

Ecolink Z-Wave Sensor Z-Wave Command Class Specification

Z-Wave stack: 4.54

Generic Device Class: GENERIC_TYPE_SENSOR_BINARY

Specific Device Class: SPECIFIC_TYPE_ROUTING_SENSOR_BINARY

Implemented Command Classes:

- 1 Alarm v2
- 2 Association v2
- 3 Basic / Binary Sensor
- 4 Battery
- 5 Manufacturer Specific v2
- 6 Version v2
- 7 Wake Up v2
- 8 Configuration

1 Alarm

When the cover is removed from the sensor, it broadcasts a Z-Wave Alarm Report frame to all nodes whose node ID is stored in Association group one.

Alarm Report:

Alarm Type: 0x01

Alarm Level: 0x11

When the sensor's cover is restored, the Door/Window sensor broadcasts a Wake Up notification.

2 Association

The sensor has two Association groups available for up to five Z-Wave Node IDs each. Association group one is intended for but not limited to controllers. All nodes whose Node ID that have been set in Association group one will receive all unsolicited Alarm Report frames, and Basic Report frames of 0x00 and 0xFF. Association group two is intended for any device

that is controllable with a Basic Set of 0xFF such as lights, sirens, or chimes. When a sensor such as a door or window sensor is opened/faulted, the sensor will send a Basic Report to nodes in Association group one and a Basic Set of 0xFF to Association group two. When the door or window is closed the sensor will send a Basic Report of 0x00 to only group one. The Configuration command class can configure the sensor to send Basic Sets of 0x00 to nodes in group two (turning devices off). See Configuration Command Class.

Note: It is important that the controller setup Association immediately on inclusion before all battery operated sensors go to sleep. Otherwise, Wake Up notifications will be broadcast to node 255 and not routed, and the controller may never be able to setup Association unless the controller can receive from the sensor directly. The sensor sends a Wake-Up notification immediately after inclusion which some controllers respond to with a Wake-Up No More Information frame which puts the sensor to sleep before the controller attempts to set up Association which is not good, so stop doing that.

3 Basic / Binary Sensor

Binary Sensor Reports and Basic Sets are sent to Groups 1 and 2.

Sensor Status	Group 1	Group 2
Open/Faulted	Sensor Binary Report 0xFF	Basic Set 0xFF
Closed/Restored	Sensor Binary Report 0x00	Basic Set 0x00 (enabled via configuration)

4 Battery

The Door / Window sensor will respond to a Battery Get with a Battery Report Frame indicating the battery level as a percentage. A low battery warning is indicated with a value of 0xFF.

5 Manufacturer Specific

The Manufacturer Report frame for an Ecolink sensor will have the following information:

Manufacturer Report:
Manufacturer ID: 0x014A
Product Type: 0x0001

Device Product ID	Device Description
0x01	PIR Motion Sensor
0x02	Door/Window Sensor
0x03	Tilt Sensor

6 Version

The Version command class is implemented as per Z-Wave specifications.

7 Wake Up

By default, a sensor is configured to send Wake Up Notification frames every three hours. A controller may change the duration between Wake Up Notification frames to be between one hour and one week in increments of two hundred seconds with the Wake Up Interval Set command. The sensor will send Wake Up Notification frames to the Node ID specified in the Wake Up Set Interval command or 255 if no valid nodes have been set.

(As a side note: the Z-Wave PC controller software program does not seem to send the Wake Up Set Interval command correctly unless the user specifies three bytes of interval and one byte of node ID. So one hour would be "00 0E 10".)

8 Configuration

The Configuration command class can be utilized to enable Basic Sets of 0x00 on a fault restore to nodes in Group 2 with a Configuration Set command of Parameter number 0x63 (decimal 99), a size of 1, and a Configuration value of 0xFF (decimal 255). Changing the configuration value to 0 disables the feature.