID: 0x0258
Product ID: 0x0085

Command Classes

This Sensor supports Command Classes as Below:

* COMMAND_CLASS_ZWAVEPLUS_INFO (V2)
* COMMAND_CLASS_VERSION (V2)
* COMMAND_CLASS_MANUFACTURER_SPECIFIC (V2)
* COMMAND_CLASS_DEVICE_RESET_LOCALLY (V1)
* COMMAND_CLASS_POWERLEVEL (V1)
* COMMAND_CLASS_BATTERY (V1)
* COMMAND_CLASS_ASSOCIATION (V2)
* COMMAND_CLASS_ASSOCIATION_GRP_INFO (V1)
* COMMAND_CLASS_WAKE_UP (V2)
* COMMAND_CLASS_NOTIFICATION (V4)
* COMMAND_CLASS_SENSOR_BINARY (V2)
* COMMAND_CLASS_CONFIGURATION (V1)

SPECIFICATIONS

Battery type:	CR2 (3.0V)
Power Consumption:	0.13W
Max Current:	35mA (In Radio Transmitter Mode)
EU Standards Compliance:	
Radio Protocol:	Z-Wave
Radio Frequency:	EU – 868.4MHz US – 908.4MHz
Valid Range:	Up to 80m outdoors Up to 40m indoors (Depending on terrain and building structure)
Operational Temperature:	0 – 40 ℃