



Aeon Labs Key Fob (4 Button)

(Z-Wave Remote Controller)



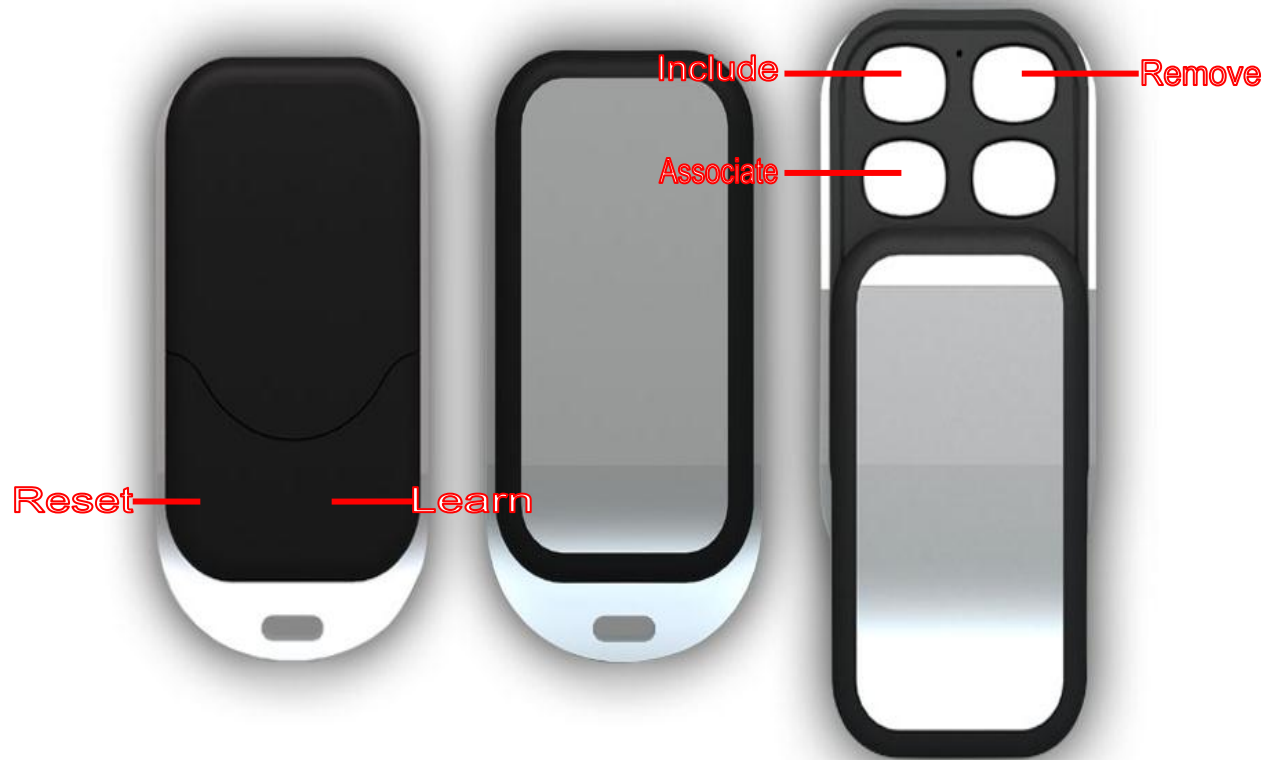
Change history

Revision	Date	Change Description
1	03/26/2012	Initial draft
2	03/27/2012	Updated Pro Configuration Command Class Definitions

Objective:

The Key Fob (4 Button) is a fully functional Z-Wave remote control capable of adding, removing and controlling other Z-Wave devices. It can also become a secondary or inclusion controller to a SIS gateway in the Z-Wave network. Form-factor, industrial design and robust functionality are the major foci. RF range is 100ft. indoors and 300ft. outdoors.

Network setup buttons (such as adding and removing Z-Wave products to the network) are located underneath the top-slide door. We can change these 4 button's mode to Z-Wave scene control mode by short pressed the "change button mode" button. Short pressed the "change button mode" button again, These buttons will return to Network setup mode.



Basic Network Installation Functions:

- 1) “Include” button – When pressed, the Aeon Labs Key Fob remote controller is able to include any other Z-Wave device (both controllers and slaves) within radio range. High power inclusion is implemented. This function only works when the Key Fob is a primary remote or inclusion remote to a SIS in the network.
- 2) “Remove” button – When pressed, the Aeon Labs Key Fob remote controller is able to remove any other Z-Wave device (both controllers and slaves) within radio range. High power removal is implemented. This function only works when the Key Fob is a primary remote or inclusion remote to a SIS in the network.
- 3) “Associate” button – When pressed, the Aeon Labs Key Fob is able to associate slave devices to sensor type devices such that when sensors are triggered, the devices associated to the sensor will receive Z-Wave data from the sensor. This function works when the Key Fob is a primary remote, secondary remote or inclusion remote to a SIS in the network.
- 4) “Learn” button – When pressed, the Aeon Labs Key Fob is able to obtain Z-Wave network information from another controller adding it to a network. Upon a successful “learn”, the Key Fob will become a secondary or inclusion controller to a SIS in the network.

Basic Groups/Scene Functions:

- 1) “Group/Scene” buttons (change network setup buttons to this mode) – When pressed, the Aeon Labs Key Fob will execute a scene associated with the particular button pressed. When held, the Key Fob is able to dim up/down the dimmable devices associated with that scene.

Aeon Labs Key Fob (4 Button)– Advanced Functions for Developers

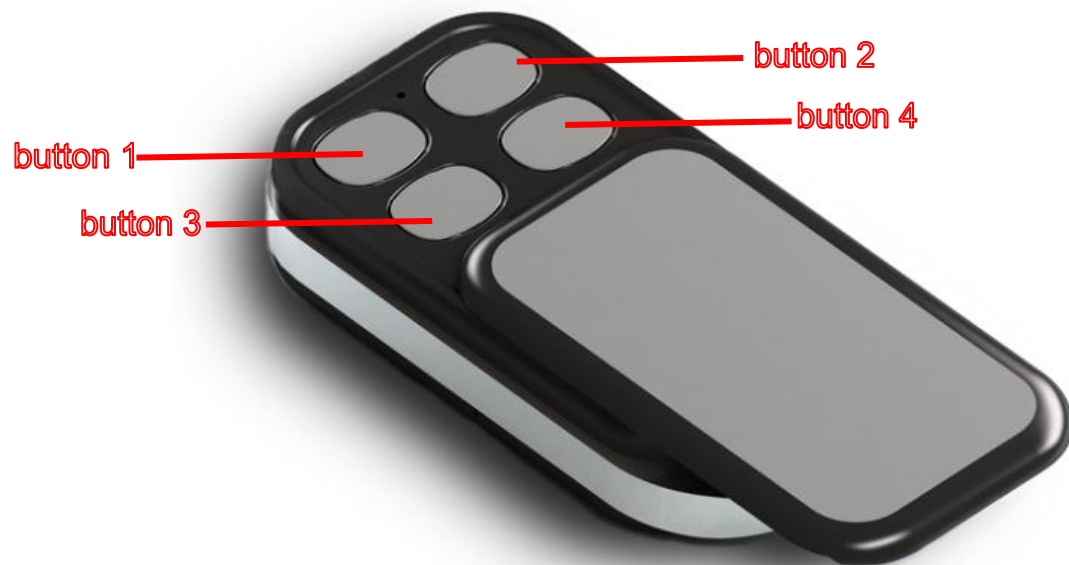
Objective:

The Aeon Labs Key Fob embodies all the functionalities of a basic Z-Wave remote controller with some added functionalities for Z-Wave Static Controller and Gateway developers.

After a successful “learn”, the Key Fob will stay awake for a minimum of 10 seconds to receive any information directed to it (i.e. after the Key Fob has joined a Z-Wave network).

During the 10 seconds the Key Fob is awake, the Configuration Command Class v1 and/or the Association Command Configuration Command Class can be sent by other Z-Wave devices to the Key Fob to set up custom Command Classes and Scenes to be sent by the Key Fob’s buttons (instead of using the default functions of these buttons).

Alternatively, holding the “Learn” button for 3 seconds will trigger the Key Fob to broadcast a “Wake Up Notification” (Wake Up Command Class) and stay awake for 10 seconds.



Using the Configuration Command Class:

When using the Configuration Command Class to set up scenes, all values saved will be sent via the Basic Command Class such that most Z-Wave devices can respond. If other (or custom) command classes are required to be sent, please see “Using the Association Command Configuration Command Class” instructions below.

7	6	5	4	3	2	1	0
Command Class = COMMAND_CLASS_CONFIGURATION							
Command = CONFIGURATION_SET							
Parameter Number							
Default	Reserved				Size		
Configuration Value 1							
Configuration Value 2							
...							
Configuration Value N							

- “Default” field (1 bit) – If the default bit is set to 1 the device is set to default factory setting and the configuration values are ignored. If the default bit is set to 0 then the configuration values are used.
- “Size” field (3 bits) – The size field indicates the number of bytes used for the configuration value. This field can take values 1 (001b), 2 (010b) or 4 (100b).

Parameter Numbers for Configuration Command Class Table:

Parameter Number	Button	Function	Configuration Value 1	Configuration Value 2-4
0-19	1 (tap)	Determines what Basic Command Class values are sent to NodeID when the button is pressed during "Scene Mode" (refer to parameter numbers 241-244). All 40 parameters related to the button will be traversed for information in regards to NodeID and Basic Command Class Set values.	NodeID of the device for which the values in Configuration Value 2 will be sent using the Basic Command Class.	Value(s) to be sent using the Basic Command Class.*
20-39	1 (hold)			
40-59	2 (tap)			
60-79	2 (hold)			
80-99	3 (tap)			
100-119	3 (hold)			
120-139	4 (tap)			
140-159	4 (hold)			
241	1	Determines what mode to place the associated button into.	Value that denotes the mode of the button (refer to "Mode Values for Parameter Numbers 241-244" table below).	NA
242	2			
243	3			
244	4			

Mode Values for Parameter Numbers 241-244 Table:

Mode Value (Configuration Value 1 for Parameter Numbers 241-248).	Mode Description
0	“Default Mode” – The button on the Key Fob uses the factory default functions for operation instead of any special functionality related to the below modes.
1	“Scene Mode” – The button on the Key Fob executes a scene from data received for Parameters Numbers 0-159 related to the button being pressed. *

Using the Association Command Configuration Command Class:

When using the Association Command Configuration Command Class, the Key Fob can be setup to send any command class available, even proprietary information.

Each data packet sent by the Key Fob can have a maximum payload of 8 bytes.

Note – “Scene Mode” must be enabled for the Key Fob buttons to use the Association Command Configuration Command Class via the Configuration Command Class (i.e. Parameter Numbers 241-244 must be set to “Scene Mode”. See “Parameter Numbers for Configuration Command Class Table” (above).

7	6	5	4	3	2	1	0
Command Class = COMMAND_CLASS_ASSOCIATION_COMMAND_CONFIGURATION							
Command = COMMAND_CONFIGURATION_SET							
Grouping identifier							
Node ID							
Command length							
Command Class identifier							
Command identifier							
Command byte 1							
..							
Command byte n							

- “Grouping Identifier” field (1 byte) – Matches directly with Parameters Number’s 0-159 from the Configuration Command Class. See “Parameter Numbers for Configuration Command Class Table” (above).
- “Node ID” field (1 byte) - This field contains the node ID within the grouping specified, that should receive the command.
- “Command Length” field (1 byte) – This field specifies the complete command length (including command class and command identifiers). Example: Switch Multilevel Set 0x20. The command length field must be equal to 0x03.

Note – See Section 3.8.3 in the Z-Wave Command Class Spec for further clarifications.