



Z-Wave.Me

Key Chain Remote Control with 4 buttons

SKU: ZME_KFOB



Quickstart

This is a **Remote Switch** for **Europe**. Please make sure the internal battery is fully charged.

The device can be in normal control mode or management mode. Pushing all four buttons for 5 sec. will turn the fob into management mode. Management mode will time out after 10 sec. if no button is pushed. Button 3 confirms standard inclusion/exclusion by a primary controller, button 1 confirms a network wide inclusion. Button 2 issues a node information frame or wakeup notification, button 4 adds associated device.

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 Quickstart section. (For more information about frequency regulations please refer to [the frequency coverage overview at Sigma Designs Website](#)).

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.

For more information about Z-Wave technology, devices, white papers etc. please refer to www.z-wave.info.



Product Description

The Z-Wave.Me Key Fob is a Z-Wave device that can both control other Z-Wave devices and activate predefined scenes in an IP gateway. Although it is controlling other devices the fob can't act as Z-Wave network controller (primary or secondary) and will always need a Z-Wave network controller to be included into a Z-Wave network. The Key Fob can be used in five different modes that are picked by configuration commands:

1. Direct Control of associated Devices with On/Off/Dim commands
2. Direct Control of associated Devices with On/Off commands
3. Switch All On/Off
4. Scene Activation in IP Gateway
5. Direct Activation of preconfigured Scenes
6. Direct Control of Devices in proximity

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.

Installation

The device comes ready to use with a battery already installed. A simple push of one the buttons will be confirmed by a single LED blinking sequence. This can serve as a simple initial device test.

For battery change the device needs to be opened by removing the three little screws on the back side of the device. During reassembly watch the position of the white rubber and the make sure the silver buttons fit exactly into the nipples of the rubber.

The device can be operated in two different modes: the operation mode and the management mode:

- Operation Mode: This is the mode where the device is controlling other devices.

- **Management Mode:** The device is turned into the management mode by **pushing all four buttons for 5 sec.** A blinking LED indicates the management mode. In the management mode buttons of the device have different functions. If no further action is performed the device will turn back to the normal mode after 10 sec. Any management action terminates the management mode as well.

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 exclusion respective inclusion mode. Inclusion and Exclusion is then performed doing a special manual action right on the device.

Inclusion

Once the controller is turned into inclusion mode **turn the KFOB into management mode and hit Button 3**. The **device is excluded by entering management mode and hitting button 3** when the controller is in exclusion mode. To include/exclude the device in the NWI mode **turn the KFOB into management mode and hit Button 1**.

Exclusion

Once the controller is turned into inclusion mode **turn the KFOB into management mode and hit Button 3**. The **device is excluded by entering management mode and hitting button 3** when the controller is in exclusion mode. To include/exclude the device in the NWI mode **turn the KFOB into management mode and hit Button 1**.

Product Usage

Depending on the button mode and operating modes configured using the configuration parameters the key fob can be used in different ways.

Button modes:

Control is done with two buttons (This is the mode set on default) One group (No. 1) of devices is controlled by button 1 and 3, the other group (No. 3) is controlled by button 2 and 4. Clicking the larger button turned on the loads. clicking the smaller button turns off the loads. In case dimmers are controlled, holding down the larger button will dim up, holding down the smaller button will dim down the load. Releasing the button will stop the dimming function.

Control is done with two buttons and double clicks This mode is same as previous, but double clicks (on/off) or click-holds (dimming) are used to control two more groups: No. 2 and No. 4.

Control is done with single buttons In this mode a group of device is controlled by a single button: single click turns on, double click turns off devices in the group. In case dimmers are controlled, holding down the button will dim up, click and hold down will dim down the load. Group number corresponds to the button label.

Operating modes:

Direct Control of associated devices with On/Off/Dim commands (This is the mode set on default). Devices are controlled using Basic Set On/Off commands and SwitchMultilevel Dim Start/Stop. This mode implements communication pattern **7**.

Direct Control of associated devices with only On/Off commands. Devices are controlled using only Basic Set On/Off commands. On dimming Up event On is sent, on dimming Down Off is sent. This mode also implements communication pattern **7**.

Switch All commands In this mode a **all neighbouring devices** will receive SwitchAll Set On/Off command and interpret it according to their membership in SwitchAll groups. This mode implements communication pattern **7**.

Direct Control of Devices in proximity Basic Set and SwitchMultilevel Dim commands are sent to a device in proximity (50...100 cm) from the Fob. Attention: In case there are more than one Z-Wave devices nearby all these devices may be switched. For this reason the proximity function should be handled with care. This mode implements communication pattern **7**.

Direct Activation of preconfigured scenes Associated devices in an association group are controlled by individual commands defines by Z-Wave command class ?Scene Controller Configuration?. This mode enhances mode **Direct Control of associated devices with On/Off/Dim commands** and implements communication patterns **6** and **7**.

Scene Activation in IP Gateway If configured correctly the buttons can trigger a scene in a gateway. The scene number triggered is a combination of the group number and the action performed on the button and has always two digits. The group number defines the upper digit of the scene number, the action the lower digit. The following actions are possible:

- 1 = On
- 2 = Off
- 3 = Dim Up Start
- 4 = Dim Down Start
- 5 = Dim Up Stop
- 6 = Dim Down Stop

Example: Clicking/double clicking the button will issue scene triggers, scene 11 (button 1 click, event on), scene 12 (button double click 1, event off, single button control is used in this example)

This mode implements communication pattern **6**.

In management mode the following actions can be performed:

- Button 1 - Network Wide Inclusion: The device can be included into a Z-Wave Network from any physical location in the network. This requires a primary

controller supporting Explorer Frames. This mode lasts for 20 seconds and stops automatically. Any button press stops the mode as well.

- Button 2 - Send Node Information Frame and Wake up Notification. (see explanation below)
- Button 3 - Learn Mode: The device is included or excluded from a controller in direct wireless range. Any button press stops the mode. Performing an exclusion of the device from a network resets the device into its factory default.
- Button 4 - Enter into Association mode to assign target devices to one of the four association. Refer to the manuals section about association for more information how to set and unset association groups.

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:

Pressing Button 2 in management mode will issue a Node Information Frame.

Communication to a Sleeping device (Wakeup)

This device is battery operated and turned into deep sleep state most of the time to save battery life time. Communication with the device is limited. In order to communicate with the device, a static controller **C** is needed in the network. This controller will maintain a mailbox for the battery operated devices and store commands that can not be received during deep sleep state. Without such a controller, communication may become impossible and/or the battery life time is significantly decreased.

This device will wakeup regularly and announce the wakeup state by sending out a so called Wakeup Notification. The controller can then empty the mailbox. Therefore, the device needs to be configured with the desired wakeup interval and the node ID of the controller. If the device was included by a static controller this controller will usually perform all necessary configurations. The wakeup interval is a tradeoff between maximal battery life time and the desired responses of the device. To wakeup the device please perform the following action:

The Fob will stay awake right after inclusion for 2.5 seconds allowing the controller to perform certain configuration. It is possible to manually wake up the device by pushing button 2 in management mode.

The minimum allowed wakeup time is 240s but it's strongly recommended to define a much longer interval since the only purpose of a wakeup should be the reporting of the battery status or an update of the child protection settings. Defining Node id of 0 as a destination of the Wake up Notification will disable the periodical wakeup function entirely.

Quick trouble shooting

Here are a few hints for network installation if things dont 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. Dont poll FLIRS devices.
6. Make sure to have enough mains powered device to benefit from the meshing

Association - one device controls an other device

Z-Wave devices control other Z-Wave devices. The relationship between one device controlling another device is called association. In order to control a different device, the controlling device needs to maintain a list of devices that will receive controlling commands. These lists are called association groups and they are always related to certain events (e.g. button pressed, sensor triggers, ...). In case the event happens all devices stored in the respective association group will receive the same wireless command wireless command, typically a 'Basic Set' Command.

Association Groups:

Group Number	Maximum Nodes	Description
1	8	Controlled by button 1 or single clicks of buttons 1 and 3
2	8	Controlled by button 3 or double clicks of buttons 1 and 3
3	8	Controlled by button 2 or single clicks of buttons 2 and 4
4	8	Controlled by button 4 or double clicks of buttons 2 and 4

Configuration Parameters

Z-Wave products are supposed to work out of the box after inclusion, however certain configuration can adapt the function better to user needs or unlock further enhanced features.

IMPORTANT: Controllers may only allow configuring signed values. In order to set values in the range 128 ... 255 the value sent in the application shall be the desired value minus 256. For example: To set a parameter to 200 it may be needed to set a value of 200 minus 256 = minus 56. In case of a two byte value the same logic applies: Values greater than 32768 may needed to be given as negative values too.

Parameter 1: Button 1 and 3 pair mode

In separate mode button 1 works with group 1, button 3 with groups 3. Click is On, Hold is dimming Up, Double click is Off, Click-Hold is dimming Down. In pair button 1/3 are Up/Down correspondingly. Click is On/Off, Hold is dimming Up/Down. Single clicks works with group 1, double click with group 3.

Size: 1 Byte, Default Value: 01

Setting	Description
00	Separately
01	In pair without double clicks
02	In pair with double clicks

Parameter 2: Button 2 and 4 pair mode

In separate mode button 2 works with group 2, button 4 with groups 4. Click is On, Hold is dimming Up, Double click is Off, Click-Hold is dimming Down. In pair button 2/4 are Up/Down correspondingly. Click is On/Off, Hold is dimming Up/Down. Single clicks works with group 2, double click with group 4.

Size: 1 Byte, Default Value: 01

Setting	Description
00	Separately
01	In pair without double clicks
02	In pair with double clicks

Parameter 11: Action on group 1

*In Switch On/Off only mode On command is sent on Dim Up, Off on Dim Down. In Scenes mode the scene ID sent is (10 * group + ActionID), where ActionID is: 1 = On, 2 = Off, 3 = Dim Up Start, 4 = Dim Down Start, 5 = Dim Up Stop, 6 = Dim Down Stop*

Size: 1 Byte, Default Value: 01

Setting	Description
00	Disabled
01	Switch On/Off and Dim (send Basic Set and Switch Multilevel)
02	Switch On/Off only (send Basic Set)
03	Switch All
04	Send Scenes
05	Send Preconfigured Scenes
06	Control devices in proximity

Parameter 12: Action on group 2

*In Switch On/Off only mode On command is sent on Dim Up, Off on Dim Down. In Scenes mode the scene ID sent is (10 * group + ActionID), where ActionID is: 1 = On, 2 = Off, 3 = Dim Up Start, 4 = Dim Down Start, 5 = Dim Up Stop, 6 = Dim Down Stop*

Size: 1 Byte, Default Value: 01

Setting	Description
00	Disabled
01	Switch On/Off and Dim (send Basic Set and Switch Multilevel)
02	Switch On/Off only (send Basic Set)
03	Switch All
04	Send Scenes
05	Send Preconfigured Scenes
06	Control devices in proximity

Parameter 13: Action on group 3

*In Switch On/Off only mode On command is sent on Dim Up, Off on Dim Down. In Scenes mode the scene ID sent is (10 * group + ActionID), where ActionID is: 1 = On, 2 = Off, 3 = Dim Up Start, 4 = Dim Down Start, 5 = Dim Up Stop, 6 = Dim Down Stop*

Size: 1 Byte, Default Value: 01

Setting	Description
00	Disabled
01	Switch On/Off and Dim (send Basic Set and Switch Multilevel)
02	Switch On/Off only (send Basic Set)
03	Switch All
04	Send Scenes
05	Send Preconfigured Scenes
06	Control devices in proximity

Parameter 14: Action on group 4

*In Switch On/Off only mode On command is sent on Dim Up, Off on Dim Down. In Scenes mode the scene ID sent is (10 * group + ActionID), where ActionID is: 1 = On, 2 = Off, 3 = Dim Up Start, 4 = Dim Down Start, 5 = Dim Up Stop, 6 = Dim Down Stop*

Size: 1 Byte, Default Value: 01

Setting	Description
00	Disabled
01	Switch On/Off and Dim (send Basic Set and Switch Multilevel)
02	Switch On/Off only (send Basic Set)
03	Switch All
04	Send Scenes
05	Send Preconfigured Scenes
06	Control devices in proximity

Parameter 20: Typical click timeout

Typical time used to differentiate click, hold and double clicks

Size: 1 Byte, Default Value: 32

Setting	Description
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Parameter 21: Send the following Switch All commands

Size: 1 Byte, Default Value: 01

Setting	Description
01	Switch off only
02	Switch on only
ff	Switch all on and off

Parameter 22: Invert buttons

Size: 1 Byte, Default Value: 00

Setting	Description
00	No
01	Yes

Parameter 30: Send unsolicited Battery Report on Wake Up

Size: 1 Byte, Default Value: 00

Setting	Description
00	No
01	To same node as wake up notification
02	Broadcast to neighbours

Parameter 24: LED confirmation mode

This allows to save battery

Size: 1 Byte, Default Value: 02

Setting	Description
00	No confirmations
01	Confirm button press
02	Confirm button press and delivery

Technical Data

Dimensions	55x30x14 mm
Weight	32 gr
Hardware Platform	ZM3102
Device Type	Remote Switch
Generic Device Class	Remote Switch
Specific Device Class	Portable Controller
Firmware Version	01.02
Z-Wave Version	03.2a
Certification ID	ZC08-12070010
Z-Wave Product Id	0115.0100.0001

Supported Command Classes

- Basic
- Battery
- Wake Up
- Association
- Version
- Multi Channel
- Multi Channel Association
- Configuration
- Manufacturer Specific

- Protection
- Node Naming
- Switch Multilevel
- Scene Activation
- Switch All
- Scene Controller Conf

Controlled Command Classes

- Basic
- Multi Channel
- Switch Multilevel
- Scene Activation
- Switch All

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.

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