



Clare Controls Z-Wave™ Admin Guide

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Important information

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Advisory messages alert you to conditions or practices that can cause unwanted results. The advisory messages used in this document are shown and described below.

Improper use of the devices, networks, or commands below may result in equipment or network failure. Take the proper precautions when accessing the network and have backups in case of failure.

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Z-Wave Web Admin

This manual covers all Z-Wave™ functions and features available on the Z-Wave controller through the Web Admin interface. Use this guide to familiarize yourself with each Z-Wave feature and function available on the Z-Wave controller.

Notes

- This manual covers each feature individually and in the order of their appearance on the interface.
- All Z-Wave information is presented as it relates to the Clare Controls use of the Z-Wave network.
- Z-Wave non-controller device functions are noted.

Figure 1: Z-Wave Web Admin interface

The screenshot displays the 'Device Information' window in the Z-Wave Web Admin interface. The window is titled 'Device Information' and has a close button (X) in the top right corner. It contains the following fields and sections:

- UID:** hdm:ZWave:D49393F0/1
- Name:** Z-Wave Controller
- Type:** Controller (dropdown menu)
- Status:** Online
- Error:** ---
- Hardware Vendor:** (dropdown menu)
- Hardware Version:** Z-Wave 3.99
- Time Added:** 1461160347266 (09:52:27.266 20.03.2016)
- Protocol Adapter:** ZWave
- Parent:** ---
- Children:** ---
- Zones:** SYSTEM (SYSTEM)

Below the 'Device Information' section is the 'Device Classes' section, which is titled 'ZWaveNetworkController'. It contains the following fields:

- chipVersion: 1280
- controllerVersionString: Z-Wave 3.99
- houseId: -728525840
- isPrimary: true
- isSIS: true
- isSUC: true
- isSUCSIS: true
- isRealPrimary: true
- isSecondary: false
- isSUCPresent: true
- isOnOtherNetwork: false
- role: 4
- mode: Normal (dropdown menu)
- highPower: true
- networkWide: true
- sucNodeId: 1
- zwaveVersion: 5
- comPort: /dev/ttyMXC1
- modeRemainingTime: (empty field)
- Operations: createAssociati (dropdown menu)

At the bottom right of the window are 'Save' and 'Cancel' buttons.

Accessing the Z-Wave web interface

Web Admin contains all home automation administrative features. In this manual we only cover the Z-Wave features available to you using Web Admin.

To access Z-Wave using Web Admin:

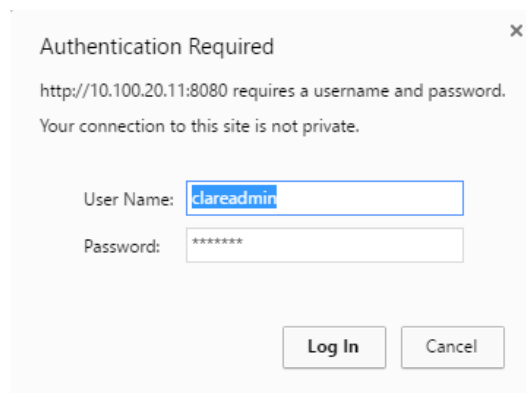
1. Enter your home controller's IP address in the desired web browser followed by :8080 – for example, 10.100.20.11:8080.
2. Press **Enter**.

The system management menu displays.



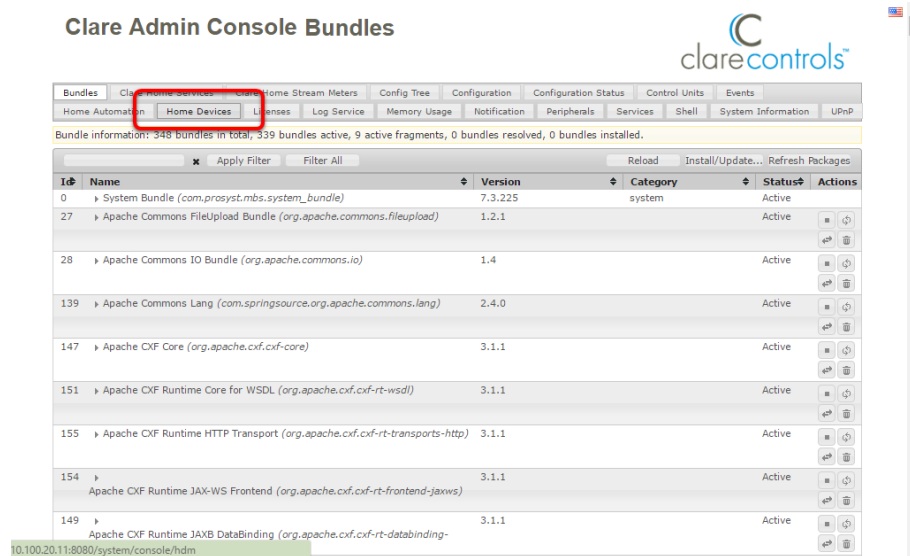
3. Click **/system/console**.

An authentication dialog displays.



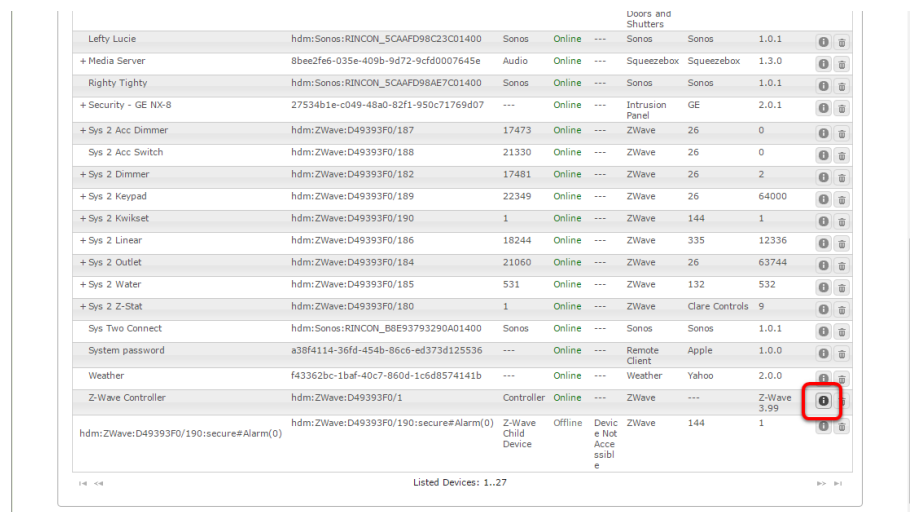
4. Enter the user name clareadmin, the password sercure7, and then click **Log In**.

5. Click **Home Devices**.



Note: The position of the **Home Devices** button may change according to the size of browser.

6. Scroll to the bottom to view the Z-Wave Controller row, and then click the **Information** icon .



7. Use the Z-Wave interface as necessary.

Z-Wave Web Admin interface

The Z-Wave Web Admin interface is divided into three sections: device information, device classes, and properties.

Device Information

The Device Information section does not have a heading. It is listed at the top of the Z-Wave interface and includes basic Z-Wave controller information.

Figure 2: Z-Wave Interface Device Information section

Device Information

UID: hdm:ZWave:D49393F0/1

Name: Z-Wave Controller

Type: Controller

Status: Online

Error: ---

Hardware Vendor:

Hardware Version: Z-Wave 3.99

Time Added: 1461160347266 (09:52:27.266 20.03.2016)

Protocol Adapter: ZWave

Parent: ---

Children: ---

Zones: SYSTEM (SYSTEM)

Device Classes:

ZWaveNetworkController

chipVersion 1280

controllerVersionString Z-Wave 3.99

houseId -728525840

isPrimary true

isSIS true

isSUC true

isSUCSIS true

isSUCSIS true

isSUCSIS true

isSUCSIS true

isSUCSIS true

isSUCSIS true

Save Cancel

The Device Information fields are explained below.

UUID

The UUID field contains the UUID of the Z-Wave controller. This alphanumeric sequence is unique to the device.

Device Information

UID: hdm:ZWave:D49393F0/1

Name: The Smith's Z-Wave Controller

Type: Controller

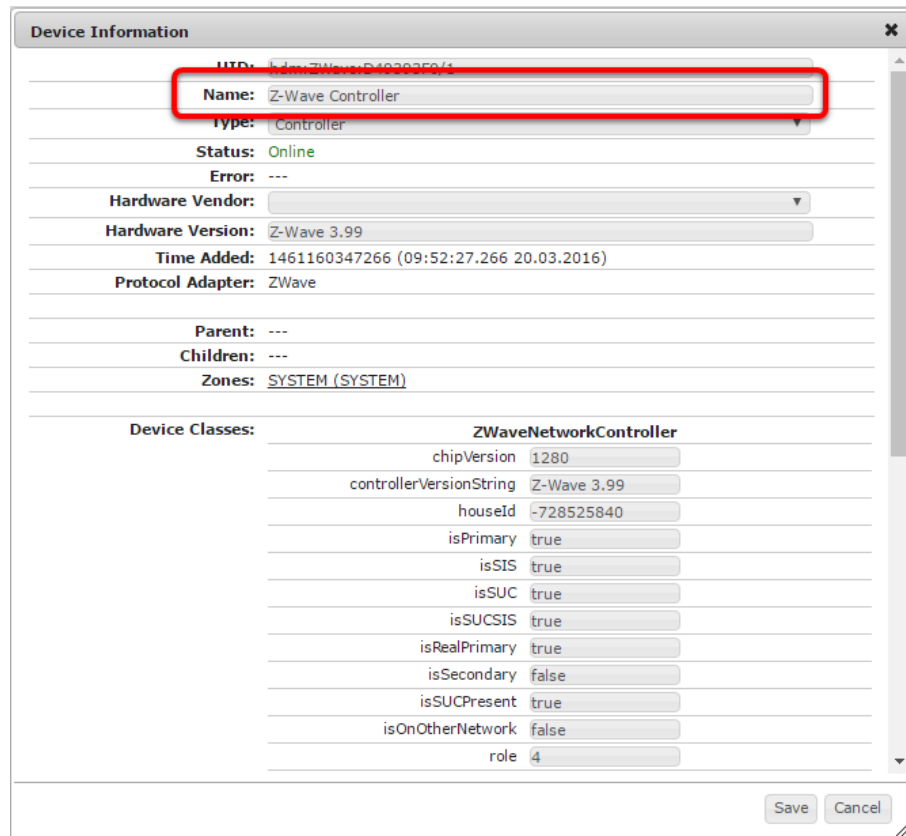
Status: Online

Name

This is the name of the Z-Wave Controller.

To change the name of the Z-Wave controller:

1. Access the Z-Wave Device Information dialog box.
2. Delete the information in the **Name** field, and then enter the desired name.



The screenshot shows the 'Device Information' dialog box. The 'Name' field is highlighted with a red rectangle. The 'Name' field contains the text 'Z-Wave Controller'. The 'Type' field is set to 'Controller'. The 'Status' is 'Online'. The 'Error' is '---'. The 'Hardware Vendor' is '---'. The 'Hardware Version' is 'Z-Wave 3.99'. The 'Time Added' is '1461160347266 (09:52:27.266 20.03.2016)'. The 'Protocol Adapter' is 'ZWave'. The 'Parent' is '---'. The 'Children' are '---'. The 'Zones' are 'SYSTEM (SYSTEM)'. The 'Device Classes' section shows 'ZWaveNetworkController' with various properties: chipVersion (1280), controllerVersionString (Z-Wave 3.99), houseId (~728525840), isPrimary (true), isSIS (true), isSUC (true), isSUCSIS (true), isRealPrimary (true), isSecondary (false), isSUCPresent (true), isOnOtherNetwork (false), and role (4). The 'Save' and 'Cancel' buttons are at the bottom right.

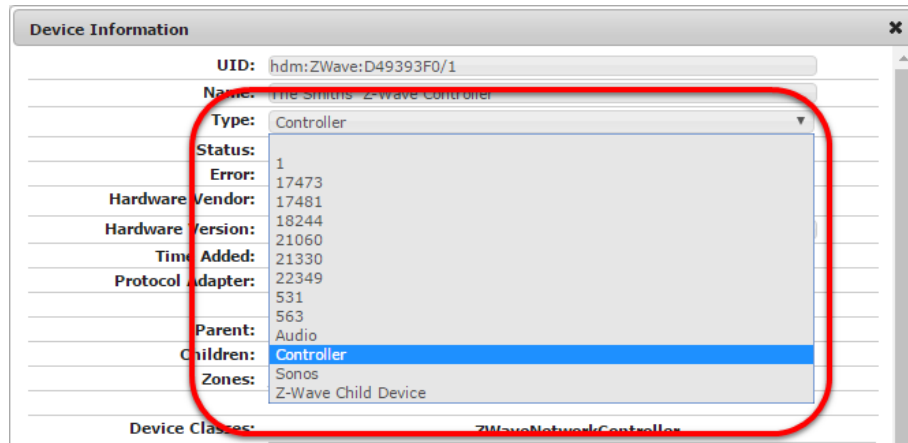
Device Classes:	
ZWaveNetworkController	
chipVersion	1280
controllerVersionString	Z-Wave 3.99
houseId	~728525840
isPrimary	true
isSIS	true
isSUC	true
isSUCSIS	true
isRealPrimary	true
isSecondary	false
isSUCPresent	true
isOnOtherNetwork	false
role	4

3. Click **Save**.

Note: Changing the name of the Z-Wave controller may affect your Fusion configuration. After changing the name of the controller check that all Z-Wave devices, scenes, and rules are working correctly.

Type

Type is a drop-down field that list device types. The Z-Wave controller's information was accessed, so the field is set to Controller. Do not change this selection.



The screenshot shows the 'Device Information' window with the 'Type' dropdown menu open. The menu lists 'Controller' as the selected option. Other options visible include 'Z-Wave Child Device'. The dropdown is highlighted with a red rectangle.

UID:	hdm:ZWave:D49393F0/1
Name:	The Smiths' Z-Wave Controller
Type:	Controller
Status:	1
Error:	17473
Hardware Vendor:	17481
Hardware Version:	18244
Time Added:	21060
Protocol Adapter:	21330
Parent:	22349
Children:	531
Zones:	563
Device Classes:	Audio
	Controller
	Sonos
	Z-Wave Child Device

Status

The controller's status displays in this row. The status is either online or offline. If the controller is connected and operational, the status displays as online. If the controller cannot be reached, the status displays as offline.



The screenshot shows the 'Device Information' window with the 'Status' field set to 'Online'. The field is highlighted with a red rectangle.

UID:	hdm:ZWave:D49393F0/1
Name:	The Smiths' Z-Wave Controller
Type:	Controller
Status:	Online
Error:	
Hardware Vendor:	

Error

This row displays error messages if there is a problem with the Z-Wave controller or network. If the controller and network are not experiencing any errors, this field displays dashed lines - - -.



The screenshot shows the 'Device Information' window with the 'Error' field set to '---'. The field is highlighted with a red rectangle.

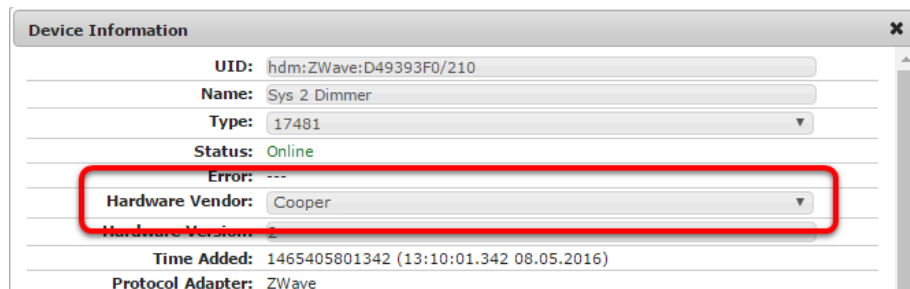
UID:	hdm:ZWave:D49393F0/1
Name:	The Smiths' Z-Wave Controller
Type:	Controller
Status:	Online
Error:	---
Hardware Vendor:	
Hardware Version:	Z-Wave 3.99

Hardware Vendor

Multiple manufacturers supported. All certified Z-Wave products are supported from multiple manufacturers.

Note: Hardware Vendor is an option only available on non-controller Z-Wave devices.

This row displays the specific device's hardware vendor.

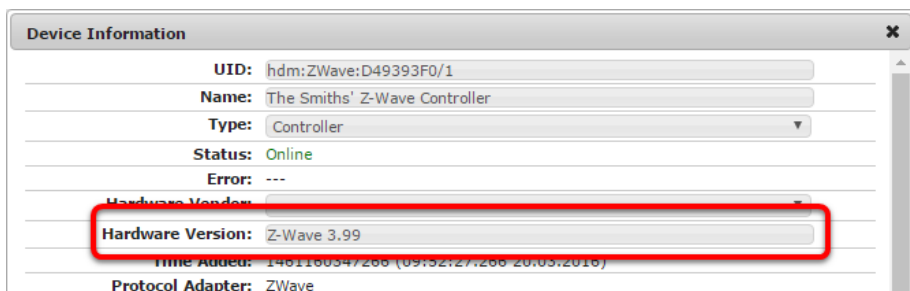


The screenshot shows a 'Device Information' window with the following fields: UID (hdm:ZWave:D49393F0/210), Name (Sys 2 Dimmer), Type (17481), Status (Online), Error (---), Hardware Vendor (Cooper), Hardware Version (2), Time Added (1465405801342 (13:10:01.342 08.05.2016)), and Protocol Adapter (ZWave). The 'Hardware Vendor' field is highlighted with a red box.

Hardware Version

The current version of the controller's hardware.

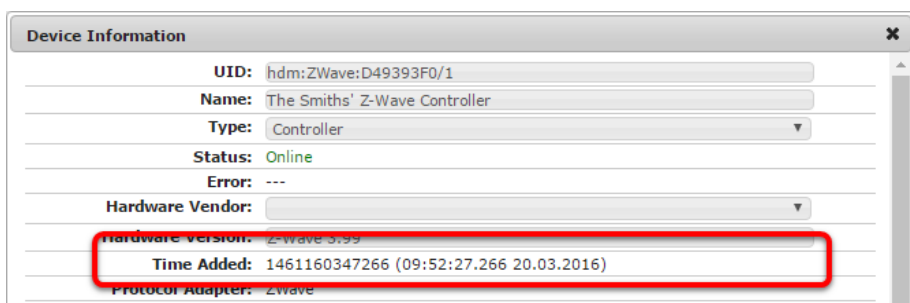
Note: This field is auto-populated and should not be manually changed.



The screenshot shows a 'Device Information' window with the following fields: UID (hdm:ZWave:D49393F0/1), Name (The Smiths' Z-Wave Controller), Type (Controller), Status (Online), Error (---), Hardware Vendor (---), Hardware Version (Z-Wave 3.99), Time Added (1461160347266 (09:52:27.266 20.03.2016)), and Protocol Adapter (ZWave). The 'Hardware Version' field is highlighted with a red box.

Time Added

The date and time when the controller/last Z-Wave device was added.



The screenshot shows a 'Device Information' window with the following fields: UID (hdm:ZWave:D49393F0/1), Name (The Smiths' Z-Wave Controller), Type (Controller), Status (Online), Error (---), Hardware Vendor (---), Hardware Version (Z-Wave 3.99), Time Added (1461160347266 (09:52:27.266 20.03.2016)), and Protocol Adapter (ZWave). The 'Time Added' field is highlighted with a red box.

Protocol Adapter

This is the communication protocol the controller uses. This field auto-populates and is not configurable.



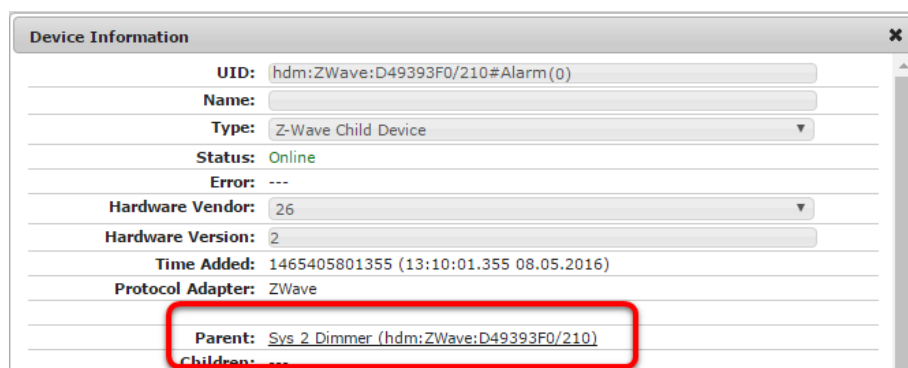
Device Information

UID:	hdm:ZWave:D49393F0/1
Name:	Z-Wave Controller
Type:	Controller
Status:	Online
Error:	---
Hardware Vendor:	---
Hardware Version:	Z-Wave 3.99
Time Added:	1461160347366 (00:53:27.366 20.03.2016)
Protocol Adapter:	ZWave

Parent

Note: Parent is an option only available on non-controller, child Z-Wave devices.

This row displays the child device's parent device.



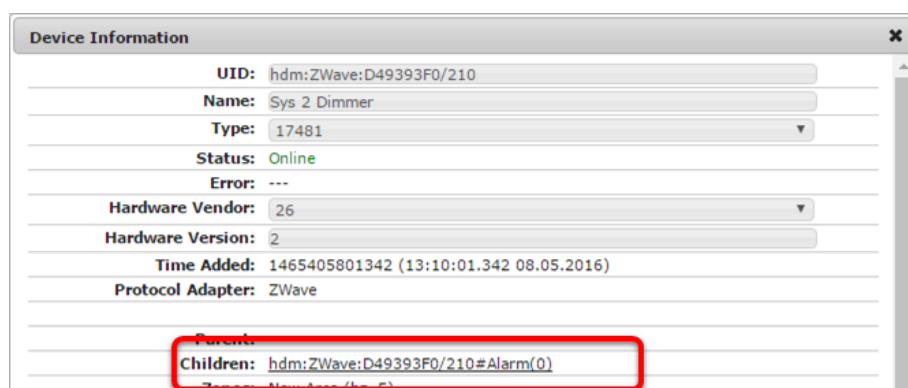
Device Information

UID:	hdm:ZWave:D49393F0/210#Alarm(0)
Name:	
Type:	Z-Wave Child Device
Status:	Online
Error:	---
Hardware Vendor:	26
Hardware Version:	2
Time Added:	1465405801355 (13:10:01.355 08.05.2016)
Protocol Adapter:	ZWave
Parent:	Sys 2 Dimmer (hdm:ZWave:D49393F0/210)
Children:	---

Children

Note: Children is an option only available on non-controller, parent Z-Wave devices.

This row displays the parent's child device.



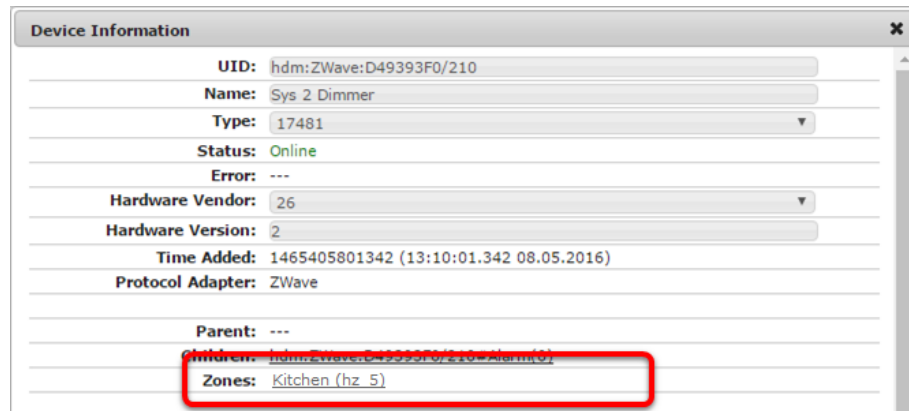
Device Information

UID:	hdm:ZWave:D49393F0/210
Name:	Sys 2 Dimmer
Type:	17481
Status:	Online
Error:	---
Hardware Vendor:	26
Hardware Version:	2
Time Added:	1465405801342 (13:10:01.342 08.05.2016)
Protocol Adapter:	ZWave
Parent:	
Children:	hdm:ZWave:D49393F0/210#Alarm(0)
Zones:	New Area (hdm:5)

Zones

Note: Zones is an option only available on non-controller Z-Wave devices.

A Zone is the room/location of the Z-Wave device.



The screenshot shows a 'Device Information' window with the following fields:

- UID: hdm:ZWave:D49393F0/210
- Name: Sys 2 Dimmer
- Type: 17481
- Status: Online
- Error: ---
- Hardware Vendor: 26
- Hardware Version: 2
- Time Added: 1465405801342 (13:10:01.342 08.05.2016)
- Protocol Adapter: ZWave
- Parent: ---
- Children: hdm:ZWave:D49393F0/210-Alarm(0)
- Zones: Kitchen (hz_5)**

Device Classes

The Device Classes section contains Z-Wave Controller specific information. It allows you to run test, find information, and adjust settings in the Z-Wave controller.

Figure 3: Z-Wave Device Classes

The screenshot shows a web interface window titled "Device Information". It contains several sections: "Hardware Vendor", "Hardware Version" (Z-Wave 3.99), "Time Added" (1461160347266 (09:52:27.266 20.03.2016)), "Protocol Adapter" (ZWave), "Parent", "Children", and "Zones" (SYSTEM (SYSTEM)). The "Device Classes" section is highlighted with a red rounded rectangle. It shows the "ZWaveNetworkController" with various settings: chipVersion (1280), controllerVersionString (Z-Wave 3.99), houseId (-728525840), isPrimary (true), isSIS (true), isSUC (true), isSUCSIS (true), isRealPrimary (true), isSecondary (false), isSUCPresent (true), isOnOtherNetwork (false), role (4), mode (Normal), highPower (true), networkWide (true), sucNodeId (1), zwaveVersion (5), comPort (/dev/ttymx1), modeRemainingTime, and Operations (createAssociatic).

The Device Class fields are explained below.

Note: Most of these fields are auto-filled and should not be manually changed. Instructions are provided for the modifiable fields.

chipVersion

The chipVersion is the version of Z-Wave chip in the controller.

This close-up shows the "Device Classes" section for the "ZWaveNetworkController". The "chipVersion" field is highlighted with a red rounded rectangle. It is a text input field containing the value "1280". Below it are the "controllerVersionString" (Z-Wave 3.99) and "houseId" (-728525840) fields.

controllerVersionString

The controllerVersionString is the string format of the controller's Z-Wave protocol version.

Device Classes:		ZWaveNetworkController
chipVersion		1280
controllerVersionString		Z-Wave 3.99
houseId		-728525840

houseId

The houseId is the network's home ID.

Device Classes:		ZWaveNetworkController
chipVersion		1280
controllerVersionString		Z-Wave 3.99
houseId		-728525840
isPrimary		true

isPrimary

The isPrimary field indicates the device's primary Z-Wave controller status. It is either true or false.

- **True:** The controller is the primary Z-Wave controller in the network.
- **False:** The controller is not the primary Z-Wave controller in the network.

Device Classes:		ZWaveNetworkController
chipVersion		1280
controllerVersionString		Z-Wave 3.99
houseId		-728525840
isPrimary		true
isSIS		true

isSIS

The isSIS field indicates the device's SIS (SUC ID Server, the primary Z-Wave controller) Z-Wave controller status. It is either true or false.

- **True:** The controller is SIS.
- **False:** The controller is not SIS.

Device Classes:		ZWaveNetworkController
chipVersion		1280
controllerVersionString		Z-Wave 3.99
houseId		-728525840
isPrimary		true
isSIS		true
isSUC		true

isSUC

The isSUC field indicates the device's SUC (Static Update Controller) Z-Wave controller status. It is either true or false.

- **True:** The controller SUC.
- **False:** The controller is not SUC.

Device Classes:		ZWaveNetworkController
chipVersion		1280
controllerVersionString		Z-Wave 3.99
houseId		-728525840
isPrimary		true
isSIS		true
isSUC		true

isSUCSIS

The isSUCSIS field indicates the SUC controller's status as a SUC controller. It is either true or false.

- **True:** The controller is both the SUC and SIS controller, there is only one controller in the network.
- **False:** The SUC and SIS controllers are not the same controller.

Device Classes:		ZWaveNetworkController
chipVersion		1280
controllerVersionString		Z-Wave 3.99
houseId		-728525840
isPrimary		true
isSIS		true
isSUC		true
isSUCSIS		true
isRealPrimary		true

isRealPrimary

The isRealPrimary field indicates if the device is the real primary Z-Wave controller in the network. It is either true or false.

- **True:** The controller is the real primary Z-Wave controller in the network.
- **False:** The controller is not the real primary Z-Wave controller in the network.

Device Classes:		ZWaveNetworkController
chipVersion		1280
controllerVersionString		Z-Wave 3.99
houseId		-728525840
isPrimary		true
isSIS		true
isSUC		true
isSUCSIS		true
isRealPrimary		true
isSecondary		false

isSecondary

The isSecondary field indicates if the device is the secondary Z-Wave controller in the network. It is either true or false.

- **True:** The controller is the secondary Z-Wave controller in the network.
- **False:** The controller is not the secondary Z-Wave controller in the network.

Device Classes:	ZWaveNetworkController
chipVersion	1280
controllerVersionString	Z-Wave 3.99
houseId	-728525840
isPrimary	true
isSIS	true
isSUC	true
isSUCSIS	true
isRealPrimary	true
isSecondary	false
isSUCPresent	true

isSUCPresent

The isSUCPresent field indicates if a SUC is in the Z-Wave network. It is either true or false.

- **True:** A SUC is present in the network.
- **False:** A SUC is not present in the network.

isOnOtherNetwork

The isOnOtherNetwork field indicates if the Z-Wave controller is in more than one network. It is either true or false.

Note: A SIS controller can only be on one network.

- **True:** The controller is in more than one network.
- **False:** The controller is not in more than one network.

Device Classes:	ZWaveNetworkController
chipVersion	1280
controllerVersionString	Z-Wave 3.99
houseId	-728525840
isPrimary	true
isSIS	true
isSUC	true
isSUCSIS	true
isRealPrimary	true
isSecondary	false
isSUCPresent	true
isOnOtherNetwork	false
role	4

role

The role field displays the number of the Z-Wave controller's current role. The numbers range from 0 to 4.

The Z-Wave controller is always set to role 4, it should not be changed.

- **0: Primary role**

When the controller is in the primary role it is acting as the primary controller in a Z-Wave network with multiple controllers.

- **1: Secondary role**

When the controller is in the secondary role it acts as a backup Z-Wave controller.

- **2: Inclusion role**

When the controller is in the inclusion role it is responsible for the inclusion of new devices in a multi-controller network.

- **3: SUC role**

When the controller is in the SUC role it acts a static controller that manages updates.

- **4: SIS role**

When the controller is in the SIS role it acts as the main controller in the Z-Wave network.

Device Classes:	ZWaveNetworkController
chipVersion	1280
controllerVersionString	Z-Wave 3.99
houseId	-728525840
isPrimary	true
isSIS	true
isSUC	true
isSUCSIS	true
isRealPrimary	true
isSecondary	false
isSUCPresent	true
isOnOtherNetwork	false
role	4
mode	Normal

mode

The mode field indicates the current mode of the Z-Wave controller. There are 8 total modes for the Z-Wave controller. Normal, Adding, and Removing are the most commonly used modes.

Modes

- **Classic Inclusion Mode (Adding Mode):** This mode allows the controller to add one node to the Z-Wave network. The controller stays in this mode until a device is added to the network or until it is manually reset, and then the controller switches to normal mode.
- **Normal Mode:** This is the normal operation mode of the Z-Wave controller. When the controller is manually set to normal mode, all pending operations in the controller are canceled.
- **Replacing Mode:** This mode allows a replacement for a failed node on the network.
- **Controller Shift Mode:** This mode allows the addition of another controller to the network. The controller stays in this mode until a controller is added to the network, and then it goes to normal mode. The added controller takes the primary role.
- **Process Control Event mode:** This mode is an internal controller event displayed when the controller is busy. Do not use this event.
- **Learn Mode activation (Learning Mode):** This mode allows the controller to be added into another network. All current network information in the controller is reset. It is reset and all current network information is lost. The controller adopts the home ID of the adding controller.
- **Classic Exclusion Mode (Removing Mode):** This mode allows the controller to remove a device from the Z-Wave network. The controller stays in this mode until a device is removed from the network, or until it is manually reset, and then the controllers switches to normal mode.
- **Net Maintenance Mode:** This mode instructs the controller to start a full network maintenance/rediscovery of all network devices/nodes. The Net Maintenance mode is used to rebuild the routing table in the primary controller. While the controller is in Net Maintenance mode it cannot be used for other operations.
Note: Net Maintenance mode should be used sparingly. It causes heavy traffic and strain in the Z-Wave network.
- **Controller Replicator Mode:** This mode allows the controller to be replicated (copied).

- **Factory Reset Mode:** This mode will reset the controller to factory settings. Use this mode with caution.

If this controller is the primary controller for your network, resetting it will result in the nodes in your network being orphaned and it will be necessary after the reset to exclude and re-include all of the nodes in the network. If this controller is being used as a secondary controller in the network, use this procedure to reset this controller only in the event that the network primary controller is missing or otherwise inoperable.

To set the Z-Wave controller's mode:

1. Access the Z-Wave Device Information dialog box., and then scroll down to view the mode.
2. Click the mode drop-down, and select the desired mode.
3. Click the arrow icon ► to set the controller to the selected mode.
4. Do any pairing, removing, or other actions required for the set mode.

The controller returns to Normal mode after the action is completed, when the remaining mode time runs out, or when the controller is manually set to Normal mode.

Device Classes:		ZWaveNetworkController	
chipVersion	1280		
controllerVersionString	Z-Wave 3.99		
houseId	-728525840		
isPrimary	true		
isSIS	true		
isSUC	true		
isSUCSIS	true		
isRealPrimary	true		
isSecondary	false		
isSUCPresent	true		
isOnOtherNetwork	false		
role	4		
mode	Normal ▼	►	
highPower	true		►

highPower

The highPower field indicates if the Z-Wave controller is using high power when in adding or removing mode. It is either true or false.

- **True:** The controller is using high power when in adding or removing mode.
- **False:** The controller is not using high power when in adding or removing mode.

Device Classes:	ZWaveNetworkController
chipVersion	1280
controllerVersionString	Z-Wave 3.99
houseId	-728525840
isPrimary	true
isSIS	true
isSUC	true
isSUCSIS	true
isRealPrimary	true
isSecondary	false
isSUCPresent	true
isOnOtherNetwork	false
role	4
mode	Normal
highPower	true
networkWide	true

networkWide

The networkWide field indicates if the Z-Wave controller supports Network Wide Inclusion (NWI).

- **True:** The controller supports NWI.
- **False:** The controller does not support NWI.

Device Classes:	ZWaveNetworkController
chipVersion	1280
controllerVersionString	Z-Wave 3.99
houseId	-728525840
isPrimary	true
isSIS	true
isSUC	true
isSUCSIS	true
isRealPrimary	true
isSecondary	false
isSUCPresent	true
isOnOtherNetwork	false
role	4
mode	Normal
highPower	true
networkWide	true
sucNodeId	1

sucNodeId

The sucNodeId field indicates the SUC device's node ID

Device Classes:	ZWaveNetworkController
chipVersion	1280
controllerVersionString	Z-Wave 3.99
houseId	-728525840
isPrimary	true
isSIS	true
isSUC	true
isSUCSIS	true
isRealPrimary	true
isSecondary	false
isSUCPresent	true
isOnOtherNetwork	false
role	4
mode	Normal
highPower	true
networkWide	true
sucNodeId	1
zwaveversion	5

zwaveVersion

The zwaveVersion field displays the supported Z-Wave protocol.

Device Classes:	ZWaveNetworkController
chipVersion	1280
controllerVersionString	Z-Wave 3.99
houseId	-728525840
isPrimary	true
isSIS	true
isSUC	true
isSUCSIS	true
isRealPrimary	true
isSecondary	false
isSUCPresent	true
isOnOtherNetwork	false
role	4
mode	Normal
highPower	true
networkWide	true
sucNodeId	1
zwaveVersion	5
comPort	/dev/ttymxcl

comPort

The comPort field indicates which COM port is used to communicate with other Z-Wave controllers.

Device Classes:	ZWaveNetworkController
chipVersion	1280
controllerVersionString	Z-Wave 3.99
houseId	-728525840
isPrimary	true
isSIS	true
isSUC	true
isSUCSIS	true
isRealPrimary	true
isSecondary	false
isSUCPresent	true
isOnOtherNetwork	false
role	4
mode	Normal ▶
highPower	true ▶
networkWide	true ▶
sucNodeId	1
zwaveVersion	5
comPort	/dev/ttymxcl
modeRemainingTime	

modeRemainingTime

The modeRemainingTime field displays the time remaining for the Z-Wave controller in the current mode. Once the displayed time has elapsed, the controller returns to Normal mode. This field displays a count down from five minutes.

Note: The field is blank if the Z-Wave controller is in Normal mode.

Device Classes:	ZWaveNetworkController
chipVersion	1280
controllerVersionString	Z-Wave 3.99
houseId	-728525840
isPrimary	true
isSIS	true
isSUC	true
isSUCSIS	true
isRealPrimary	true
isSecondary	false
isSUCPresent	true
isOnOtherNetwork	false
role	4
mode	Normal ▼ ▶
highPower	true ▶
networkWide	true ▶
sucNodeId	1
zwaveVersion	5
comPort	/dev/ttyusb1
modeRemainingTime	
Operations	createAssociatic ▼ ▶

Operations

The Operations field has a drop-down menu with a list of controller operations. Each option can be selected and run from the drop down. Every Z-Wave device gets automatically associated back to the controller in group 1 - the lifeline to the controller. Device associations can be managed via operation on the Z-Wave Controller for adding, removing, and listing associations.

Note: A source device can be associated to up to 5 target nodes per supported group on the device

Operation behavior notes:

- The controller receives and ignored the 'basic set' command.
- The controller does not support the basic command.

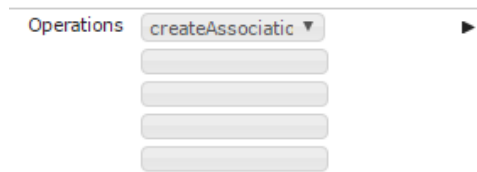
To select and run an operation:

1. Access the Z-Wave Device Information dialog box, and then scroll down to view the operations row.

2. Select an operation from the drop-down menu, and then enter the required information.
3. Click the arrow icon ► to run the operation. This is equivalent to the Send command for the Association Group.
4. Wait for the operation to complete, and then click **Save**.

Operations

- **createAssociation:** This operation creates an association between two devices in the same Z-Wave network.
 - **IN1:** The device forming the association (source device).
 - **IN2:** The Z-Wave group used for creating the association.
 - **IN3:** The device accepting the association (target device).
 - **IN4:** Does the device have a secure association? True/false



The image shows a UI element for the 'createAssociation' operation. It features a label 'Operations' followed by a dropdown menu currently showing 'createAssociatic' (note the typo in the image). To the right of the dropdown is a right-pointing arrow icon. Below the dropdown are four empty, light-gray rectangular input fields stacked vertically.

- **createMultichannelAssociation:** This operation creates an association between two devices in the same Z-Wave network.
 - **IN1:** The device forming the association (source device).
 - **IN2:** The source device's endpoint (instance).
 - **IN3:** The Z-Wave group used for creating the association.
 - **IN4:** The device accepting the association (target device).
 - **IN5:** The target device's endpoint (instance).
 - **IN6:** Does the device have a secure association? True/false



The image shows a UI element for the 'createMultichannelAssociation' operation. It features a label 'Operations' followed by a dropdown menu currently showing 'createMultichan' (truncated). To the right of the dropdown is a right-pointing arrow icon. Below the dropdown are six empty, light-gray rectangular input fields stacked vertically.

- **removeAssociation:** This operation removes an association between two devices in the same Z-Wave network.
 - **IN1:** The device removing the association (source device).
 - **IN2:** The Z-Wave group used for removing the association.
 - **IN3:** The device removed from the association (target device).
 - **IN4:** Does the device have a secure association? True/false

Operations removeAssociati ▼ ▶

- **removeMultichannelAssociation:** This operation removes an association between two devices in the same Z-Wave network.
 - **IN1:** The device removing the association (source device).
 - **IN2:** The source device's endpoint (instance).
 - **IN3:** The Z-Wave group used for removing the association.
 - **IN4:** The device being removed from association (target device).
 - **IN5:** The target device's endpoint (instance).
 - **IN6:** Does the device have a secure association? True/false

Operations removeMulticha ▼ ▶

- **listAssociations:** This operation lists the IDs of nodes associated with the source device.
 - **IN1:** The device with associated nodes (source device).
 - **IN2:** The Z-Wave group used for associations.
 - **IN3:** Does the device have a secure association? True/false
 - **OUT:** The list of node IDs associated with the source device.

Operations listAssociations ▼ ▶

- **listMultichannelAssociations:** This operation lists the IDs of nodes associated with the source device.
 - **IN1:** The device with associated nodes (source device).
 - **IN2:** The source device's endpoint (instance).
 - **IN3:** The Z-Wave group used for associations.
 - **IN4:** Does the device have a secure association? True/false
 - **OUT:** The list of node IDs associated with the source device.

Operations listMultichannel ▼ ▶

- **resetController:** This resets the Z-Wave controller to the factory default settings.

Operations resetController ▼ ▶

- **isFailedNode:** This operation checks a specific device's node for failure.
 - **IN1:** The suspected failed device's node ID.
 - **OUT:** The result of the fail check. The result is displayed as true or false.
 - **True:** The device failed.
Note: If the node is sleeping, it may return true.
 - **False:** The device is active.

Operations isFailedNode ▼ ▶

- **removeFailedNode:** This operation removes the specified failed node from the Z-Wave network.
 - **IN1:** The failed device's node ID.

Operations removeFailedNo ▼ ▶

- **replaceFailedNode:** This operation replaces the specified failed node ID with a new one.
 - **IN1:** The failed device's node ID.
 - **IN2:** The replacement device's node ID.

Operations replaceFailedNo ▼ ▶

- **forceNetworkUpdate:** This operation forces the Z-Wave network to update. All operations, removed/added devices, and associations are updated and refreshed.

Operations forceNetworkUp ▼ ▶

- **assignReturnRoute:** This operation assigns a route between two Z-Wave devices.
 - **IN1:** The node ID of the Z-Wave device that generates the event.
 - **IN2:** The node ID of the Z-Wave device that receives the event.

Operations assignReturnRo ▼ ▶

- **deleteReturnRoute:** This operation removes a route between two Z-Wave devices.
 - **IN1:** The node ID of the Z-Wave device that generates the event.

Operations deleteReturnRol ▼ ▶

- **setModeDuration:** This operation sets the modes duration.
 - **IN1:** The controller's mode number.
 - **2:** Adding
 - **3:** Removing
 - **19:** Controller shift
 - **20:** Learn
 - **IN2:** The mode duration in milliseconds.

Operations setModeDuration ▼ ▶

- **getModeDuration:** This operation sends a query for the controller's mode duration.
 - **IN1:** The controller's mode number.
 - **2:** Adding
 - **3:** Removing
 - **19:** Controller shift
 - **20:** Learn
 - **OUT:** The operation returns the mode duration in milliseconds.

Operations getModeDuratio ▼ ▶

- **reset:** This operation resets the Z-Wave controller to the factory defaults. All devices are removed.

Operations reset ▼ ▶

- **removeNode:** This operation removes a failed node from the Z-Wave network.
 - **IN1:** The node ID for removal.
 - **IN2:** Force removes a sleeping node with a result of true or false.
 - **True:** This will make an attempt to remove a sleeping node.
 - **False:** This will not make an attempt to remove a sleeping node.
 - **OUT:** The result of removing the node, true or false.
 - **True:** The node was successfully removed.
 - **False:** The node was not removed.

Operations	removeNode ▼	▶

- **setSUCNode:** This operation sets the specified controller to SUC(SIS).
 - **IN1:** The controller's node ID.
 - **IN2:** If the controller is SIS.
 - **True:** The controller is SIS.
 - **False:** The controller is not SIS.

Operations	setSUCNode ▼	▶

- **getRoutingInfo:** This operation sends a request for the node IDs in a Z-Wave route around a specific device.
 - **IN1:** The node ID of the selected device.
 - **IN2:** This gives the option to remove a bad route.
 - **True:** Removes bad routes from the routing information.
 - **False:** Do not remove bad routes from the routing information.
 - **IN3:** This gives the option to remove non-repeating devices from the routing information.
 - **True:** Removes non-repeating devices from the routing information.
 - **False:** Does not remove non- repeating devices from the routing information.
 - **IN4:** This sets a maximum speed for including neighbor nodes. In addition, all speeds lower than the maximum are also supported neighbors.
 - **OUT:** This is the list of IDs for all neighbor nodes that meet the above specifications.

Operations getRoutingInfo ▼ ▶

- **sendNodeInfoFrame:** This operation sends the controller's node information frame.

Operations sendNodeInfoFr ▼ ▶

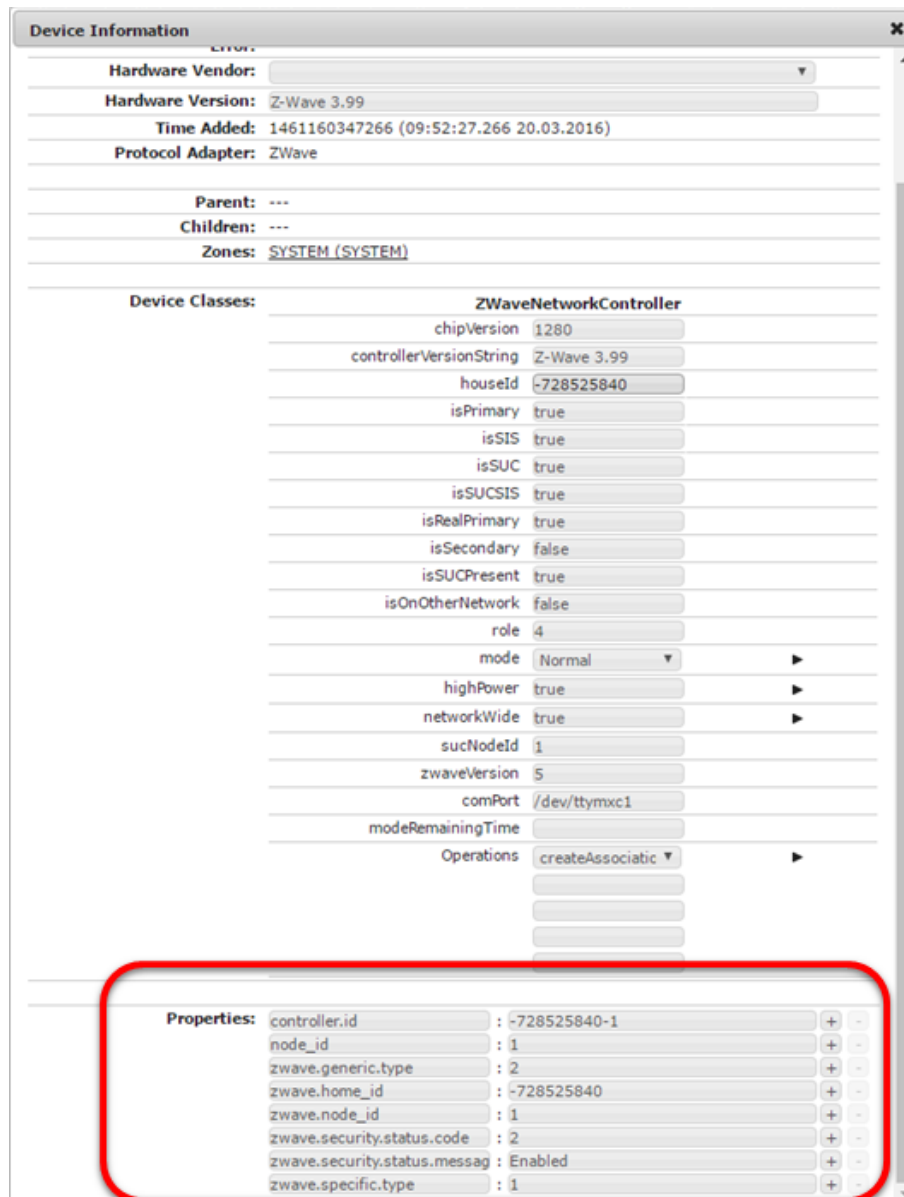
- **sendNOP:** This operation sends NOP to the specified node.
 - **IN1:** The specified node ID.

Operations sendNOP ▼ ▶

Properties

The Properties section displays the Z-Wave controller's current settings.

Figure 4: Z-Wave interface Properties



Device Information

Hardware Vendor:

Hardware Version: Z-Wave 3.99

Time Added: 1461160347266 (09:52:27.266 20.03.2016)

Protocol Adapter: ZWave

Parent: ---

Children: ---

Zones: SYSTEM (SYSTEM)

Device Classes:

ZWaveNetworkController

chipVersion 1280

controllerVersionString Z-Wave 3.99

houseId -728525840

isPrimary true

isSIS true

isSUC true

isSUCSIS true

isRealPrimary true

isSecondary false

isSUCPresent true

isOnOtherNetwork false

role 4

mode Normal

highPower true

networkWide true

sucNodeId 1

zwaveVersion 5

comPort /dev/ttymx1

modeRemainingTime

Operations createAssociatic

Properties:

controller.id	: -728525840-1	+	-
node_id	: 1	+	-
zwave.generic.type	: 2	+	-
zwave.home_id	: -728525840	+	-
zwave.node_id	: 1	+	-
zwave.security.status.code	: 2	+	-
zwave.security.status.message	: Enabled	+	-
zwave.specific.type	: 1	+	-

The Properties fields are explained below.

Note: These fields are auto-filled and should not be manually changed. Instructions are provided for the addition/removal of custom fields.

controller.id

This is the Z-Wave controller's houseId or Home_id.

node_id

This is the Z-Wave controller's node ID number.

zwave.generic.type

This is the generic Z-Wave device type. The generic device class defines the basic functions of the device as a slave or controller.

Note: Not everything in the network must be the same manufacturer or device category. For example, switches of manufacturer A and door locks of manufacturer D, can be used together in the same Z-Wave network. Non-battery powered nodes can also act as repeaters in Z-Wave network, regardless of manufacturer. This helps boost interoperability between the devices in the Z-Wave network.

Generic device classes:

- Alarm Sensor
- AV Control Point
- Binary Sensor
- Binary Switch
- Display
- Entry Control
- Meter
- Multilevel Sensor
- Multilevel Switch
- Non interoperable
- Pulse Meter
- Remote Controller
- Remote Switch
- Repeater Slave
- Semi Interoperable
- Static Controller
- Thermostat
- Toggle Switch
- Ventilation
- Window Covering

zwave.home_id

This is the Z-Wave network's controller ID.

zwave.node_id

This is the Z-Wave node ID. The controller's node ID is 1 in a single controller network.

zwave.security.status.code

This is the Z-Wave pairing status code for secure Z-Wave devices.

zwave.security.status.message

This is the string representation of the Z-Wave security status code.

Note: The controller is a security enabled Z-Wave Plus™ product that has the ability to use encrypted Z-Wave Plus messages as communication with other security enabled Z-Wave Plus products.

zwave.specific.type

This is the specific type of Z-Wave device. Once a device is assigned a specific device class, the device's functions are identified. That device is required to support a set of command classes (Mandatory Command Classes) associated with the specific device type. After the device's Mandatory Command Classes are assigned, the manufacturer can add optional command classes.

To add a custom property field:

1. Access the Z-Wave Device Information dialog box., and then scroll down to view the Properties section.
2. Click the **Add** icon  to add a blank properties field.
3. Enter the property, and then enter the property value in the Value field.
4. Click the **Save** button.

To remove a custom property field:

1. Access the Z-Wave Device Information dialog box., and then scroll down to view the properties section.
2. Find the desired property, and then click the **Remove** icon .

Note: Only custom added properties can be removed.

3. Click the **Save** button.

Z-Wave Class Commands

The Z-Wave class commands are listed below.

Products supported for multiple manufacturers. The Clare Z-Wave controller is product agnostic and supports all Z-Wave certified products for any manufacturer.

Note: Classes with support for either commands or properties are listed in the table below, while classes with support for both commands and properties are listed after the table.

Table 1: Z-Wave class commands

Class	Class Description	Command	Command Description	Command Parameters
Alarm Sensor	This device class provides support for the alarm sensors.	Enable Unsolicited Reports	This command enables alarms and notifications to be sent without receiving a request.	
		Disable Unsolicited Reports	This command disables alarms and notifications being sent without receiving a request.	
		Supported Alarm Types Get	This command requests the supported alarm types.	
		Supported Notification Get	This commands sends a request for the supported notifications.	IN1: The specified notification ID type.
		Supported Events All Get	This command sends a request for all supported notification types.	
		Get Severity	This command sends a request for the specified alarm type's severity.	IN1: The defined alarm type.
AV Control	This device class provides AV device control.			
Barrier Operator	This entry is found after the Z-Wave Class Commands table.			
Basic	This device class provides basic command class functions.	Basic Get	This command requests the status of the device.	
		Basic Set	This command sets/changes the status of the device.	IN1: The new desired value.

Class	Class Description	Command	Command Description	Command Parameters
Battery Level	This device class provides information about the battery level of the device.	Get	This command requests the device's battery level.	
Clock	This device class provides support for internal clock synchronization.	Get	This command requests the time and schedule of the other device.	
		Set	This command syncs the controller with the other device, for example – a thermostat.	
Color Switch	This device class manages LED colors. The LED colors are: 0: Warm White 1: Cold White 2: Red 3: Green 4: Blue 5: Amber 6: Cyan 7: Purple 8: Indexed Color	Get	This command requests the current LED color.	IN1: The LED device's node ID.
		Set	This command sets the color of the LED.	IN1: The new color for the LED.
Configuration		Get Parameters	This command requests the current value of the configuration parameter.	IN1: The number of the requested configuration parameter. IN2: The result.
		Set Parameters	This command sets a new value for an existing configuration parameter.	IN1: The parameter number of requested configuration. IN2: The number of bytes used in configuration (1,2, or 4). IN3: The new desired configuration value.

Class	Class Description	Command	Command Description	Command Parameters
		Reset Parameters	This command defaults the configuration parameter.	IN1: The configuration parameter number being reset. IN2: The number of bytes used for the configuration parameter (1,2, or 4).
		Provide Device Configuration Info	This command sends a request for device specific information for the configuration parameters.	
Door Lock	This device class manages the door lock.	Get	This command sends a request for the door lock's current state.	
		Configuration Get	This command sends a request for the devices current configuration.	
		Set	This command changes the current status of the door lock to lock or unlock.	
		Configuration Set	This command changes the current device configuration.	
Door Lock Logging	This device class enables the logging of reports for all successful and failed door lock events.	Get	This command requests the log entries.	
Keypad	This device class provides support for keypad control.			
Meter	This device class request meter information.	Get	This command requests the current meter information.	
		Reset	This command resets the current meter information.	
Multi Level Sensor	This device class adds support for querying the value of the multi-level sensor.			

Class	Class Description	Command	Command Description	Command Parameters
Multi Level Switch	This device class adds support for multi-level switches, allowing the user to set the switch level.	Level	This command sets the switch level's percentage (0 to 99). Setting the level to 0 turns the switch off, and setting it to 255 turns it on.	
On/Off State	This device class queries the devices current state, on or off.			
Power Level	This device class adds support for power level access and adjustment.	Request Power Level	This command requests the device's current power level.	
		Set Power Level	This command sets the power level of the specified device.	IN1: The desired new power level. IN2: The time, in seconds (1 through 255), for the device to keep the new power level. After the time elapses, the device resets to the default power level.
		Request Test Node Power Level	This command requests the results of the last Set Test Node Power Level command.	
		Set Test Node Power Level	This command instructs the device to send test frames with a set RF power level to a receiving device.	IN1: The device receiving the test frames. IN2: The power level used to send the test frames. IN3: The number of test frames to send.
Protection V1	This device class sets the protection to Version 1, preventing a child device from controlling a parent device.			
Protection V2	This device class sets the protection to Version 2, extends Version 1 protection. It protects a device from RF commands .			

Class	Class Description	Command	Command Description	Command Parameters
Switch	This device class adds support for a binary switch.	Turn On	This command turns the device on.	
		Turn Off	This command turns the device off.	
		Toggle	This command toggles the current state of the switch.	
Temperature Actuator	This device class manages temperature control.	Temperature	This command sets the current temperature.	IN1: The desired temperature. Note: Must be set in Celsius.
Thermostat Fan Mode	This device class changes the thermostats mode.	Mode	This command changes the thermostat to Fan mode.	
Thermostat Fan State	This device class request the current operating state of the thermostat's fan.			
Thermostat Mode	This device class manages the thermostat mode.	Mode	This command changes the thermostats mode.	
Thermostat Schedule Mode	This device class manages the schedule mode.	Mode	This command changes the thermostat to schedule mode.	
Thermostat State	This device class reports the current operating state of the thermostat.			
User Code	This device class reports or sets the user number.	Get	This command sends a request for the user number.	
		Set	This command sets a user number.	
Z-Wave Alarm V2	This device class manages the CC Alarm V2 notifications/features.	Enable Unsolicited Reports	This command enables alarms and notifications to be sent without receiving a request.	
		Disable Unsolicited Reports	This command disables alarms and notifications being sent without receiving a request.	
		Supported Alarm Types Get	This command requests the supported alarm types.	

Class	Class Description	Command	Command Description	Command Parameters
		Supported Notification Events Get	This commands sends a request for the supported notifications.	IN1: The specified notification type.
		Supported Notification Events All Get	This command sends a request for all supported notification types.	
Z-Wave Secondary Network Controller	This device exists only if the controller is a secondary controller in a Z-Wave network.			
Z-Wave Network Controller	This entry is found after the Z-Wave Class Commands table.			
Z-Wave Wake Up	This device class manages the wakeup function in supported devices.	Get	This commands request the device's status (sleeping/awake).	
		Sleep	This command sets the device to sleep.	
		Set	This command sets the device to awake.	

The following Z-Wave command classes support both commands and properties.

Barrier Operator

This device class manages the garage door status.

Table 2: Barrier Operator properties

Property	Property Description	Property Options
State	The current state of the barrier device. It is represented using a number value.	0: Closed
		252: Closing
		253: Stopped
		254: Opening
		255: Opened
		1 through 99: Stopped position [1]

[1] The numbers 1 through 99 are percentages representing the garage door's stopped position. 1% is almost closed and 99% is almost open.

Table 3: Barrier Operator commands

Command	Command Description	Command Parameters
Open	This command opens the garage door (barrier device).	
Close	This command closes the garage door (barrier device).	
Get Signaling Subsystem State	This command returns the state of the specified signaling subsystem type.	IN1: The type of subsystem. 1: Audible 2: Visual OUT: The state of the specified subsystem. 0: Off 255: On
Turn on Signaling Subsystem	This command turns on the specified signaling subsystem type.	IN1: The type of subsystem. 1: Audible 2: Visual
Turn off Signaling Subsystem	This command turns off the specified signaling subsystem type.	IN1: The type of subsystem. 1: Audible 2: Visual

Z-Wave Network Controller

This device class manages the Z-Wave network controller.

Each available property, Mode, High Power, and Network Wide, have the same set of commands. See Table 5 for the list of available commands.

Table 4: Z-Wave network controller properties

Property	Property Description	Property Options
Mode	This property adds support for the controller's modes.	Adding Mode: Allows a node to be added to the Z-Wave network. Removing Mode: Allows a node to be removed from the Z-Wave network. Normal Mode: Sets the controller in a neutral state, not allowing the addition or removal of a node. [1]
High Power	This property switches the controller to using high power for adding/removing modes.	
Network Wide	This property indicates is the device supports Network Wide Include (NWI).	True: It supports NWI. False: It does not support NWI.

[1] When the controller is set to Normal Mode, it cancels all pending additions or removals.

Table 5: Z-Wave Network Controller commands

Command	Command Description	Command Parameters
Create Association	This command creates an association between 2 devices.	IN1: The source device. IN2: The association group. IN3: The target device. IN4: Does the device have a secure association? True/False
Create Multichannel Association	This command creates an association between two devices, in which one of the devices has multiple end points. For example, a power strip with 4 controllable outlets.	IN1: The source device. IN2: The source device endpoint (instance). IN3: The association group. IN4: The target device. IN5: The target device endpoint (instance). IN6: Does the device have a secure association? True/False
Remove Association	This command removes an association between 2 devices.	IN1: The source device. IN2: The association group. IN3: The target device. IN4: Does the device have a secure association? True/false
Remove Multichannel Association	This command removes an association between two devices, in which one of the devices has multiple end points. For example, a power strip with 4 controllable outlets.	IN1: The source device. IN2: The source device endpoint (instance). IN3: The association group. IN4: The target device. IN5: The target device endpoint (instance). IN6: Does the device have a secure association? True/False
List Associations	This command lists the IDs of all nodes associated with the source device.	IN1: The source device. IN2: The association group. IN3: Does the device have a secure association? True/False OUT: A list of all related node IDs.
List Multichannel Associations	This command lists the IDs of all nodes associated with the source device.	IN1: The source device. IN2: The source device endpoint (instance). IN3: The association group. IN4: Does the device have a secure association? OUT: A list of all related node IDs.

Command	Command Description	Command Parameters
Reset Controller	This command resets the controller to the default settings.	
Is Failed Node	This command checks a specified node for failure. Note: Sleeping devices may return as failed.	IN1: The node ID checked for failure. OUT: The result. • True: The node ID failed. • False: The node ID was responsive.
Remove Failed Node	This command removes a failed node from the network.	IN1: The failed node's ID.
Replace Failed Node	This command replaces a failed node.	IN1: The failed node's ID. IN2: Force the replacement of a sleeping node?
Force Network Update:	This command forces a network update using the Z-Wave controller's device table.	
Assign Return Route	This command sets the route between 2 devices.	IN1: The originating node ID. IN2: The receiving node ID.
Delete Return Route	This command removes the route between 2 devices.	IN1: The originating node ID.
Set Mode Duration	This command sets the length of time the controller stays in a set mode.	IN1: The controller's mode identifier. • 2: Adding mode • 3: Removing mode • 19: Controller_shift • 20: Learn IN2: The duration of the mode in milliseconds.
Get Mode Duration	This command requests the controller's mode duration.	IN1: The controller's mode identifier. • 2: Adding mode • 3: Removing mode • 19: Controller_shift • 20: Learn IN2: The duration of the mode in milliseconds.
Reset	This command resets the controller to factory default, removing all devices.	
Remove Node	This command removes a failed node from the network.	IN1: The node ID being removed. IN2: Should a sleeping node be force removed? True/False OUT: Displays the result true if the node was successfully removed and false if the node was not removed.

Command	Command Description	Command Parameters
Set SUC Node	This command sets the specified controller's node ID to SUC(SIS).	IN1: The controller's node iD. IN2: Is SIS true/false?
Get Routing Info	This command lists the IDs of the specified node's neighbors.	IN1: The node ID of the source device. IN2: This option gives the opportunity to remove bad routes the routing information. • True: Removes bad routes from the routing information. • False: Leaves all routing information in its current state. IN3: This option gives the opportunity to remove non-repeating devices from the routing information. • True: Removes non-repeating nodes from the routing information. • False: Leave all non-repeating nodes in the routing information. IN4: The highest speed to include the neighbor nodes. Note: All speeds under the specified speed are supported. OUT: Displays a list of all qualifying neighbor ID nodes.
Send Node Info Frame	This command sends the controller's node information frame.	
Send NOP	This command sends NOP to the specified node.	IN1: The receiving node's ID.

Glossary

Term	Definition.
Association	Association connects two devices, allowing communication between them without controller interaction.
Command	A command is a message sent to a node in the Z-Wave network.
Command Class	A command class is a group of similarly functioning commands.
Operations	Operations are commands given to a node in the Z-Wave network. Operations are also called Commands.
Group	Groups are created with multiple nodes; they are often created with similar devices. The group can be controlled or accept commands instead of the individual node.
Network Wide Inclusion (NWI)	NWI relays inclusion data for a device through one or more routing nodes in the Z-Wave Network.
Node	Nodes are devices added to the Z-Wave network.
Pairing	Pairing is adding a node to the Z-Wave network. Pairing is also called Adding and Inclusion.
Secure Association	Association used for secure devices – for example, door locks and garage door openers.
Static Update Controller (SUC)	A static update controller is a secondary controller that manages all updates and request of the Z-Wave network.
Source Device	The source device generates a message/event and sends it out to a group or specific device (node).
SUC ID Server (SIS)	A SIS is the primary Z-Wave controller in the network.
Target Device	The target device receives the message/event from the source device (node).
Unpairing	Unpairing is removing a node from the Z-Wave network. Unpairing is also called Removing and Exclusion.