



ZME_RC2

Z-Wave Remote Control

Firmware Version : 1.1

Quick Start

S This device is a Z-Wave Remote Control with the logical function of a sensor. Push the "Include" button behind the slider on the back side 3 times includes the device into an existing the Z-Wave network. The device can not act as primary network controller.

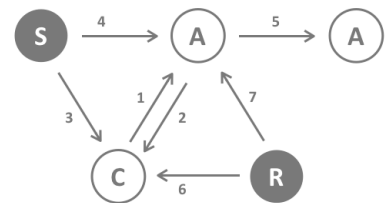
Please refer to the chapters below for detailed information about all aspects of the products usage.

What is Z-Wave?

This device is equipped with wireless communication complying to the Z-Wave standard. Z-Wave is the **international standard for wireless communication** in smart homes and buildings. It is using the **frequency of 868.42 MHz** to realize a very stable and secure communication. Each message is reconfirmed (**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.

Z-Wave differentiates between Controllers and Slaves. Slaves are either sensors (**S**) transmitting metered or measured data or actuators (**A**) capable to execute an action. Controllers are either static mains powered controllers (**C**) also referred to as gateways or mobile battery operated remote controls (**R**). This results in a number of possible communication patterns within a Z-Wave network that are partly or completely supported by a specific device.

1. Controllers control actuators
2. Actuators report change of status back to controller
3. Sensors report change of status of measured values to controller
4. Sensors directly control actuators
5. Actuators control other actuators
6. Remote controls send signals to static controllers to trigger scenes or other actions
7. Remote controls control other actuators.



There are two different role a controller can have. There is always one single primary controller that is managing the network and including/excluding devices. The controller may have other functions - like control buttons - as well. All other controllers don't manage the network itself but can control other devices. They are called secondary controllers. The image also shows that its not possible to operate a sensor just from a remote control. Sensors only communicate with static controllers.

Product description

The Z-Wave.Me Remote controls Z-Wave actuators such as dimmers, switches, thermostats or motor controls for blinds or жалюзи and it can activate scenes in central gateways or any other Z-Wave devices. Devices can be turned on and off but dimmers and motor controls can also be turned into a desired dimming level to motor position by keeping a button pushed and releasing it. Although it is controlling other devices, the device can not 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 device can be used in different modes that are selected by configuration parameters 11-21:

1. Direct control of associated devices
2. Control of all devices in the Z-Wave network
3. Simple and enhanced scene activation

10 pair of buttons - illuminated by blue light when operated - allow to control up to 10 control groups (either association groups or scenes)

Batteries

The unit is operated by batteries. Use only batteries of correct type. Never mix old and new batteries in the same device. Used batteries contain hazardous substances and should not be disposed of with household waste!

Battery Type: 4 * AAA

Behavior within the Z-Wave network

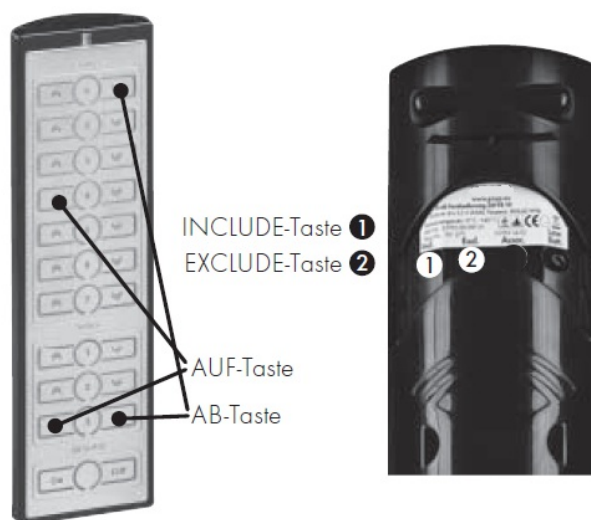
I On factory default the device does not belong to any Z-Wave network. The device needs to join an existing wireless network to communicate with the devices of this network. This process is called **Inclusion**. Devices can also leave a network. This process is called **Exclusion**. Both processes are initiated by the primary controller of the Z-Wave network. This controller will be turned into exclusion respective inclusion mode. Please refer to your primary controllers manual on how to turn your controller into inclusion or exclusion mode. Only if the primary controller is in inclusion or exclusion mode, this device can join or leave the network. Leaving the network - i.e. being excluded - sets the device back to factory default.

If the device already belongs to a network, follow the exclusion process before including it in your network. Otherwise inclusion of this device will fail. If the controller being included was a primary controller, it has to be reset first.

For including/excluding the remote control into an existing the Z-Wave network do the following steps:

- Bring your primary controller into inclusion mode.
- **For Inclusion press the "Inclusion" button 3 times.** The LED will flash green for a moment for confirmation.
- **For Exclusion press the "Exclusion" button for 5 secs.** The LED will flash green for a moment for confirmation.

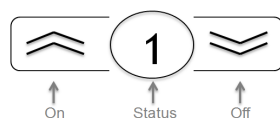
Operating the device



This Remote Control has 10 different button groups to control 10 different devices or groups of devices.

Operating modes for direct device control:

The devices supports 8 different operating modes for these groups - this means the kind of command sent out when pushing a button. Operating modes either directly control other devices or they issue various scene activation commands to a central controller. Operating modes for direct device control are:



- **Direct Control of associated devices with On/Off/Dim commands (parameter 11...21 = 1).** Devices are controlled using Basic Set On/Off commands and SwitchMultilevel Dim Start/Stop. This mode implements communication pattern 7. Each button of the button group has different functions:
 - ,On' - short click: turn on device(s)
 - ,On' - pushed: dim up light or wind up jalousie until button is released
 - ,Off' - short click: turn off device(s)
 - ,Off' - pushed: dim down light or wind down jalousie until button is released
 - Status: Call the status of the device controlled. Blue LED indicated 'on', red LED indicates 'off'. A blinking LED indicated that different devices controlled by this button group have different switching states.
- **Direct Control of associated devices with only On/Off commands (parameter 11...21 = 2).** 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 (parameter 11...21 = 3)** 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.

Operating modes for scene activation are:

- **Direct Activation of preconfigured scenes (parameter 11...21 = 5)** This mode causes the button of the groups to send out the number of the group (1..10) as scene activation command and implements communication patterns 6 and 7.
- **Scene Activation in IP Gateway (parameter 11...21 = 4)** 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)

Wakeup Intervals - how to communicate with the device?

W 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.

Pressing the "INCL." button for three times will wake up the device.

It is possible to set the node ID to 255 to send wakeup notifications as broadcast. In this mode device takes more time to go to sleep and drains battery faster, but can notify all it's direct neighbors about a wakeup.

Node Information Frame

NI The Node Information Frame 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.

Pressing the "INCL." button for three times will send out a Node Information Frame.

LED Control

- Green blinking 1Hz frequency: Learning Mode
- Red blink: No program/ invalid button press / The protection is set
- Yellow for 3 sec: The On button command was send successfully
- Blue for 3 sec: The Off button command was send successfully
- Yellow/RED for 3 sec: The On button command was send unsuccessfully
- Blue/RED for 3 sec: The Off button command was send unsuccessfully
- Red blinking 2Hz frequency: The battery seems to be low.
- Yellow/Blue/Red 3sec: The protection is unlocked
- Blinking Blue - we are dimming.

Associations

A 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 a common wireless command.

Association Groups:

1	Lifeline. Send to controller battery level and WakeUp Notification (max. nodes in group: 5)
2	The buttons of group №1 (max. nodes in group: 5)
3	The buttons of group №2 (max. nodes in group: 5)
4	The buttons of group №3 (max. nodes in group: 5)
5	The buttons of group №4 (max. nodes in group: 5)
6	The buttons of group №5 (max. nodes in group: 5)
7	The buttons of group №6 (max. nodes in group: 5)
8	The buttons of group №7 (max. nodes in group: 5)
9	The buttons of scene №1 (max. nodes in group: 5)
10	The buttons of scene №2 (max. nodes in group: 5)
11	The buttons of scene №3 (max. nodes in group: 5)
12	The buttons of All On/Off (max. nodes in group: 5)

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 to configure 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 two byte value the same logic applies: Values greater than 32768 may needed to be given as negative values too.

Command to Control Group №1 (association group 2) (Parameter Number 10, Parameter Size 1)

This parameter defines the command to be sent to devices of control group №1 when the related button is pressed (association group 2)

Value	Description
0	Disabled
1	Switch On/Off and Dim (send Basic Set and Switch Multilevel) (Default)
2	Switch On/Off only (send Basic Set)
3	Switch All
4	Send Scenes
5	Send Preconfigured Scenes

Command to Control Group №2 (association group 3) (Parameter Number 11, Parameter Size 1)

This parameter defines the command to be sent to devices of control group №2 when the related button is pressed (association group 3)

Value	Description
0	Disabled
1	Switch On/Off and Dim (send Basic Set and Switch Multilevel) (Default)
2	Switch On/Off only (send Basic Set)
3	Switch All
4	Send Scenes
5	Send Preconfigured Scenes

Command to Control Group №3 (association group 4) (Parameter Number 12, Parameter Size 1)

This parameter defines the command to be sent to devices of control group №3 when the related button is pressed (association group 4)

Value	Description
0	Disabled
1	Switch On/Off and Dim (send Basic Set and Switch Multilevel) (Default)
2	Switch On/Off only (send Basic Set)
3	Switch All
4	Send Scenes
5	Send Preconfigured Scenes

Command to Control Group №4 (association group 5) (Parameter Number 13, Parameter Size 1)

This parameter defines the command to be sent to devices of control group №4 when the related button is pressed (association group 5)

Value	Description
0	Disabled
1	Switch On/Off and Dim (send Basic Set and Switch Multilevel) (Default)
2	Switch On/Off only (send Basic Set)
3	Switch All
4	Send Scenes
5	Send Preconfigured Scenes

Command to Control Group №5 (association group 6) (Parameter Number 14, Parameter Size 1)

This parameter defines the command to be sent to devices of control group №5 when the related button is pressed (association group 6)

Value	Description
0	Disabled
1	Switch On/Off and Dim (send Basic Set and Switch Multilevel) (Default)
2	Switch On/Off only (send Basic Set)
3	Switch All
4	Send Scenes
5	Send Preconfigured Scenes

Command to Control Group №6 (association group 7) (Parameter Number 15, Parameter Size 1)

This parameter defines the command to be sent to devices of control group №6 when the related button is pressed (association group 7)

Value	Description
0	Disabled
1	Switch On/Off and Dim (send Basic Set and Switch Multilevel) (Default)
2	Switch On/Off only (send Basic Set)
3	Switch All
4	Send Scenes
5	Send Preconfigured Scenes

Command to Control Group №7 (association group 8) (Parameter Number 16, Parameter Size 1)

This parameter defines the command to be sent to devices of control group №7 when the related button is pressed (association group 8)

Value	Description
0	Disabled

1	Switch On/Off and Dim (send Basic Set and Switch Multilevel) (Default)
2	Switch On/Off only (send Basic Set)
3	Switch All
4	Send Scenes
5	Send Preconfigured Scenes

Command to Control Scene №1 (association group 9) (Parameter Number 17, Parameter Size 1)

This parameter defines the command to be sent to devices of control scene group №1 when the related button is pressed (association group 9)

Value	Description
0	Disabled
1	Switch On/Off and Dim (send Basic Set and Switch Multilevel)
2	Switch On/Off only (send Basic Set)
3	Switch All
4	Send Scenes (Default)
5	Send Preconfigured Scenes

Command to Control Scene №2 (association group 10) (Parameter Number 18, Parameter Size 1)

This parameter defines the command to be sent to devices of control scene group №2 when the related button is pressed (association group 10)

Value	Description
0	Disabled
1	Switch On/Off and Dim (send Basic Set and Switch Multilevel)
2	Switch On/Off only (send Basic Set)
3	Switch All
4	Send Scenes (Default)
5	Send Preconfigured Scenes

Command to Control Scene №3 (association group 11) (Parameter Number 19, Parameter Size 1)

This parameter defines the command to be sent to devices of control scene group №3 when the related button is pressed (association group 11)

Value	Description
0	Disabled
1	Switch On/Off and Dim (send Basic Set and Switch Multilevel)
2	Switch On/Off only (send Basic Set)
3	Switch All
4	Send Scenes (Default)
5	Send Preconfigured Scenes

Command to Control group All On/Off (association group 12) (Parameter Number 20, Parameter Size 1)

This parameter defines the command to be sent to devices of control group All On/Off when the related button is pressed (association group 12)

Value	Description
0	Disabled
1	Switch On/Off and Dim (send Basic Set and Switch Multilevel)
2	Switch On/Off only (send Basic Set)
3	Switch All (Default)

4	Send Scenes
5	Send Preconfigured Scenes

Send the following Switch All commands (Parameter Number 21, Parameter Size 1)

Value	Description
1	Switch off only
2	Switch on only
255	Switch all on and off (Default)

Command Classes

Supported Command Classes

- Configuration (version 1)
- Manufacturer Specific (version 1)
- Protection (version 1)
- Battery (version 1)
- Wake Up (version 2)
- Association (version 2)
- Version (version 1)
- Multi Channel Association (version 2)
- Multi Channel (version 3)
- Basic (version 1)
- Multilevel Switch (version 1)
- All Switch (version 1)
- Scene Activation (version 1)

Controlled Command Classes

- Multi Channel (version 3)
- Basic (version 1)
- Multilevel Switch (version 1)
- All Switch (version 1)
- Scene Activation (version 1)

Technical Data

IP Rating	IP 20
Battery Type	4 * AAA
Frequency	868.42 MHz
Explorer Frame Support	Yes
SDK	4.55.00
Device Type	Slave with routing capabilities
Generic Device Class	Remote Switch
Specific Device Class	Multilevel Remote Switch
Routing	No
FLIRS	No

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 bringing 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.

Disposal Guidelines

The product contains batteries. Please remove the batteries when the device is not used.

Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities. Contact your local government for information regarding the collection systems available. If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging your health and well-being.

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