Control4®Z-Wave®
Setup Guide

ZWAVE PLUS

Control4

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Z-Wave Setup Guide

With the addition of the optional Control4® Z-Wave® Module (C4-ZWU/E/H) and Z-Wave USB Dongle (C4-ZDUSB), you can add and control supported Z-Wave devices to your Control4 system. The Control4 Z-Wave Module is a security-enabled Z-Wave Plus product. You must connect the Z-Wave USB Dongle to an EA or CA controller. If you are running Control4 OS 2.8 or 2.9, the controller running Director in your project must be an EA controller. (You can connect the dongle to a secondary EA controller if your primary controller is an EA controller.) This limitation is removed in OS 2.10.

The EA and CA series of controllers (CA-1, EA-1, EA-3, and EA-5) require a Z-Wave USB Dongle and a Z-Wave Module for the appropriate geographical region inserted into the dongle. Details on the installation of the Z-Wave Module and the Z-Wave USB Dongle can be found in the *Z-Wave Quick Start Guide* (*ctrl4.co/z-wave*). Once the module and dongle are installed, you can add and connect Z-Wave devices in Composer Pro.

Important! After assembly, do not mount the Z-Wave USB Dongle on a metal surface! For best Z-Wave signal performance, mount on a non-metal surface. A wall-mounting slot is included on the back of the dongle for easy wall installation.

Configuring a Z-Wave controller

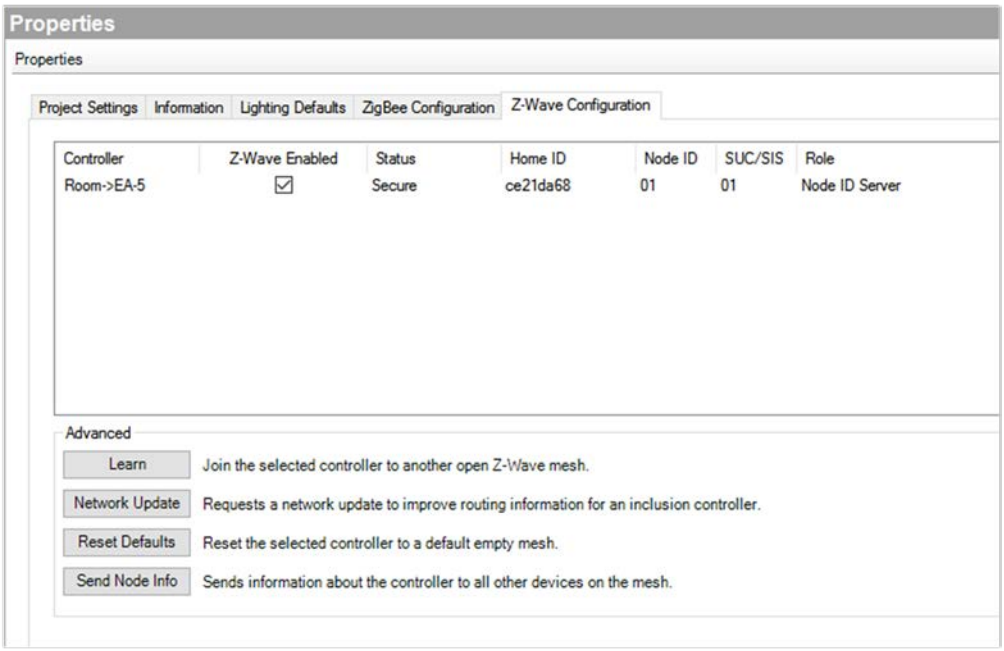
You can use System Design to check the project properties, enable a Z-Wave controller, and view the status of the Z-Wave controller running in a Control4 project.

Note: Z-Wave requires a Z-Wave module connected to an EA or CA controller. See the Z-Wave Module Installation Guide for more help.

To configure a Z-Wave controller:

1. In the *Project Tree*, select the **Project Name** (top line of the project tree) object for the project properties to appear.

2 Click on the **Z-Wave Configuration** tab.



3 Check the box under **Z-Wave Enabled** for the controller you want to be your Z-Wave controller.

Note: Only one Z-Wave controller can be configured in a Control4 project.

The configuration should show a status of "Secure" when it is configured properly. If the *Status* field is empty, make sure the Z-Wave module is connected and installed properly, and that the EA or CA controller is online and identified in the project.

Advanced configuration

Several options are available for advanced Z-Wave configurations in the Z-Wave Configuration tab in the project properties window. These are not required in most cases when operating Z-Wave devices with a Z-Wave module in a Control4 system. They can be used for extending operation with external devices and third-party Z-Wave controllers.

- **Learn**—This option joins the selected controller to another open Z-Wave mesh. This action will change the Home ID of the controller, and any devices on the previous Home ID will no longer be available. If the controller is joined to a mesh that contains a Node ID controller (SUC/SIS), the controller will be an Inclusion controller with the Home ID of the mesh it joined.
- **Network Update**—When acting as an Inclusion controller, Network Update requests network topology updates from the Node ID controller (SUC/SIS).
- **Reset Defaults**—Reset Defaults clears the Home ID on the Z-Wave controller and abandons any nodes on the existing network. Any Z-Wave devices previously joined to the network must be removed before they can join the new network. See "*Removing Z-Wave devices*." Use this procedure only in the event that the network primary controller is missing or otherwise inoperable.

Note: 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 defaults, to reset and re-add 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 if the network primary controller is missing or otherwise inoperable.

- **Send Node Info**—When connected to another mesh, Send Node Info sends information about the controller to all other devices on the mesh.

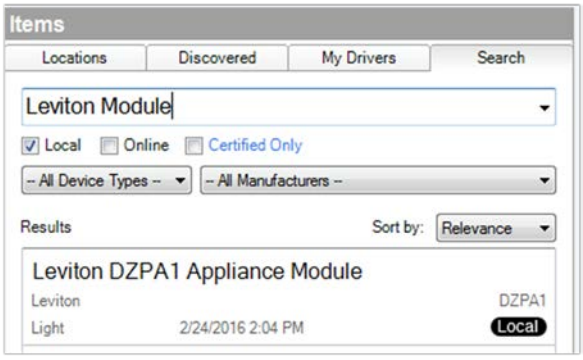
Adding Z-Wave devices

After configuring your Z-Wave controller, add drivers corresponding to the Z-Wave devices to your project. Many Z-Wave device drivers will also need a motorization, sensor, or light driver, like a door or window driver, added into your Control4 project to represent the Z-Wave device in a Control4 Navigator.

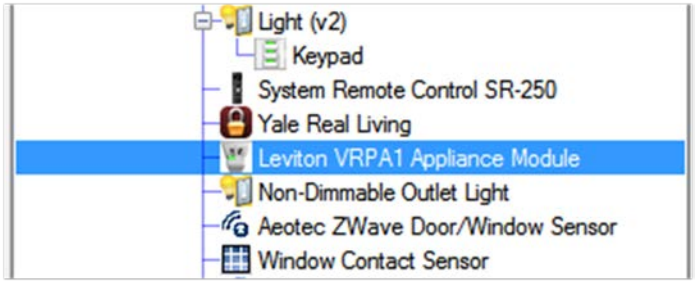
Z-Wave device drivers

To add a Z-Wave device driver into your project:

1 In System Design, enter the name of driver in the *Search* tab.



2 **Double-click** on the driver to add it into the project. You can also right-click on the driver and select **Add to Project** to add the driver.



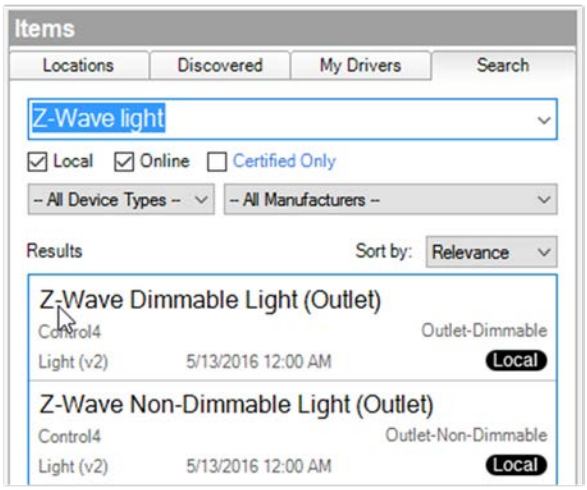
3 If you have more than a couple Z-Wave devices, it is recommended that you rename this driver to help with troubleshooting multiple devices. **Right-click** on the driver and select **Rename**. Enter a descriptive name and press **Enter.**

Most Z-Wave device drivers will also need a motorization, sensor, or light driver. For example, a window contact sensor device driver also needs the Window Contact Sensor driver and an outlet module device driver needs the Z-Wave Dimmable Light (Outlet) driver.

Motorization, sensor, and light drivers

To add a motorization, sensor or light driver into your project:

1 In System Design, enter the name of the driver in the search field in the *Search* tab.



2 **Double-click** on the driver to add it into the project. You can also right-click on the driver and select **Add to Project** to add the driver.

3 This is the driver that will show up in the UI, rename the driver to represent the device it is controlling. **Right-click** on the driver and select **Rename**. Enter the name to be shown in the UI and press **Enter**.

Connecting Z-Wave devices

After you have added all the necessary device drivers and motorization, sensor or light drivers into your project, you are ready to make the necessary connections for these drivers.

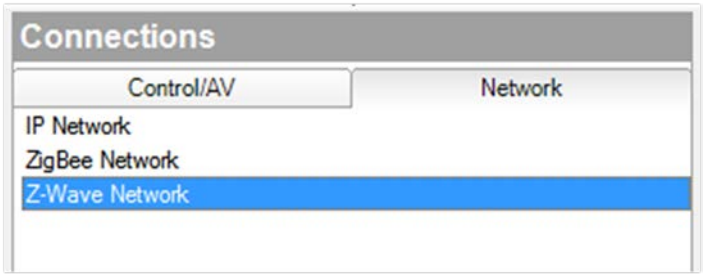
There are two types of connections that need to be made:

- Connect Z-Wave device drivers to the Z-Wave controller and identify them into the project
- Connect Z-Wave device drivers virtually in the Control4 project to motorization, sensor, or light drivers

Connecting Z-Wave device drivers to the Z-Wave network

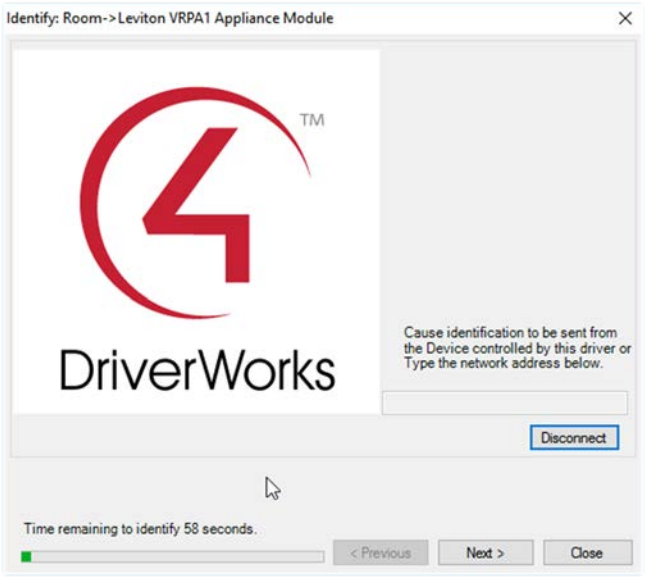
To connect a Z-Wave device driver to the Z-Wave controller:

1 In Connections in the *Network* tab, select **Z-Wave Network**.



A list of Z-Wave device drivers will show in the *Z-Wave Network Connections* window.

2 **Double-click** on the Z-Wave device driver to open the identify window or highlight the device and click on the **Identify** button.

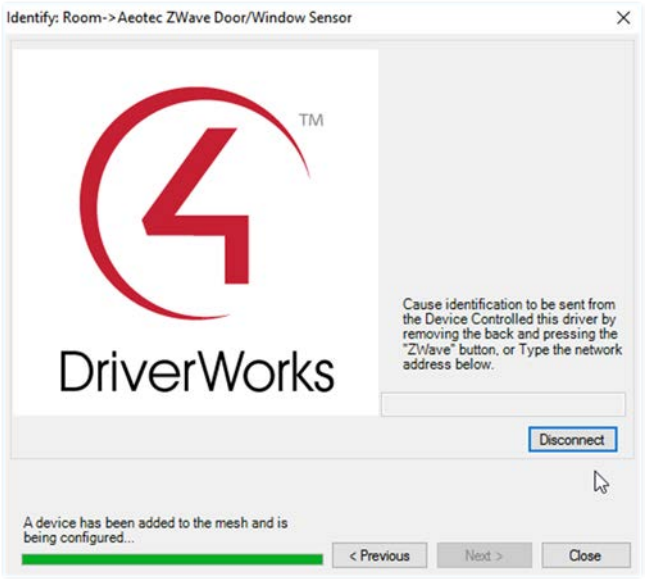


3 Identify (add) the Z-Wave device according to the manufacturer's instructions, usually by pressing a Z-Wave button on the device. See the documentation for the Z-Wave device for more information.

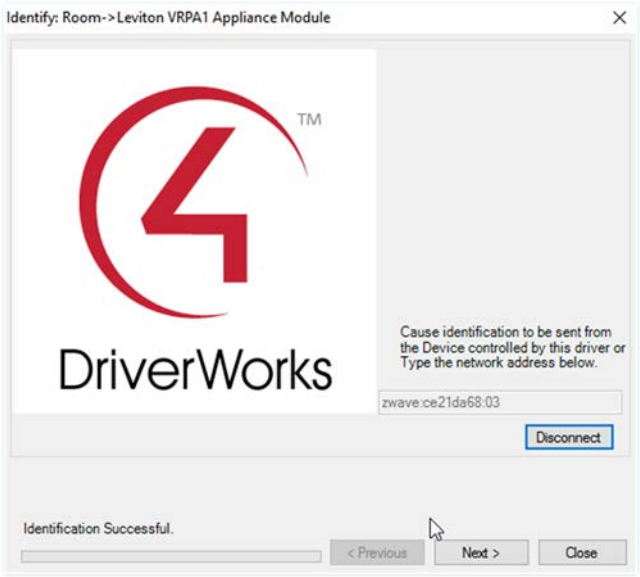
Note: You have 60 seconds to identify (add) the Z-Wave device to the network and a timer will show the time remaining. If you run out of time, close the window and try to identify the Z-Wave device again.

4 After adding the Z-Wave device to the Z-Wave network, the driver will do some additional configuration.

Important: Do not skip this step by closing the window or clicking next!



5 If the device is added, configured, and identified successfully, the address will show in the address field and the timer instructions will change to say "Identification Successful".

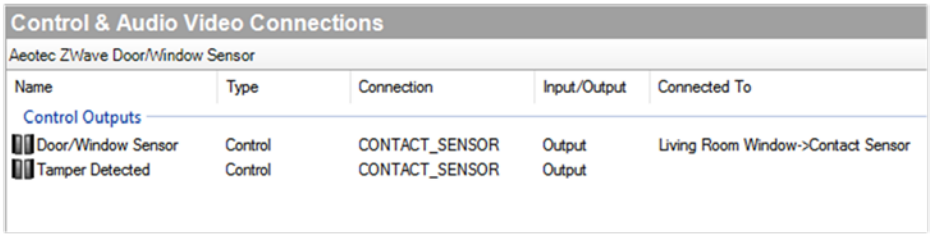


*Note: If the Z-Wave device will not identify (add), you should try to remove the device and then try to identify the device again. See "*Removing Z-Wave devices*".*

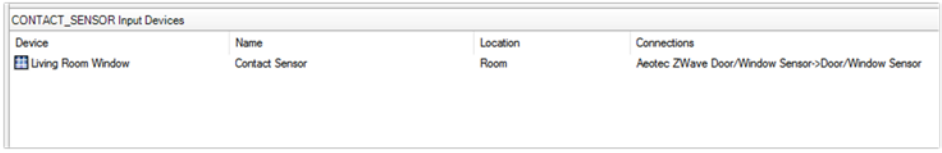
Connecting Z-Wave device drivers to motorization, sensor or light drivers

To connect a Z-Wave device driver to a motorization, sensor or light driver:

1 In Connections under the Control/AV tab, select the Z-Wave device driver. The *Control & Audio Video Connections* window will show the available connections.



2 Click on the Control Output connection **Door/Window Sensor** and the available devices to connect appear below in the *CONTACT_SENSOR Input Devices* window.



3 **Click and drag** the contact sensor output in the upper window to the contact sensor input in the lower window. When a valid connection is available, the cursor changes and has a + symbol. **Release** the mouse button to make the connection.

When the Z-Wave devices are connected to the appropriate motorization, sensor or light drivers, the UI will now show appropriate drivers to represent the Z-Wave devices. Now the Z-Wave device drivers must be connected to the Z-Wave controller and identified in the project.

Available Devices

When the device is identified and added to the Z-Wave network, the Available Devices window will show the device online with a green icon. A Z-Wave device that is added to the Z-Wave network and also identified to a device driver will show the device driver name and location next to the Node ID.

Z-Wave devices that are added to the Z-Wave network, but not identified to a device driver will show up with just the Node ID.

Removing Z-Wave devices

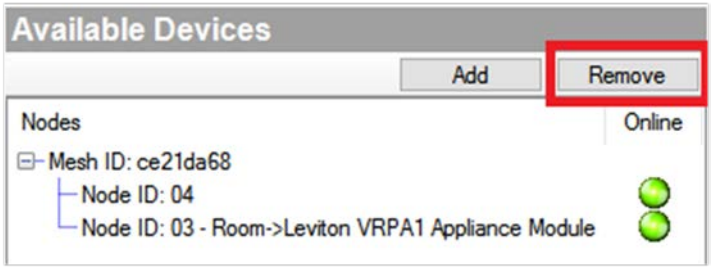
Z-Wave devices can be removed from any network at any time by using the Remove button found in *Available Devices*. This is true even if they are not part of the network performing the remove operation.

Removing Z-Wave devices from a previously installed network requires an available Z-Wave controller and interaction with the Z-Wave device-usually by pressing the Z-Wave button on the device. There is no “Remove from mesh” button press sequence similar to ZigBee Pro devices.

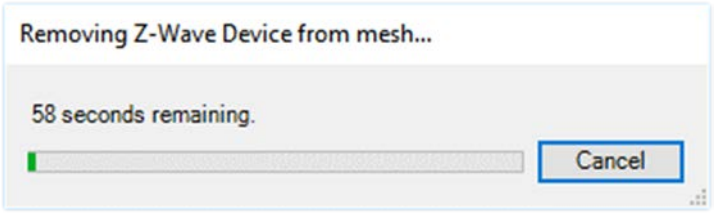
Removing Z-Wave devices from the network

To remove a Z-Wave device from the network:

1 In Connections in the Z-Wave Network, click **Remove** in the *Available Devices* window.



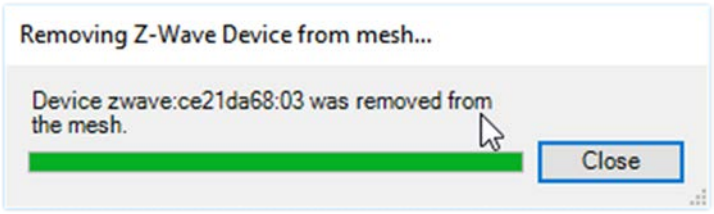
The Removing Z-Wave Device window appears and a 60 second timer starts.



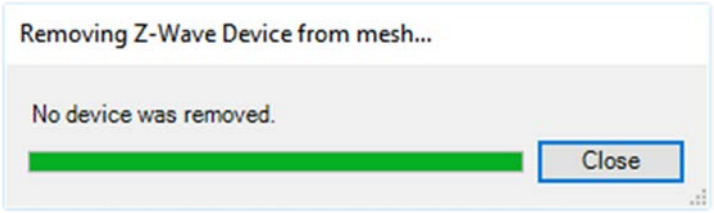
2 Remove the Z-Wave device from the network according to the manufacturer’s instructions, usually by pressing a Z-Wave button on the device. See the documentation for the Z-Wave device for more information.

*Note: If the device is not removed from the network before the timer ends, close the window and click the **Remove** button to try again.*

3 If the device was removed successfully, the timer will stop and the window will say the devices was removed from the network.



4 If the device is not removed from the network before the timer ends, close the window and click the **Remove** button to try again.



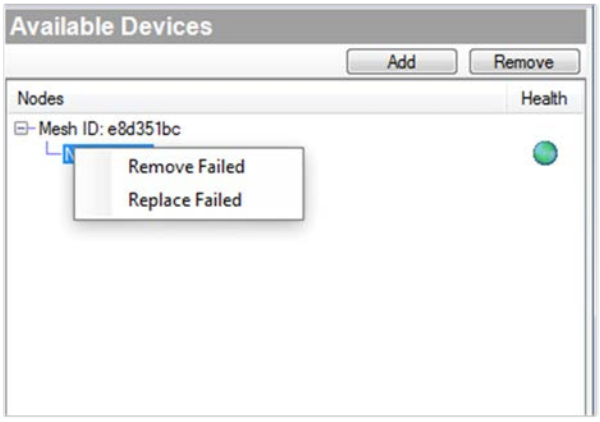
Removing failed Z-Wave devices

If a Z-Wave device has become lost or inoperable so that a physical button press cannot be performed to remove it from the network, the Remove Failed option is provided. Remove Failed is used to force a Z-Wave device off of the network.

Important! Do not use this option if the device is operational. See "Removing Z-Wave devices from the network". Use this option only if a device has physically failed and is inoperable!

To remove a failed Z-Wave device:

1 In Connections under Z-Wave Network, right-click on the **Node ID** of the failed Z-Wave device, and select **Remove Failed.**



2 The controller will make one last attempt to communicate with the Z-Wave device. If the device successfully communicates, the Remove Failed will not proceed and the device must be removed using the Remove button instead. Remove the device according to the manufacturer's instructions, usually by pressing the Z-Wave button.

3 If the communication attempt fails, the device will be removed from the network and will not be tracked as a Z-Wave node by the Z-Wave controller. Be aware that this device must now be reset to defaults before using the device again within the system. See the manufacturer's instructions for more information.

Replacing failed Z-Wave devices

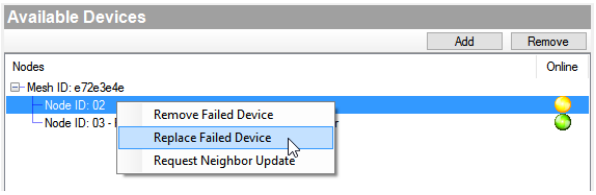
If a Z-Wave device has become lost or inoperable so that a physical button press cannot be performed to remove it from the network, the Replaced Failed option is provided. Replace Failed is used to force a Z-Wave device off of the network and prompt the user for a replacement. The new device can be either the same type or different.

This option allows you to replace a Z-Wave device and preserve the same Node ID. This can be useful if you have some direct device associations done between Z-Wave devices. It is *not* needed for most Control4 systems.

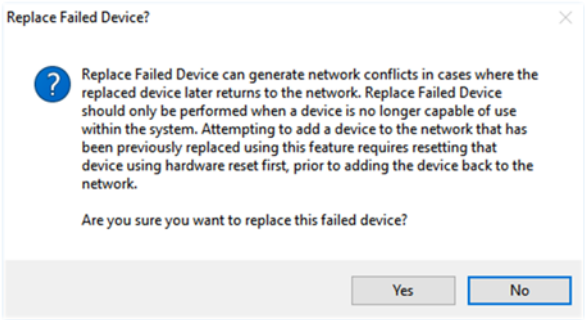
Important! Do not use this option if the device is operational. See "Removing Z-Wave devices from the network". Use this option only if a device has physically failed and is inoperable!

To replace a failed Z-Wave device:

1 In Connections under Z-Wave Network, right-click on the **Node ID** of the failed Z-Wave device, and select **Replace Failed.**



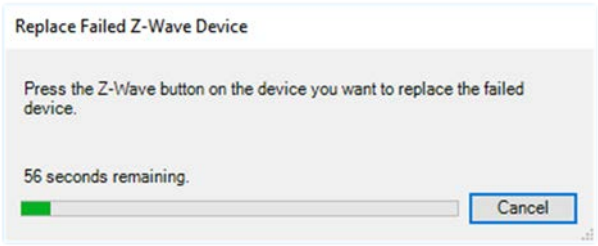
2 Click **Yes** to continue only if you are replacing a failed device.



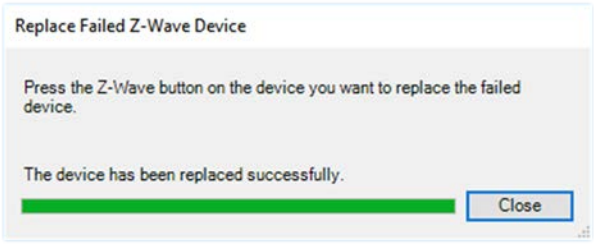
The controller will make one last attempt to communicate with the Z-Wave device. If the device successfully communicates, the Replace Failed will not proceed and the device must be removed using the **Remove** button instead. Remove the device according to the manufacturer's instructions, usually by pressing the Z-Wave button.

If the communication attempt fails, the device will be removed from the mesh and will not be tracked as a Z-Wave node by the Z-Wave controller. Be aware that this device must now be reset to defaults before using the device again within the system. See the manufacturer's instructions for more information.

3 Add the replacement Z-Wave device to the mesh according to the manufacturer's instructions (usually by pressing the Z-Wave button) before the timer expires.



4 When the device is added successfully, the timer will show complete and a message will say the replacement was successful.



Advanced concepts

Replication—Control4 controllers do not implement controller replication. The controller will respond appropriately to replicate requests.

Basic Command Class—Control4 controllers allow controlling unknown devices with the Basic Command Class (see Non-Preferred devices below). Control4 controllers "Do Nothing" when receiving Z-Wave Basic Command Class commands.

Non-Preferred Devices—Control4 controllers allow adding unknown Z-Wave devices through a "Generic Z-Wave" driver. When a device is connected to this driver, it can be controlled through the Basic Command Class using the properties page for the device. Information reported from the device is also be available on this properties page. Non-preferred devices can also be added to a Z-Wave mesh using the *Available Devices* Add button. This allows devices to be added and then associated using manufacturer specific methods for doing so. See manufacturer specific documentation on how to create associations on specific devices.

Association Command Class—Control4 controllers implement associations on the Lifeline association group (group 1). This association is used to provide device reset information to an associated device. A single associated device is supported.

Repeater Functionality—This product can be operated in any Z-Wave network with other Z-Wave certified devices from other manufacturers. All non-battery operated nodes within the network will act as repeaters regardless of vendor to increase reliability of the network.

Troubleshooting

When joined to a network, a Z-Wave device will not join a different network. Z-Wave devices can be removed from any network at any time by using the Remove button found in *Available Devices*. This is true even if they are not part of the network performing the remove operation. If there appears to be trouble joining a device to a network, it is a good idea to either perform a reset defaults on the device, or explicitly perform a removal procedure, prior to attempting to add the device to the existing network. This ensures the device is not currently configured for another network prior to adding the device to the desired network.

More information

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