



Aeon Labs

## Z-Wave KeyFob

AEO\_ZW088



### Quick start

This is a **Remote Control** for **Europe**. To run this device please insert fresh **1 \* CR2450** batteries. Please make sure the internal battery is fully charged.

Pressing the "Learn" button on the backside with the button pin or the Button 3 on the topside will include this device into a Z-Wave network. Pressing the "Learn" button on the backside for 3 seconds will issue a Node Information Frame and keep the device awake to receive configuration commands.

### What is Z-Wave?

Z-Wave is the international wireless protocol for communication in the Smart Home. This device is suited for use in the region mentioned in the quick start section.

Z-Wave ensures a reliable communication by reconfirming every message (**two-way communication**) and every mains powered node can act as a repeater for other nodes (**meshed network**) in case the receiver is not in direct wireless range of the transmitter.



This device and every other certified Z-Wave device can be **used together with any other certified Z-Wave device regardless of brand and origin** as long as both are suited for the same frequency range.

If a device supports **secure communication** it will communicate with other devices secure as long as this device provides the same or a higher level of security. Otherwise it will automatically turn into a lower level of security to maintain backward compatibility.

## Product Description

The Aeon Labs KeyFob is a Z-Wave Remote Control, which features all the functionality of larger Z-Wave remote controls into a smaller, more modern design. Because of its small size it can be fit on a keyring and taken anywhere with you.

This Key Fob Remote Control can be set up as the primary controller of a Z-Wave network or as an additional Z-Wave controller. This is perfect for including it as a remote control in an existing Z-Wave network. Each of the four buttons on the Key Fob can control multiple Z-Wave devices with a simple push and can control up to 8 different scenes.

## Prepare for Installation / Reset

Please read the user manual before installing the product.

In order to include (add) a Z-Wave device to a network it **must be in factory default state**. Please make sure to reset the device into factory default. You can do this by performing an Exclusion operation as described below in the manual. Every Z-Wave controller is able to perform this operation however it is recommended to use the primary controller of the previous network to make sure the very device is excluded properly from this network.

### Reset to factory default

This device also allows to be reset without any involvement of a Z-Wave controller. This procedure should only be used when the primary controller is inoperable.

Slide open the main panel of your Key Fob and press the Mode button on the backside of the device for 20 seconds. When the reset was successfully the green and red LED on the front of the Key Fob will alternatively blink followed by the green LED illuminating for 2 seconds.

### Safety Warning for Batteries

The product contains batteries. Please remove the batteries when the device is not used. Do not mix batteries of different charging level or different brands.

## Installation



1. Slide the rear battery cover from your remote to open the battery compartment.
2. Insert the provided CR 2450 battery into the compartment, ensuring that the + side of the battery is facing up.
3. Reattach the rear battery cover to your remote and firmly close it.

## Inclusion/Exclusion

On factory default the device does not belong to any Z-Wave network. The device needs to be **added to an existing wireless network** to communicate with the devices of this network. This process is called **Inclusion**.

Devices can also be removed from a network. This process is called **Exclusion**. Both processes are initiated by the primary controller of the Z-Wave network. This controller is turned into inclusion respective inclusion mode. Inclusion and Exclusion is then performed doing a special manual action right on the device.

### Inclusion

**Your Key Fob works perfectly as an additional remote control within an existing Z-Wave network. To include it into an existing Z-Wave network do the following steps:**

1. Open the main panel of the Key Fob so that you can see its LED.
2. Bring your primary Z-Wave controller in the inclusion mode.
3. Press the Learn button on the backside of the Key Fob.
4. If successful, the green and red LED on the front of the Key Fob will alternatively blink followed by the green LED illuminating for 2 seconds.
5. If not successful, the red LED will illuminate for 2 seconds.

To exclude the Key Fob from the Z-Wave network repeat the steps above.

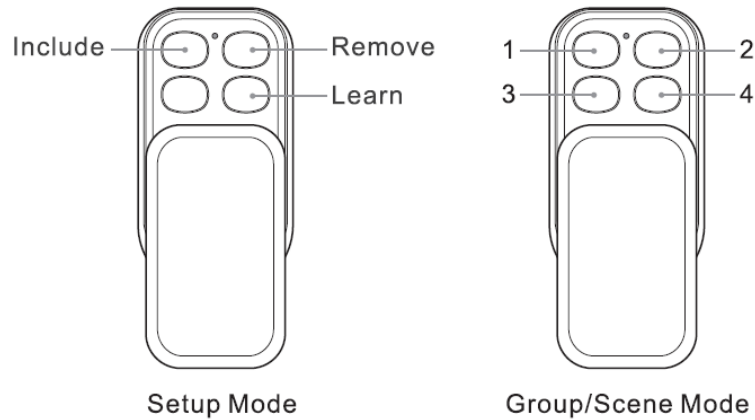
### Exclusion

**Your Key Fob works perfectly as an additional remote control within an existing Z-Wave network. To include it into an existing Z-Wave network do the following steps:**

1. Open the main panel of the Key Fob so that you can see its LED.
2. Bring your primary Z-Wave controller in the inclusion mode.
3. Press the Learn button on the backside of the Key Fob.
4. If successful, the green and red LED on the front of the Key Fob will alternatively blink followed by the green LED illuminating for 2 seconds.
5. If not successful, the red LED will illuminate for 2 seconds.

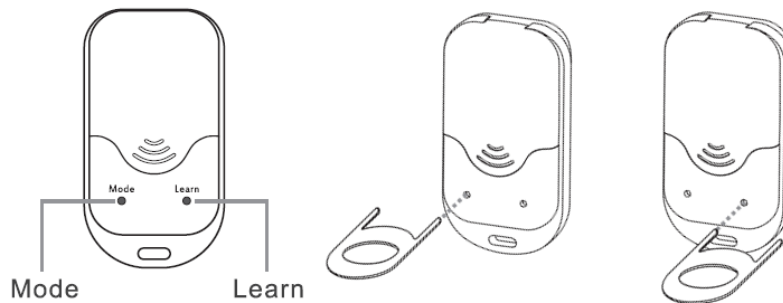
To exclude the Key Fob from the Z-Wave network repeat the steps above.

## Product Usage



The Aeon Labs Key Fob can operate in three different modes: **SETUP**, **GROUP** and **SCENE Mode**.

When the device is first time powered up it is in Setup Mode. This allows you to setup the Key Fob and do everything from creating a new Z-Wave network through to removing devices from one. In this mode the buttons operates as shown in the picture.



To change your Key Fob to Group Mode, open the main panel of the device so that you can see the internal light. Use the provided Button pin to press the Mode button. The LED will illuminate for a second to confirm that the mode has been changed successfully to Group Mode.

If you wish to change your Key Fob to Scene Mode, you'll need to configure it with your Z-Wave gateway. Please refer to the gateway's manual for this.

### Setup Mode

#### For an existing Z-Wave network

Your Key Fob works perfectly as an additional remote control within an existing Z-Wave network.

#### For a new Z-Wave network

Your Key Fob can be set as the primary controller of a Z-Wave network. This is recommended where you don't already have a Z-Wave network set up and you're either starting out or intending to set up only a small system. As a primary controller of a new Z-Wave network, your Key Fob will be able to operate in Setup and Group Mode.

In this case you need to associate your Z-Wave devices with the Key Fob. For details refer to the "Inclusion" part of this manual. Once this is done the Key Fob will work as the primary controller and as a remote control within the Z-Wave network.

### **Group Mode**

When using the Key Fob in Group Mode you are able to control different Z-Wave devices with each of your remote's 4 buttons. In Group Mode each button is capable of controlling up to 50 Z-Wave devices.

For association do the steps as described in the chapter associations.

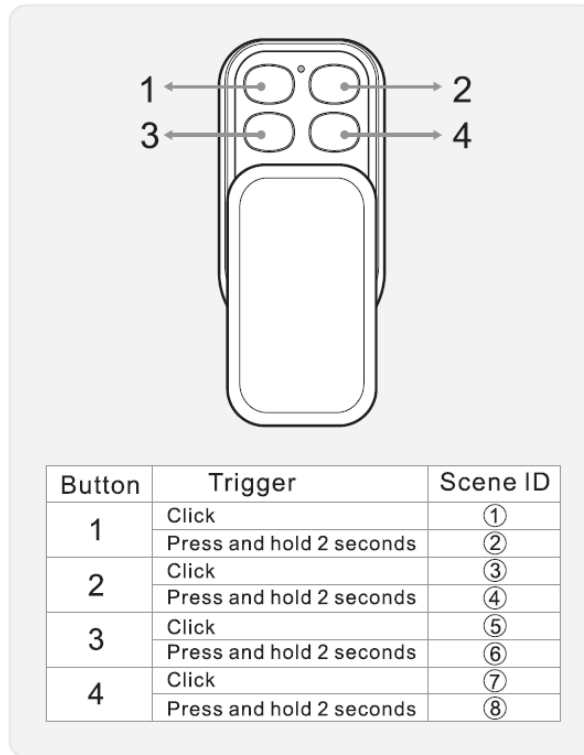
Now you can control the Z-Wave devices you have associated with the Key Fob. By pushing the particular button the device will not only switch on or off, but it is to the level you selected in the earlier steps. With the Key Fob, you have a further function to control multi-level devices. By holding a button for a particular device on the Key Fob the button will send up and down instructions to any compatible device. Holding the button of a dimmable light will dim the brightness up or down.

In order to disassociate devices with the Key Fob do the same steps like associating.

### **Scene Mode**

When using your Key Fob in the Scene Mode you are able to control multiple Z-Wave devices with each of the 4 buttons of the remote. In Scene Mode, each button is capable of controlling two scenes. Each scene can contain 1 to 5 Z-Wave devices. Use your gateway to configure scenes in the Z-Wave network.

### Scenes List:



Every of the 4 action buttons can control 2 scenes. To use the primary scene single click on the button. To use the secondary scene press and hold the button for 2 seconds and release it. The numbering of the scenes (shown in the picture) is important to configure the scenes with your gateway.

### Node Information Frame

The Node Information Frame (NIF) is the business card of a Z-Wave device. It contains information about the device type and the technical capabilities. The inclusion and exclusion of the device is confirmed by sending out a Node Information Frame. Beside this it may be needed for certain network operations to send out a Node Information Frame. To issue a NIF execute the following action:

A single click at the

### Quick trouble shooting

Here are a few hints for network installation if things don't work as expected.

1. Make sure a device is in factory reset state before including. In doubt exclude before include.
2. If inclusion still fails, check if both devices use the same frequency.
3. Remove all dead devices from associations. Otherwise you will see severe delays.
4. Never use sleeping battery devices without a central controller.
5. Don't poll FLIRS devices.
6. Make sure to have enough mains powered device to benefit from the meshing

## Special Operations as Z-Wave Controller

As long as this device is not included into a Z-Wave network of a different controller it is able to manage its own Z-Wave network as primary controller. As a primary controller the device can include and exclude other devices in its own network, manage associations, and reorganize the network in case of problems. The following controller functions are supported:

### Inclusion of other devices

Communication between two Z-Wave devices only works if both belong to the same wireless network. Joining a network is called inclusion and is initiated by a controller. The controller needs to be turned into the inclusion mode. Once in this inclusion mode the other device needs to confirm the inclusion - typically by pressing a button.

If current primary controller in your network is in special SIS mode this and any other secondary controller can also include and exclude devices.

To become primary a controller, have to be reset and then include a device.

When your Key Fob is setup as the primary controller in the Z-Wave network it's able to add and remove devices in the network.

### Inclusion

1. Bring your Key Fob in the Setup Mode.
2. Take your Key Fob to within 3 meters of the device you wish to control.
3. Slide open the main panel of your Key Fob and press the Include button. The green LED will blink. If the red LED lights up for 2 seconds the Key Fob is set as secondary controller in the Z-Wave network and it is notable to add or remove devices in the network.
4. Press the dedicated button on the device you wish to add.
5. When the device was successfully included the green LED on the Key Fob will light up for 2 seconds and then begin to blink again. If the device wasn't successfully added, the red LED will light up for 2 seconds and then begin to blink again.

Repeat the steps to include further Z-Wave devices.

Once you have finished, press any button on the Key Fob to exit the inclusion mode.

### Exclusion of other devices

The primary controller can exclude devices from the Z-Wave network. During exclusion the relationship between the device and the network of this controller is terminated. No communication between the device and other devices still in the network can happen after a successful exclusion. The controller needs to be turned into the exclusion mode. Once in this exclusion mode the other device needs to confirm the exclusion - typically by pressing a button.

**Attention:** Removing a device from the network means that it is turned back into factory default status. This process can also exclude devices from it's previous network.

### Exclusion

1. Bring your Key Fob in the Setup Mode.

2. Take your Key Fob to within 3 meters of the device you wish to control.
3. Slide open the main panel of your Key Fob and press the Remove button. The red LED will blink. If the red LED lights up for 2 seconds the Key Fob is set as secondary controller in the Z-Wave network and it is notable to add or remove devices in the network.
4. Press the dedicated button on the device you wish to remove.
5. When the device was successfully excluded the green LED on the Key Fob will light up for 2 seconds and then the red LED begins to blink. If the device wasn't successfully removed, the red LED will light up for 2 seconds and then begin to blink again. In this case repeat the process from step 1 again.

Repeat the steps to exclude further Z-Wave devices.

Once you have finished, press any button on the Key Fob to exit the exclusion mode.

#### **Shift of Primary Controller Role**

The device can hand over its primary role to another controller and become secondary controller.

The primary shift is initiated on the device by pressing the "Learn" button.

### **Technical Data**

<b>Hardware Platform</b>	ZM5202
<b>IP Class</b>	IP 20
<b>Battery Type</b>	1 * CR2450
<b>Device Type</b>	Remote Control - Simple
<b>Generic Device Class</b>	Portable Controller
<b>Specific Device Class</b>	Portable Remote Controller
<b>Firmware Version</b>	01.02
<b>Z-Wave Version</b>	03.53
<b>Z-Wave Product Id</b>	0x0086.0x0001.0x0058

### **Supported Command Classes**

- Basic
- Association Grp Info
- Device Reset Locally
- Zwaveplus Info
- Configuration
- Manufacturer Specific
- Powerlevel



- Battery
- Wake Up
- Association
- Version
- Scene Activation
- Switch Multilevel

## Controlled Command Classes

- Scene Activation
- Switch Multilevel

## Explanation of Z-Wave specific terms

- **Controller** — is a Z-Wave device with capabilities to manage the network. Controllers are typically Gateways, Remote Controls or battery-operated wall controllers.
- **Slave** — is a Z-Wave device without capabilities to manage the network. Slaves can be sensors, actuators and even remote controls.
- **Primary Controller** — is the central organizer of the network. It must be a controller. There can be only one primary controller in a Z-Wave network.
- **Inclusion** — is the process of adding new Z-Wave devices into a network.
- **Exclusion** — is the process of removing Z-Wave devices from the network.
- **Association** — is a control relationship between a controlling device and a controlled device.
- **Wakeup Notification** — is a special wireless message issued by a Z-Wave device to announce that it is able to communicate.
- **Node Information Frame** — is a special wireless message issued by a Z-Wave device to announce its capabilities and functions.