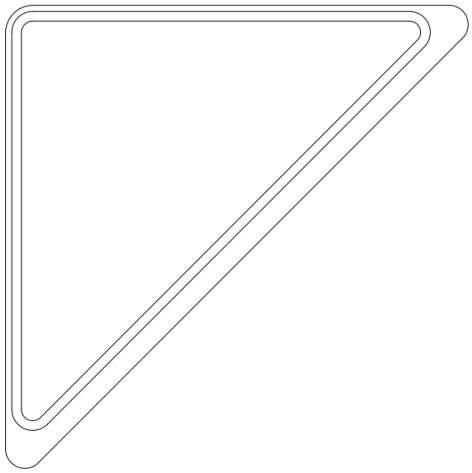
Aeon Labs Door Window Sensor 6

(Z-Wave Door Window Sensor 6)



Change history

Revision	Date	Change Description
1	08/11/2015	Initial draft.

Aeon Labs Door Window Sensor 6
Engineering Specifications and Advanced Functions for Developers

Aeon Labs Door Window Sensor 6 is a sensor binary device based on Z-wave enhanced 232 slave library of V6.51.06.

Aeon Labs Door/Window Sensor 6 provides your Z-Wave network with the intelligence required for a modern home automation and security system. And It does it all in a smaller, more elegant design crafted to suit any home's decor.

The Door Window Sensor is also a security Z-wave device and supports the Over The Air (OTA) feature for the product's firmware upgrade.

Door Window Sensor 6 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.
It also supports Security Command Class and has the AES 128 bit security encryption built right in, so a security enabled controller is needed for fully to utilize its function.

1. Library and Command Classes:

1.1 SDK:6.51.06

1.2 Library:

- Basic Device Class: BASIC_TYPE_ROUTING_SLAVE
- Generic Device class: GENERIC_TYPE_SENSOR_NOTIFICATION
- Specific Device Class: SPECIFIC_TYPE_NOTIFICATION_SENSOR

1.3 Commands:

	Non-Security Controller	Security Controller
Node Info Frame	COMMAND_CLASS_ZWAVEPLUS_INFO, COMMAND_CLASS_VERSION, COMMAND_CLASS_MANUFACTURER_SPECIFIC, COMMAND_CLASS_ASSOCIATION_GRP_INFO, COMMAND_CLASS_ASSOCIATION, COMMAND_CLASS_POWERLEVEL, COMMAND_CLASS_NOTIFICATION_V3, COMMAND_CLASS_WAKE_UP, COMMAND_CLASS_BATTERY, COMMAND_CLASS_SENSOR_BINARY, COMMAND_CLASS_CONFIGURATION, COMMAND_CLASS_SECURITY, COMMAND_CLASS_FIRMWARE_UPDATE_MD_V2 COMMAND_CLASS_MARK, COMMAND_CLASS_DEVICE_RESET_LOCALLY,	COMMAND_CLASS_ZWAVEPLUS_INFO V2 COMMAND_CLASS_VERSION V2 COMMAND_CLASS_WAKE_UP V2 COMMAND_CLASS_MANUFACTURER_SPECIFIC V2 COMMAND_CLASS_SECURITY V1 COMMAND_CLASS_DEVICE_RESET_LOCALLY V1 COMMAND_CLASS_MARK V1
Security Command Supported Report Frame	–	COMMAND_CLASS_ZWAVEPLUS_INFO, COMMAND_CLASS_VERSION, COMMAND_CLASS_MANUFACTURER_SPECIFIC, COMMAND_CLASS_WAKE_UP,

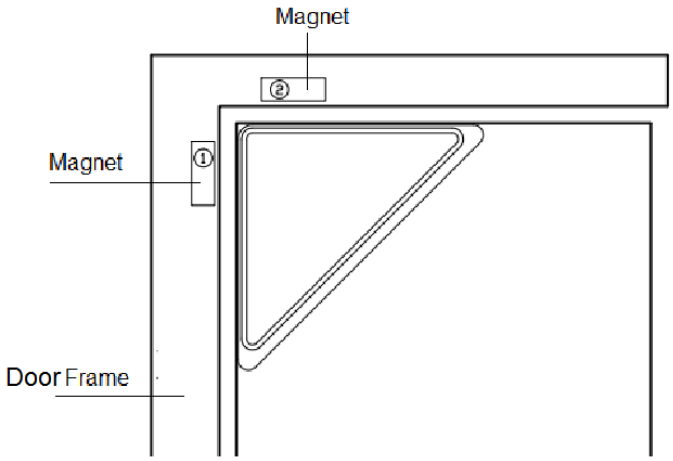
		COMMAND_CLASS_ASSOCIATION_GRP_INFO, COMMAND_CLASS_ASSOCIATION, COMMAND_CLASS_POWERLEVEL, COMMAND_CLASS_NOTIFICATION_V3, COMMAND_CLASS_BATTERY, COMMAND_CLASS_SENSOR_BINARY, COMMAND_CLASS_CONFIGURATION, COMMAND_CLASS_SECURITY, COMMAND_CLASS_FIRMWARE_UPDATE_MD_V2

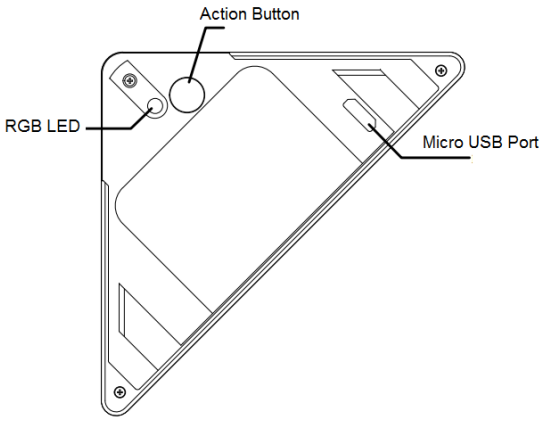
2. Technical Specifications

Operating distance: Up to 492 feet/150 meters outdoors.

3. Familiarize yourself with your Door Window Sensor 6

3.1Interface





4. All Functions of Each Trigger

4.1 Functions of Z-Wave Button

Trigger	Description
Click the Action Button one time	**1. Send node info frame without security CC in node info list.** **2. Add Door Window Sensor into Z-Wave Network:** 1. Power on Door Window Sensor. 2. Let the primary controller into inclusion mode (If you don't know how to do this, please refer to its manual). 3. Press the Action Button. 4. If the adding is failed, please repeat the process from step 2. **3. Remove Door Window Sensor from Z-Wave Network:** 1. Power on Door Window Sensor. 2. Let the primary controller into exclusion mode (If you don't know how to do this, refer to its manual). 3. Press the Action Button. 4. If the removing is failed, please repeat the process from step 2. **Note**: If Door Window Sensor is removed from Z-wave network, it will be reset to factory default.
Click the Action Button 2 times with 1 seconds	**1. Send node info frame with security CC in node info list.** **2. Add Door Window Sensor into Z-Wave Network:** 1. Power on D Door Window Sensor. 2. Let the primary controller into inclusion mode (If you don't know how to do this, please refer to its manual). 3. Press the Action Button 2 times. 4. If the adding is failed, please repeat the process from step 2. **3. Remove Door Window Sensor from Z-Wave Network:** 1. Power on Door Window Sensor. 2. Let the primary controller into exclusion mode (If you don't know how to do this, refer to its manual). 3. Press the Action Button 2 times. 4. If the removing is failed, please repeat the process from step 2. **Note**: If Door Window Sensor is removed from Z-wave network, it will be reset to factory default.
Press and hold Action Button for 3 seconds and then released	Toggle on/off 10 minutes wake up state.
Press and hold Action Button for 20 seconds and then released	**Reset Door Window Sensor to Factory Default:** 1. Make sure the Door Window Sensor is connected to the power supply. 2. If holding time more than one second, the Network LED will fast blink. If holding time more than 20seconds, Network LED will be on for 2 seconds, which indicates the reset operation is successful, otherwise please repeat from step1 to step2. **Note**: 1. This procedure should only be used when the primary controller is inoperable. 2. Reset Door Window Sensor to factory default settings will: a), remove Door Window Sensor from Z-Wave network state;

	b), delete the Association setting; c), restore the configuration settings to the default.
Magnet triggers On/Off	Send Sensor Binary Report (configurable), Basic Set Command (configurable), Battery Report (configurable) or Notification Report.

The priority of destination node that Wake Up Notification will be sent to:

Destination nodes	Priority
The Node configured by Wake up Interval set command	Supreme
SIS or SUC Node	High
First Associated Node	Middle
Broadcast	Low

5. Special rule of each command

5.1 Z-Wave Plus Info Report Command Class

Parameter	Value
Z-Wave Plus Version	1
Role Type	6 (ROLE_TYPE_SLAVE_SLEEPING_REPORTING)
Node Type	0 (ZWAVEPLUS_INFO_REPORT_NODE_TYPE_ZWAVEPLUS_NODE)
Installer Icon Type	0x0C07 (ICON_TYPE_SPECIFIC_SENSOR_NOTIFICATION_HOME_SECURITY)
User Icon Type	0x0C07 (ICON_TYPE_SPECIFIC_SENSOR_NOTIFICATION_HOME_SECURITY)

5.2 Manufacturer Specific Report

Parameter	Value
Manufacturer ID 1	AEON LABS=0x00 FANTEM=0x01
Manufacturer ID 2	AEON LABS=0x86 FANTEM =0x6A
Product Type ID 1	EU=0x00, US=0x01, AU=0x02 CN=0x1D (29)
Product Type ID 2	0x02
Product ID 1	0x00
Product ID 2	0x70 (112)

5.3 Association Command Class

The Dry Contact Sensor supports 1 association group and can add Max 5 nodes in group 1.

Association Group	Nodes	Send Mode	Send commands
Group 1	0	N/A	N/A
	[1,5]	Single Cast	Send Sensor Binary Report (configurable in parameter 121) or Basic Set Command (configurable in parameter 121) or Notification Report Command when the Sensor is triggered.

5.4 Association Group Info Command Class

5.4.1 Association Group Info Report Command Class

Profile: General: NA (Profile MSB=0, Profile LSB=0)

5.4.2 Association Group Name Report Command Class

Group 1：Lifeline

5.5 Configuration Set Command Class

7	6	5	4	3	2	1	0
Command Class = COMMAND_CLASS_CONFIGURATION							
Command = CONFIGURATION_SET							
Parameter Number							
Default	Reserved				Size		
Configuration Value 1(MSB)							
Configuration Value 2							
……							
Configuration Value n(LSB)							

Parameter Number Definitions (8 bit):

Parameter Number Hex / Decimal	Description	Default Value	Size
0x01 (1)	Which value of the Sensor Binary Report or Basic Set will be sent when the Magnet is triggered On/Off. 1, Value=0, On=Sensor Binary Report/Basic Set 0xFF, Off=Sensor Binary Report/Basic Set 0x00. 2, Value=1, On= Sensor Binary Report/Basic Set 0x00, Off= Sensor Binary Report/Basic Set 0xFF.	0	1
0x02 (2)	Enable/disable wake up 10 minutes when re-power on the Sensor. (0=disable, 1=enable)	1	1
0x27 (39)	Set the low battery value. (10% to 50%)	20	1
0x65 (101)	Enable/disable the low battery checking. (0==disable,1==enable)	0	1
0x6F (111)	Set the interval time of low battery checking. The minimum interval is 4 minutes. Its range is 0 to 0x7FFFFFFF.	0x00015270	4
0x79 (121)	To configure which sensor report will be sent when the Magnet is triggered On/Off.	0x00000100	4
0xFC (252)	Lock/unlock all configuration parameters. (0==unlock, 1==lock)	0	1

0xFF (255)	1, Value=0x55555555、Default=1、Size=4 Reset to factory default setting and removed from the z-wave network	N/A	4
	2, Value=0、Default=1、Size=1 Reset to factory default setting	N/A	1

Parameter number equals 121:

	7	6	5	4	3	2	1	0
Configuration Value 1(MSB)	Reserved							
Configuration Value 2	Reserved							
Configuration Value 3	Reserved							Basic Set
Configuration Value 4(LSB)	Reserved	Reserved	Reserved	Sensor Binary	Reserved	Reserved	Reserved	Battery

- Reserved bits or bytes must be set to zero.

Example:

Configure the Dry Contact Sensor to send Sensor Binary report to controller when the Sensor is triggered:

1), Set the association to node 1(controller).

ZW_SendData(0x85, 0x01, 0x01, 0x01); // Association Set

2), Set the parameter 121 to 0x00000010.

ZW_SendData(0x79, 0x04,0x00,0x00,0x00,0x10); //Configuration Set