Z-Wave Manager Guide

Table of Contents

TERMINOLOGY

Z-Wave Device

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.

The Z-Wave functionality for Inclusion (The process of adding a node/device to the Z-Wave network) is referred to as ADD/INCLUDE.

The Z-Wave functionality for Exclusion (The process of removing a node/device from the Z-Wave network) is referred to as REMOVE/EXCLUDE.

The Z-Wave functionality for Replication (The process of copying network information from one controller to another) is referred to as COPY.

The ZW-9 is a Security Enable Z-Wave Plus Product.

The ZW-9 Z-Wave Interface Module is referred to as the ZW-9 throughout this document.

Chapter 1. Introduction

Overview

RTI specializes in control products for automating the operation of audio, video, and environmental management systems such as lighting and HVAC. Offering solutions for residential, commercial and hospitality applications, RTI products are uniquely designed to meet the needs of the electronics installation professional while providing a simplified interface for the end-user. The Z-Wave Manager program is used during the installation process of the RTI Control Products to configure the Z-Wave Wireless Network and Z-Wave Compatible Devices.

Hardware/Software requirements

To use this software, you will need a ZW-9 Z-Wave Interface Module, a network switch or router and one of the RTI Advanced Control Processors:

XP-3 Control Processor

XP-6 Control Processor

XP-8s Control Processor

ZW-9 Z-Wave Controller

The ZW-9 requires two connections. One connection to a 5 Volt power supply adapter which plugs into the 120 VAC main supply, and a standard Cat-5 Ethernet network cable which connects the ZW-9 to the Network Router or Switch.

NOTE:
The ZW-9 must be connected to the same network as the XP Control Processor.
For best performance, the ZW-9 device should be installed in a central location in the building

Installation

The Z-Wave Manager program is installed with the latest version of the RTI Integration Designer programming software (v9.x or APEX).

Z-Wave Manager is designed to operate on the following Microsoft Windows Operating Systems:

Windows XP Service Pack 3 (32 bit or 64 bit)

Windows Vista Service Pack 2 (32 bit or 64 bit)

Windows 7 (32 bit or 64 bit)

Windows 8.0 8.1 (32 bit or 64 bit)

Windows 10 (32 bit or 64 bit)

Chapter 2. Getting Started

Z-Wave Network

A typical Z-Wave network installation includes one primary controller, possible secondary controllers which may include a secondary inclusion controller, and the actual Z-Wave slave devices. A total of 232 devices in the network are possible, including all slave devices and the controller devices.

Controller

The ZW-9 is designed to be a Z-Wave primary controller used to setup and control a Z-Wave Network. If an existing Z-Wave network is present the ZW-9 device can be added and take on the role as the primary Z-Wave controller or as a secondary Z-Wave controller.

The ZW-PRO is a USB device designed to be a temporary secondary inclusion controller that can Add/Include and Remove/Exclude devices from the Z-Wave network.

Its main purpose is to include and remove devices (ex. door locks) that require close proximity during setup. It does not remain as a permanent part of the network. After its use, it is removed from the network and can be used in the setup and installation of other Z-Wave networks.

The ZW-9 Controller Device and Z-Wave devices.

The Z-Wave Controller will create a HomeID (8 hex digit number) that uniquely identifies the Z-Wave network.

In a new installation the ZW-9 will have the Device ID of 1. As Z-Wave devices are added to the network they are assigned a Device ID from 2 to 232. Device ID's are assigned sequentially and are not reused even if a device is removed so it is possible that devices in a network may not have consecutive Device ID numbers. After Device 232 is added, any unused node numbers will then be used. If the maximum number of devices (232) is reached, you will not be able to add any additional devices.

If more than 232 Z-Wave devices are needed, a second ZW-9 can be installed. The second ZW-9 will establish a new second Z-Wave Network that will have a different HomeID. These two Z-Wave networks would not communicate with each other, but with the RTI XP Processor these two Z-Wave networks could be controlled and operated as one complete system.

In an existing installation where a Z-Wave network is already setup and the ZW-9 is being added as a secondary controller, the ZW-9 will be assigned a Device ID by the existing primary controller and will not have a Device ID of 1.

If a Z-Wave Device such as a Door Lock is already installed, and it is out of range of the ZW-9, a repeating Z-Wave device must be installed between the ZW-9 and the Z-Wave device (door lock) before it can be added to the Z-Wave Network.

STATUS LED: (Red) 

- This LED should remain solid whenever there is an active program communication between the processor and the ZW-9.
- This LED will blink whenever there is NO active program communication between the processor and the ZW-9.

Z DATA LED: (Green) 

- This LED indicates Data transmission over the Z-Wave RF network.
- This LED will blink whenever there is active communication between the ZW-9 and another Z-Wave device on the same Z-Wave network.

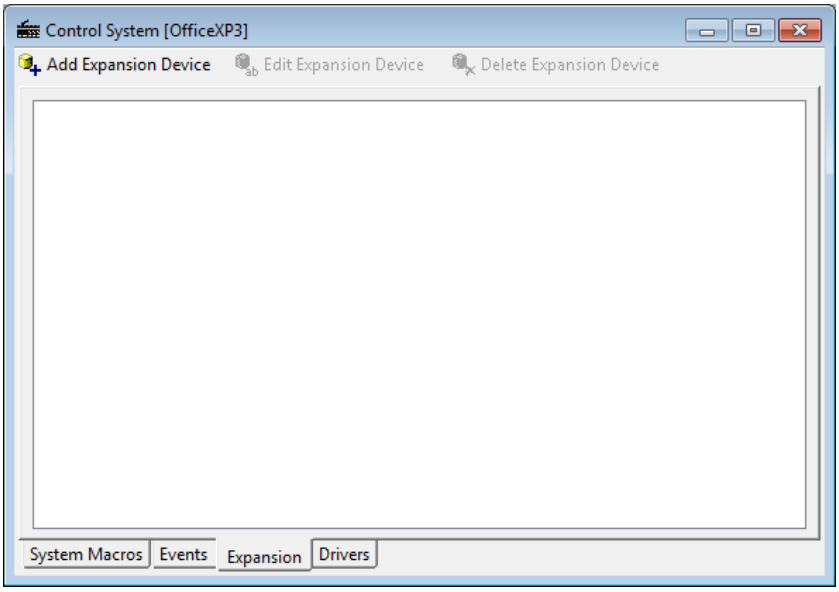
NET LINK LED: (Green) 

- This LED indicates data communication via the Ethernet port. This LED should blink constantly when there is a working connection on the Local Area Network.

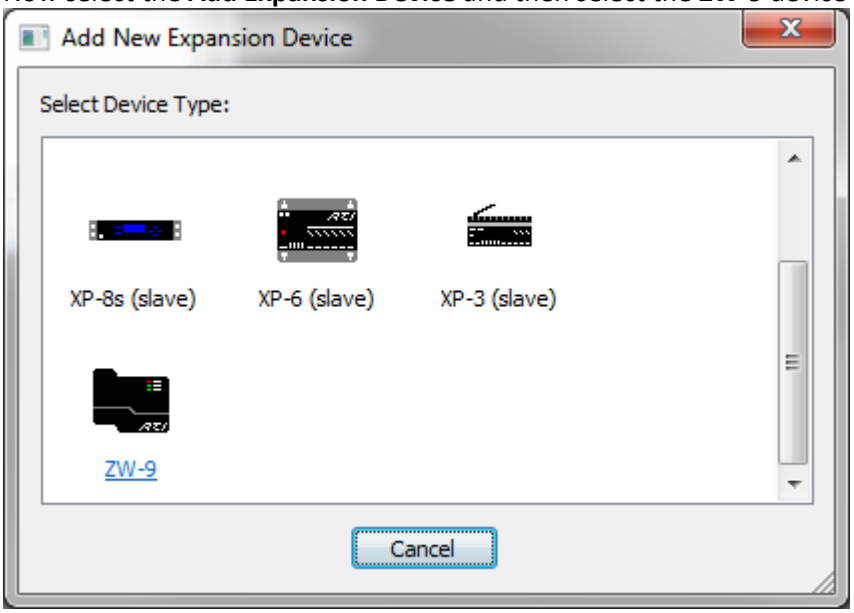
Start Up / Quick Start

First make sure the ZW-9 is powered and connected to the same network as the computer that will run the RTI Integration Designer program.

Inside Integration Designer (In the System Workspace) select the Control System Processor (XP3, XP8s, etc.) that you have added to your system. The Control System dialog box will appear, and on the bottom select the Expansion tab to add the ZW-9 Z-Wave Controller to the system.



Now select the **Add Expansion Device** and then select the **ZW-9** device from the list as shown below.

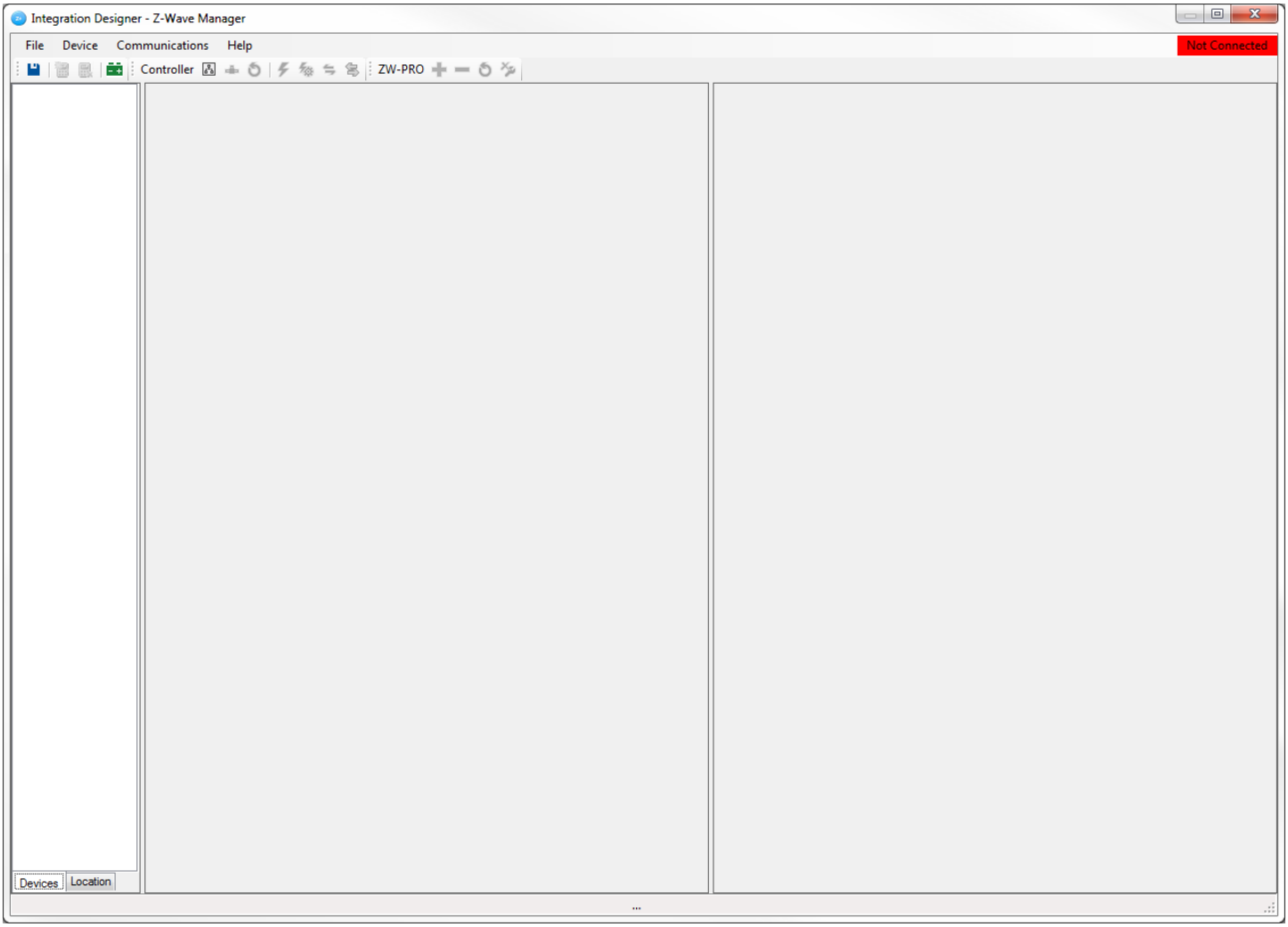


Once selected the Z-Wave Manager interface of Integration Designer will be launched.

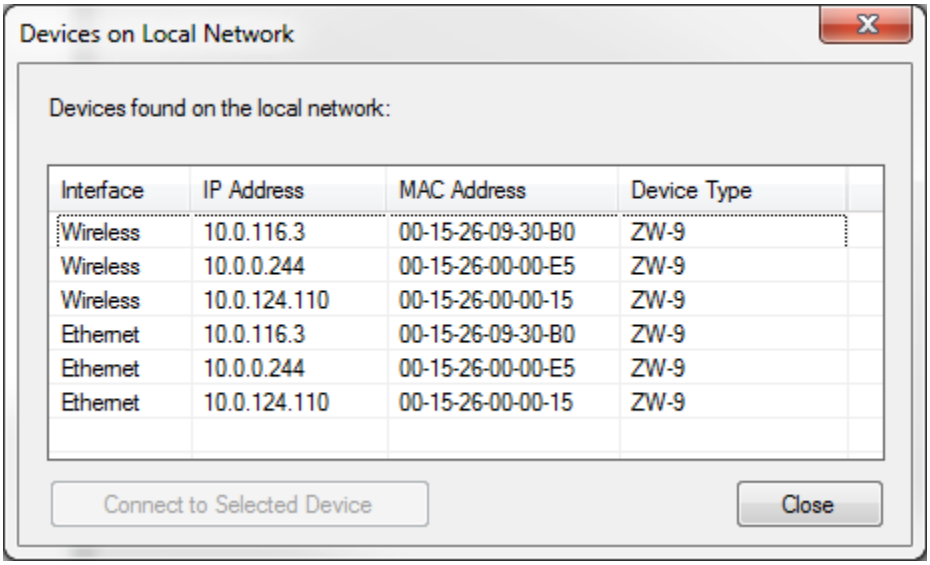
Once activated the Z-Wave Manager program will first try to detect any ZW-PRO devices connected to the computer through a USB interface.

After this step it will try to detect any ZW-9 Devices connected to the local Ethernet network.

When the ZW-9 device detection is complete the main screen will be displayed.



With the dialog show below displaying the detected ZW-9 device connected to your system.



Normally there would only be one ZW-9 device shown.

If your system has both a wired Ethernet connection and a Wireless network connection, then the ZW-9 Device would appear twice, once for the Ethernet connection and once of the Wireless connection. A wireless connection would be the better choice when using a Laptop computer to move around the location for the initial setup and configuration of the Z-Wave Devices installed.

Select the Ethernet network adapter (Wired or Wireless) to be used to make the connection with the ZW-9 Z-Wave Controller device.

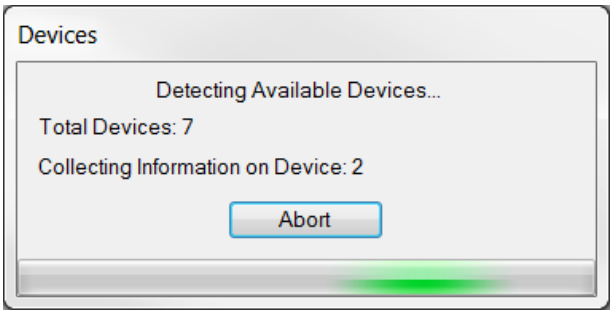
Your device can be identified by the MAC Address which is labeled on the back of the ZW-9 device.

- From the main menu select **Communications, Show Devices on Local Network** or select the Controller Toolbar icon. A dialog box will be displayed allowing the selection of the PC network adapter to be used for communicating with the ZW-9. This dialog will refresh every 2 seconds with any newly detected devices. Z-Wave Controller devices (ZW-9) are listed with the PC interface type (Wireless or Ethernet), IP Address, and MAC Address. If the computer being used has both a wired and a wireless Ethernet adapter interface enabled, the same Z-Wave Controller may be displayed on both interfaces and can be controlled through the interface selected.

Click on the desired ZW-9 and select the **Connect to Selected Device** button, or double click the desired ZW-9 in the list. After the ZW-9 is selected, a connection is made.

A dialog box will display the total number of devices detected while the ZW-9 collects the detailed information about each device. On the initial setup the only detected device would be the ZW-9 Controller itself. On future launches of ZWaveMgr from Integration Designer it will automatically detect the ZW-9 device and connect with it and start the device detection process and match it against the Project file that is being used. To verify that the ZW-9 Home ID and device list match the Project file that was loaded in Integration Designer.

Example of the device detection process:

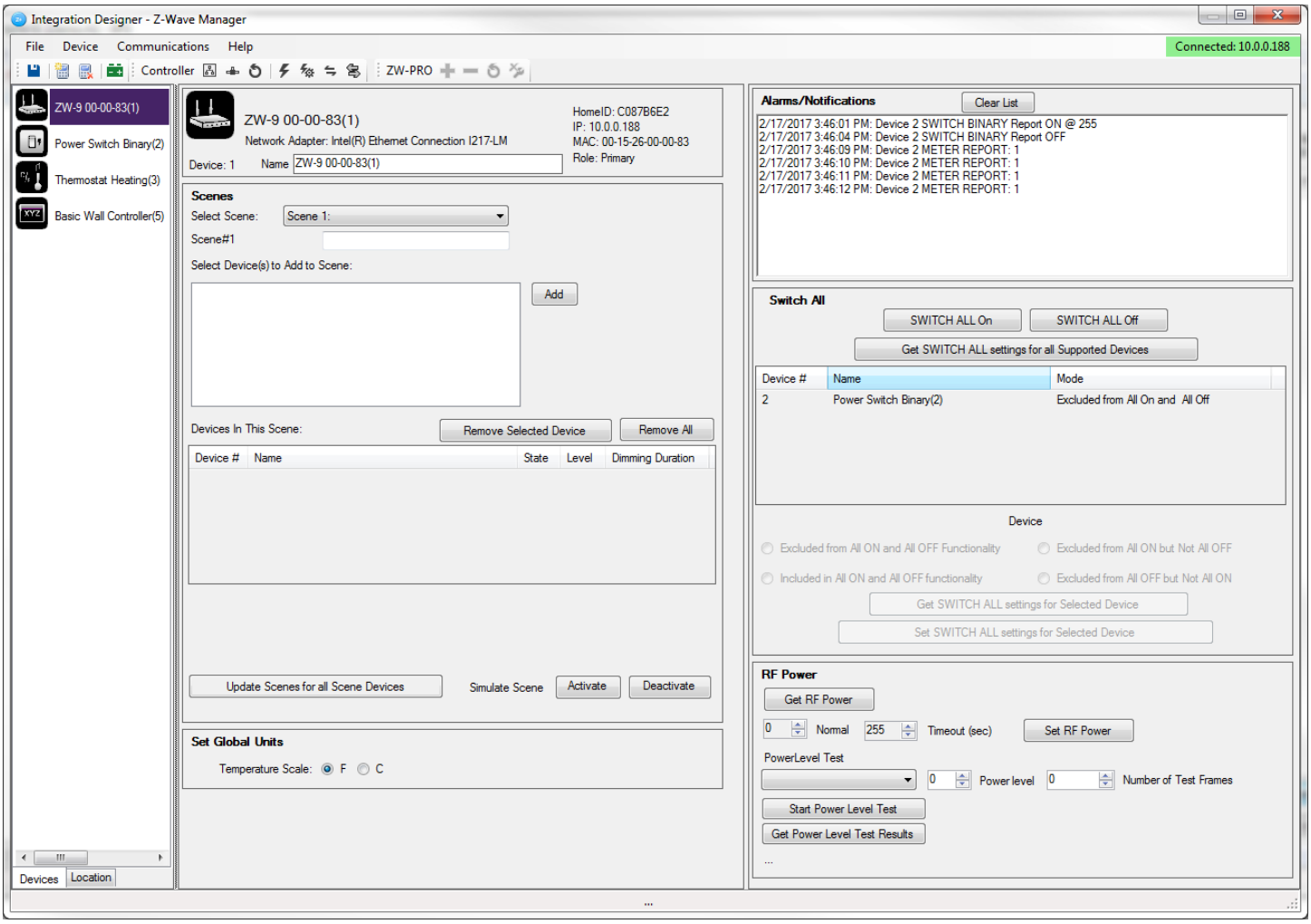


If there are any battery-operated Z-Wave devices in the Z-Wave network a dialog box will pop up during the detection process letting you know that a button press on the device is necessary to wake up the device to read its current status and settings. If the device is already installed and not available within close range, click the cancel button on this dialog box, to skip collecting the current information from this device.

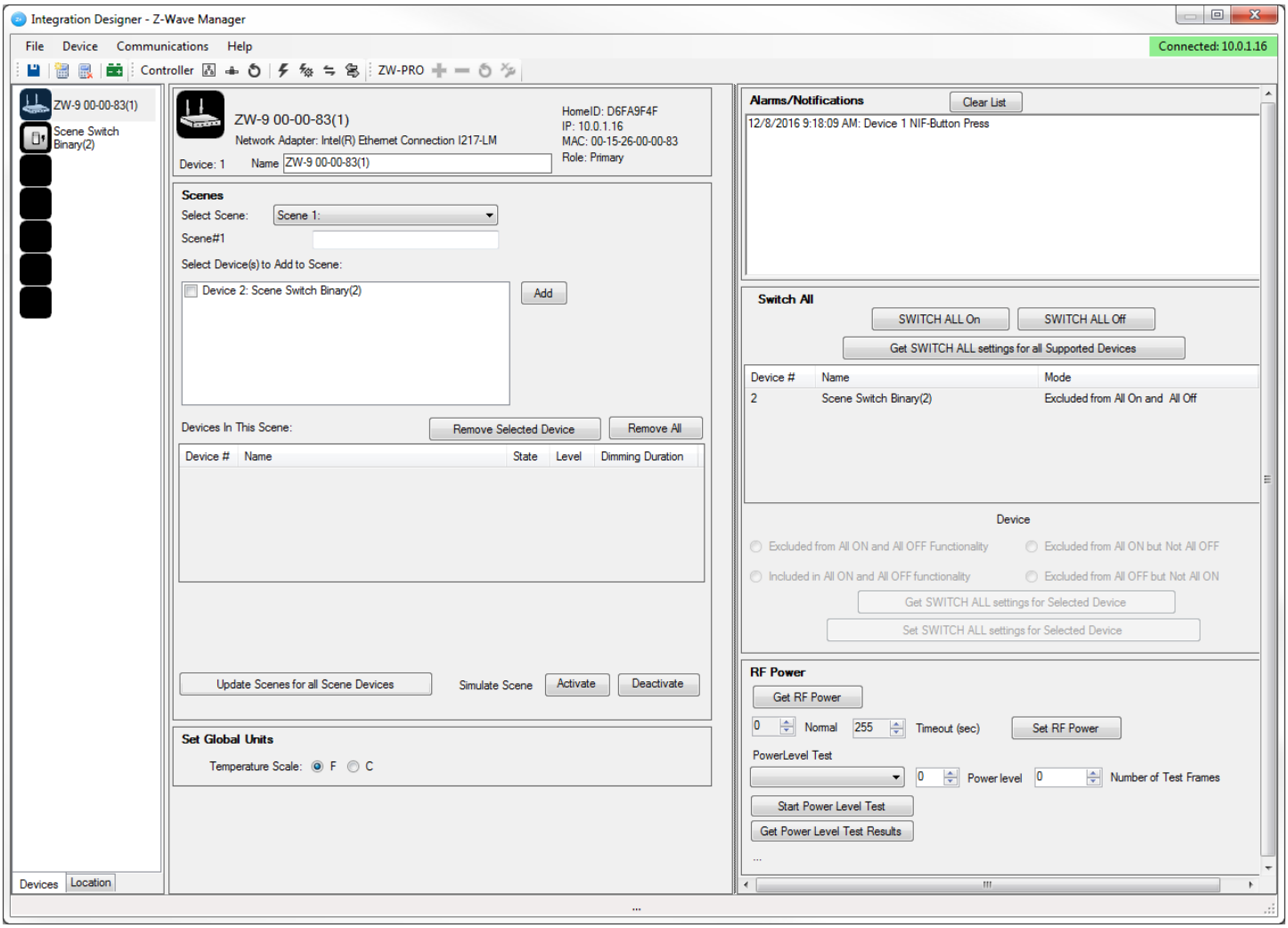
It is possible to have the battery devices ignored during the detection process by selecting **Ignore Battery Devices** from the Communications menu. Or by clicking the Ignore Battery Devices icon on the controller toolbar or . When this icon is green, the program will prompt the user to wake up the device by activating the device wake up (usually a button press). When this icon is red, the program will not prompt the user to wake up the device and no information is retrieved from the device. Checking the Ignore All Battery Devices in the above dialog box has the same effect as selecting **Ignore Battery Devices**. This setting is maintained across new ZWaveMgr launches as a convenience feature.

A list of the detected devices will be displayed on the left side of Z-Wave Manager. For a new installation or after a ZW-9 reset (see next section for reset instructions), only the ZW-9 device will be listed. If the Z-Wave network has many devices or there are devices that are not working properly, the process for detecting all of the Z-Wave devices will take longer to complete.

Example display with multiple devices added by the ZW-9.

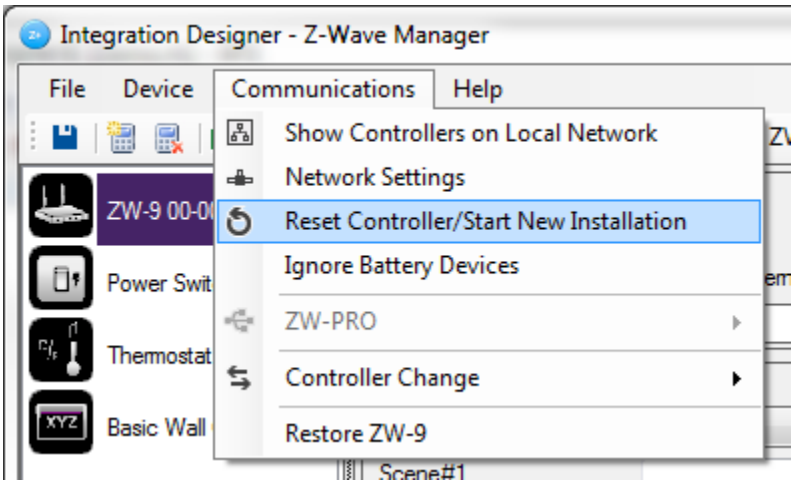


If the ZW-9 has been programmed previously, it may contain information on device(s) that no longer exist or that don't match the ZW-9 device list. In this case it may take a long time during the Device Detection process (example shown below). In this situation, select the Abort button on the detection dialog box to cancel the device detection.

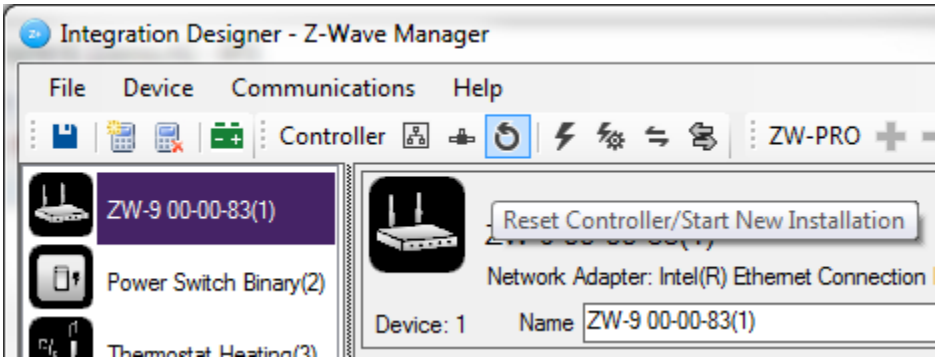


For a new Installation it will be necessary to reset the ZW-9 Controller to a known state.

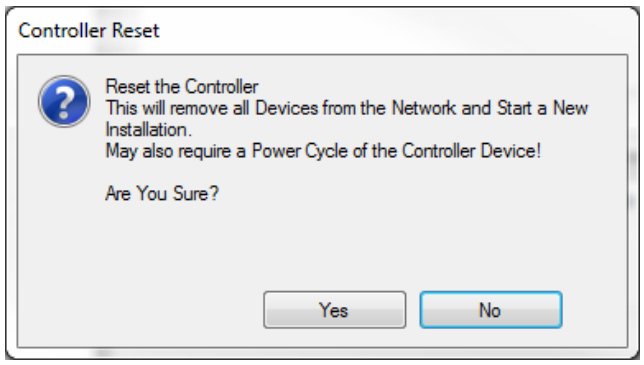
This is done by selecting the **Reset Controller/Start New Installation** from the main menu.

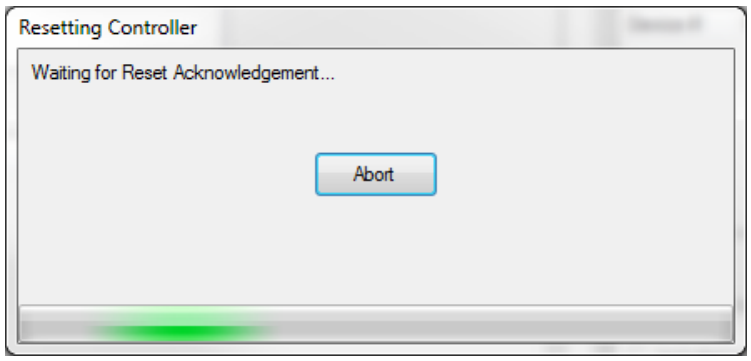


Or by selecting the Reset Controller Icon on the Controller Toolbar.



A Dialog Box will be displayed asking to confirm this selected operation.

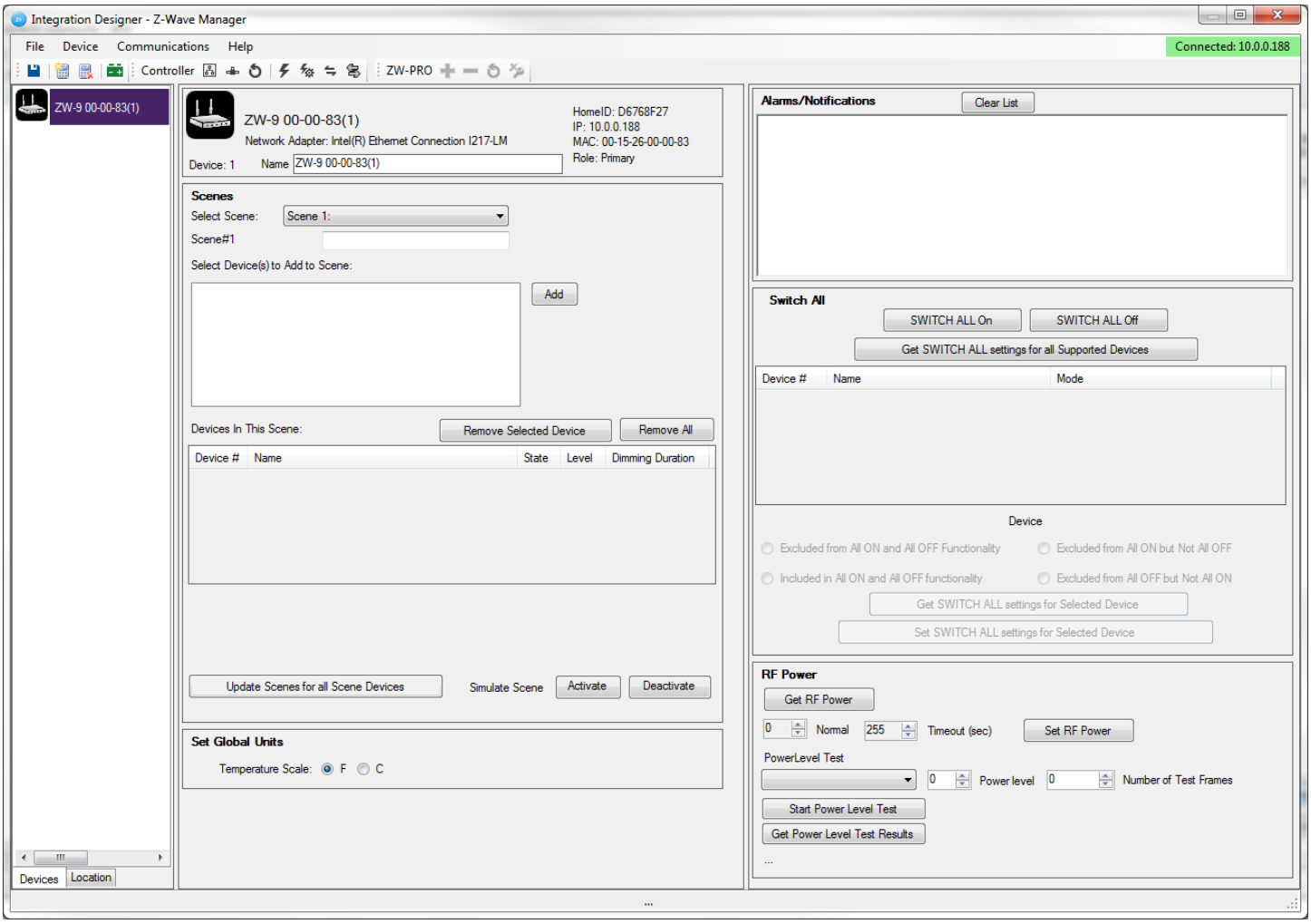




After selecting YES, about 10 seconds later the reset should be completed.

This process assigns a new HomeID to the ZW-9.

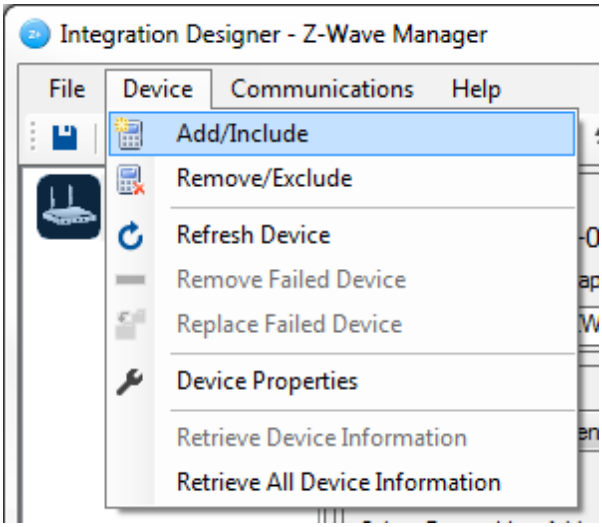
After the reset, only the ZW-9 will be listed in the device list.



Now the process of adding Z-Wave devices to the project can begin.

Configuring the Z-Wave Network and Adding Devices

The process of configuring the new Z-Wave network and adding devices can now be started.



The DEVICE menu contains:

Add/Include

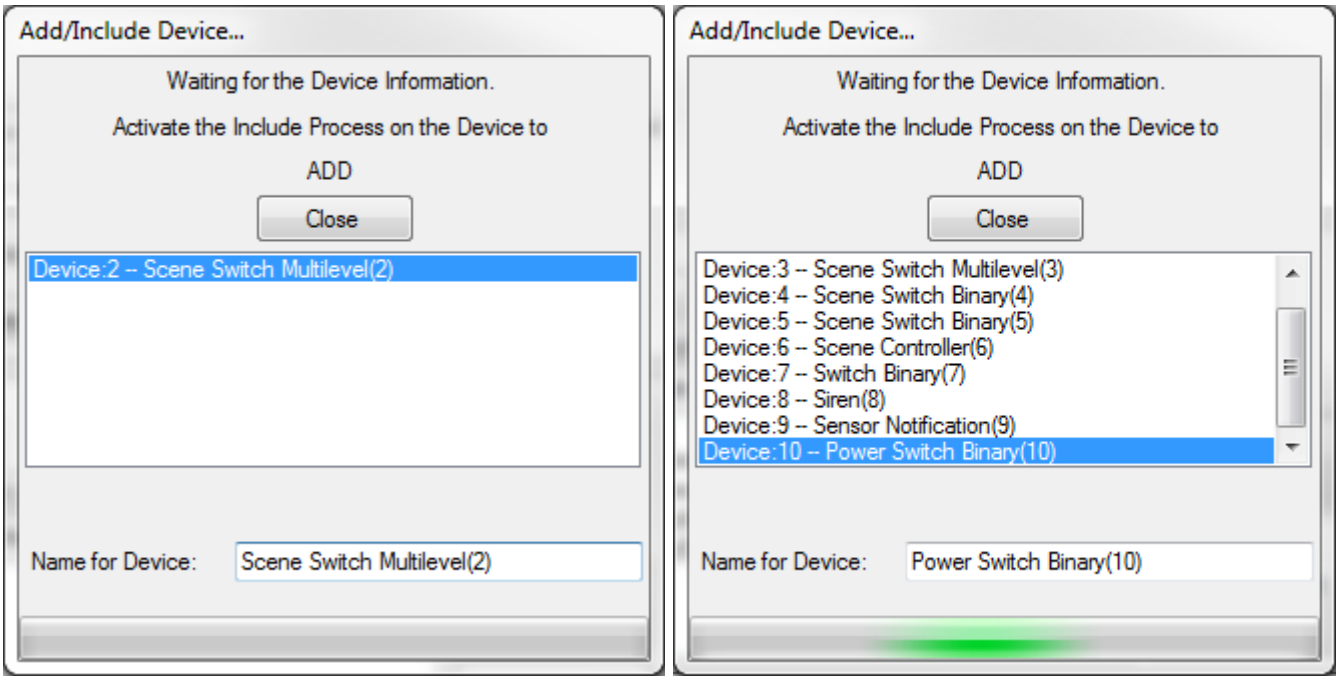
Add/Include a device into the Z-Wave network.

NOTE:
If a device was previously added/included into a different Z-Wave network it may be necessary to remove the device first to place it into a known state. Sometimes even new devices that have just been opened will be in this state. Therefore it may be a good practice to remove a device before adding it to the network. Or if there is an issue with adding a device to the network make sure you execute the removal process first before trying other troubleshooting techniques.

To add a device to the Z-Wave network make sure that the device is properly installed and has power. If it is a battery operated device make sure that the batteries have a good power level.

Start the Add/Include process by selecting Device-Add/Include from the main menu or by selecting the

Add/Include button on the main toolbar. A dialog box will display a single device or multiple devices may be added as shown below.



Once this dialog box is displayed, activate the include process on the device (usually some type of button press). See the device documentation for details. .

It may take a few moments for the device to show up in the list. Depending on how many devices are already in the network and what type of device is being added to the network. Security devices will typically take a little longer. When a device is successfully added you will also hear a beep sound from the computer. Wait a few moments after activating the include process before trying to activate the include process a second time. If you do activate the include process a second time and the first attempt was successful, the program will indicate that the device has already been included with an entry in the list showing the device (i.e. “Device Already Included: 9 Switch Binary (9)”).

If you are using a Wi-Fi network it is possible to carry the laptop to the installed devices and add them to the network.

If there is only a wired network it may be helpful to turn the computer’s volume up. This way as you leave the computer to walk around to add devices to the network you can hear the beep signaling a successful add/include process of a device.

As devices are included in the Z-Wave network they are added to the Device List.

You can assign a name for each device as it is added, to avoid have to recall the order in which you added the devices. Just click on the device in the Add/Include Dialog box and enter in a new name for the device.

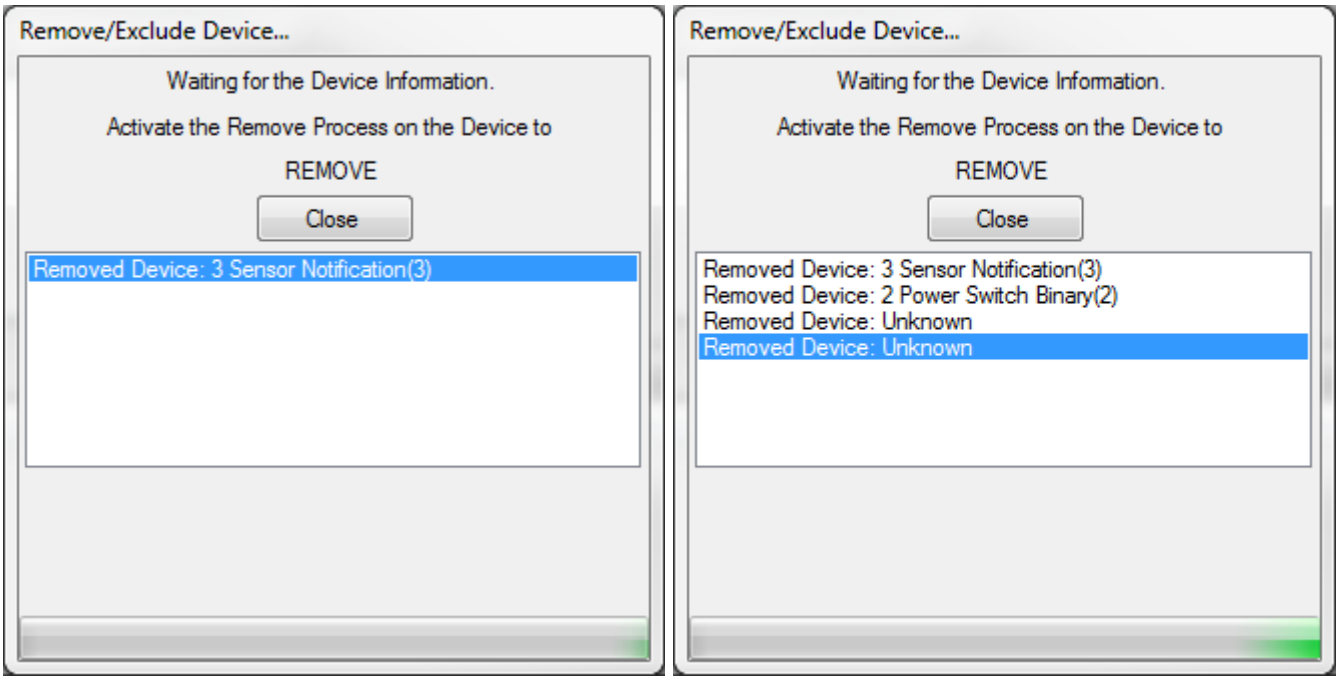
After all of the device(s) have been included close the dialog box. You will know see the device(s) listed in the Device List on the left side of the Z-Wave Manager program window.

See the sections on the specific device types for details about configuring the added device(s).

Remove/Exclude

Remove/Exclude a device from the Z-Wave network.

The remove/exclude process is very similar to the add/include process.

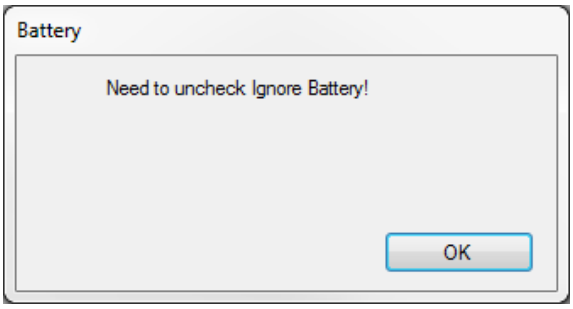


Once this dialog box is displayed, activate the exclude process on the device (usually some type of button press). See the device documentation for details. A single device may be removed, or multiple devices may be removed while this dialog box is open as shown above on the right.

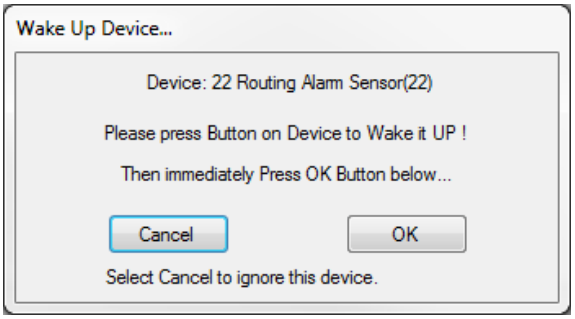
As devices are removed from the Z-Wave network they are removed from the Device List.

Refresh Device

Refresh the device by collecting the device's information from the Z-Wave network through the ZW-9. If it is a battery operated device and the Ignore Battery device wake up is activated you will be prompted to uncheck the Ignore Battery.



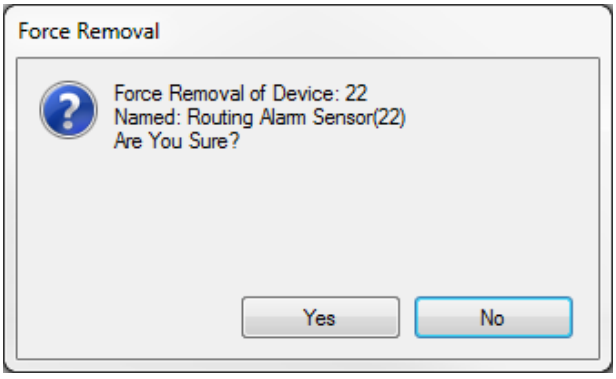
If the Ignore Battery device wake up is not activated you will be prompted to wake up the device.



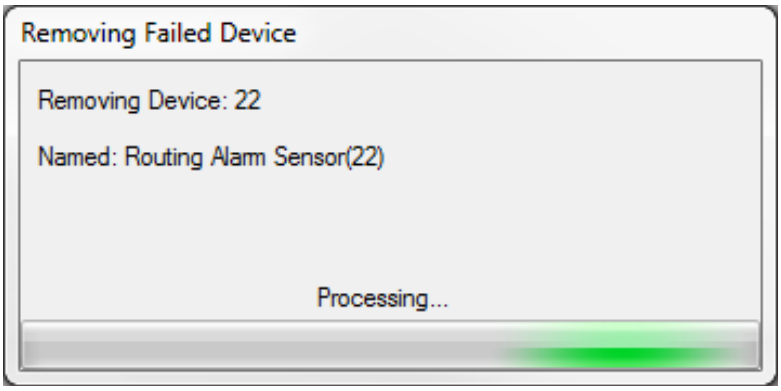
Remove Failed Device

Remove a failed (non-responding) device from the Z-Wave network.

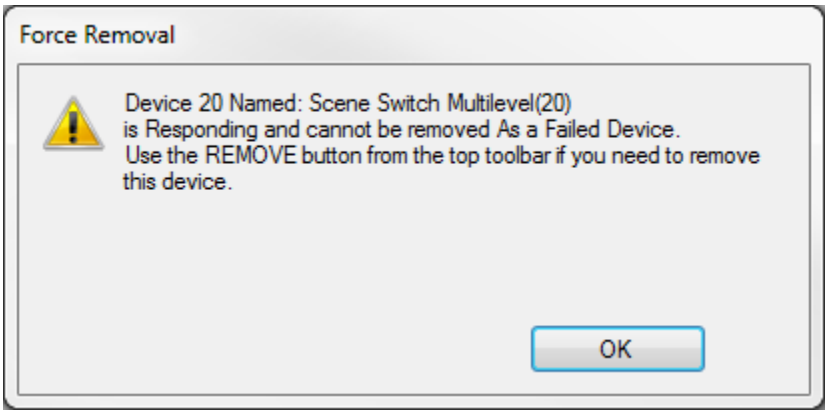
Selecting this option will first display a dialog box to confirm the removal process.



After selecting yes the following dialog box will be displayed as the removal process takes place.



It will first require verifying that the device is not responding and is truly a failed device. If it was a failed device the dialog box will close and the device will be removed from the Device List. However if the device is responding to commands over the Z-Wave network the following dialog box will be displayed and it will be necessary to use the normal remove/exclude device process.



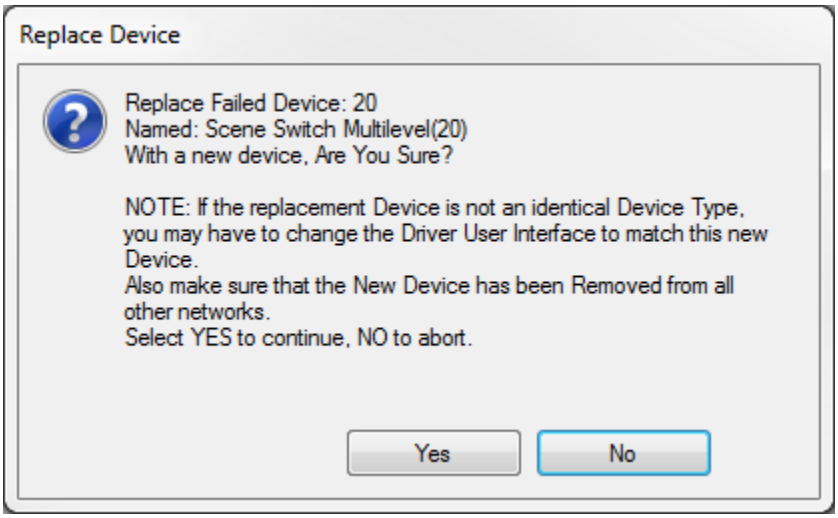
Replace Failed Device

Replace a Failed device with a replacement device is used to replace a failed device that is no longer functioning, from the Z-Wave network and replace it with a new device, keeping the same Device ID. The replacement device should be identical to the failed device type, otherwise the rest of the RTI configuration (Integration Designer) will have to be changed/modified to reflect any differences.

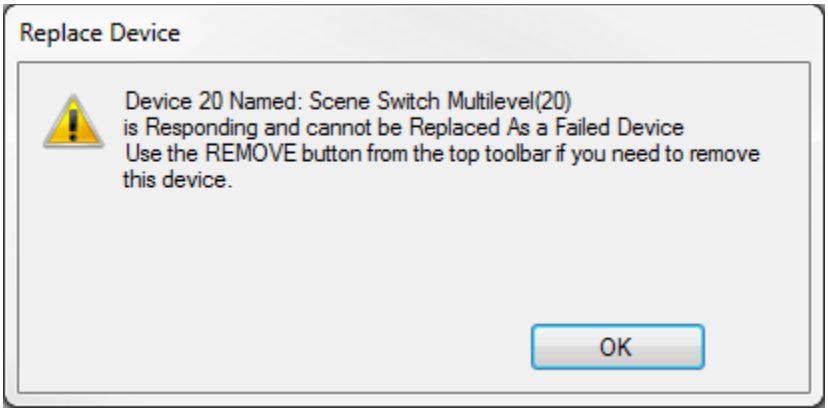
The Replace Failed Device performs a test to verify that the device is truly nonfunctional.

Upon selecting this option you will be prompted with the following dialog box.

sBefore starting this process is it best to make sure that the new device has been removed from any Z-Wave network by using the Remove/Exclude process on the new device.



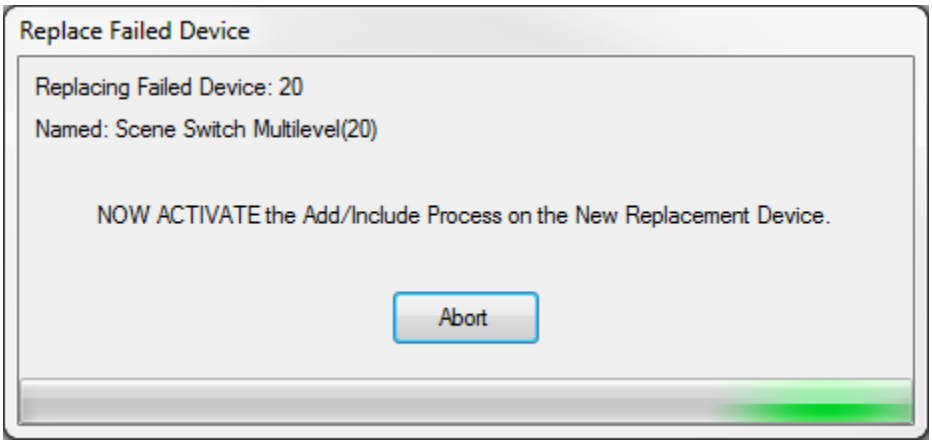
After selecting yes if the device is responding OK you will see the following dialog box, indicating that the device is currently communicating over the Z-Wave network.



If the device does communicate over the Z-Wave network but has some other defect and you wish to replace it, then you must use the normal Remove/Exclude process to remove the device. You will not be able to replace it with another device and keep the same device ID. However, if you wish to keep the same device ID you could first power off the old device and then execute the Replace device procedure.

If the device was a failed device then the following dialog box will be displayed.

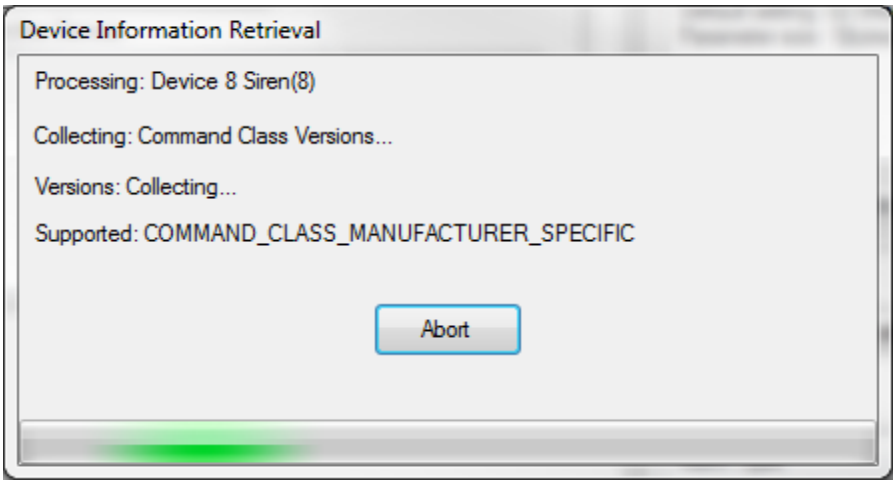
Once it has been determined that the device was a failed device the following dialog box will be displayed.



At this point you should then activate the Add/Include process on the new device. Once the device has been successfully replaced the dialog box will close and the Device List will show the replaced device in the Device List.

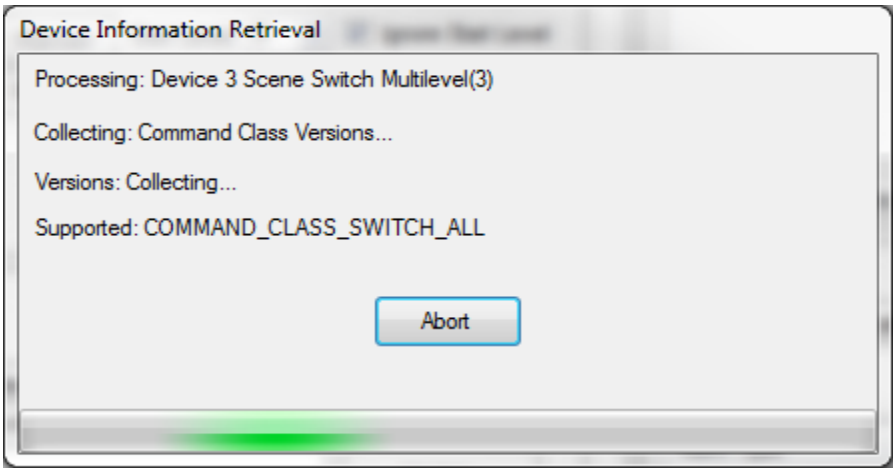
Retrieve Device Information

Retrieve Device Information will collect all the details about the selected device that are needed to complete the device configuration in Integration Designer. A dialog box will be displayed as the information is collected.



Retrieve All Device Information

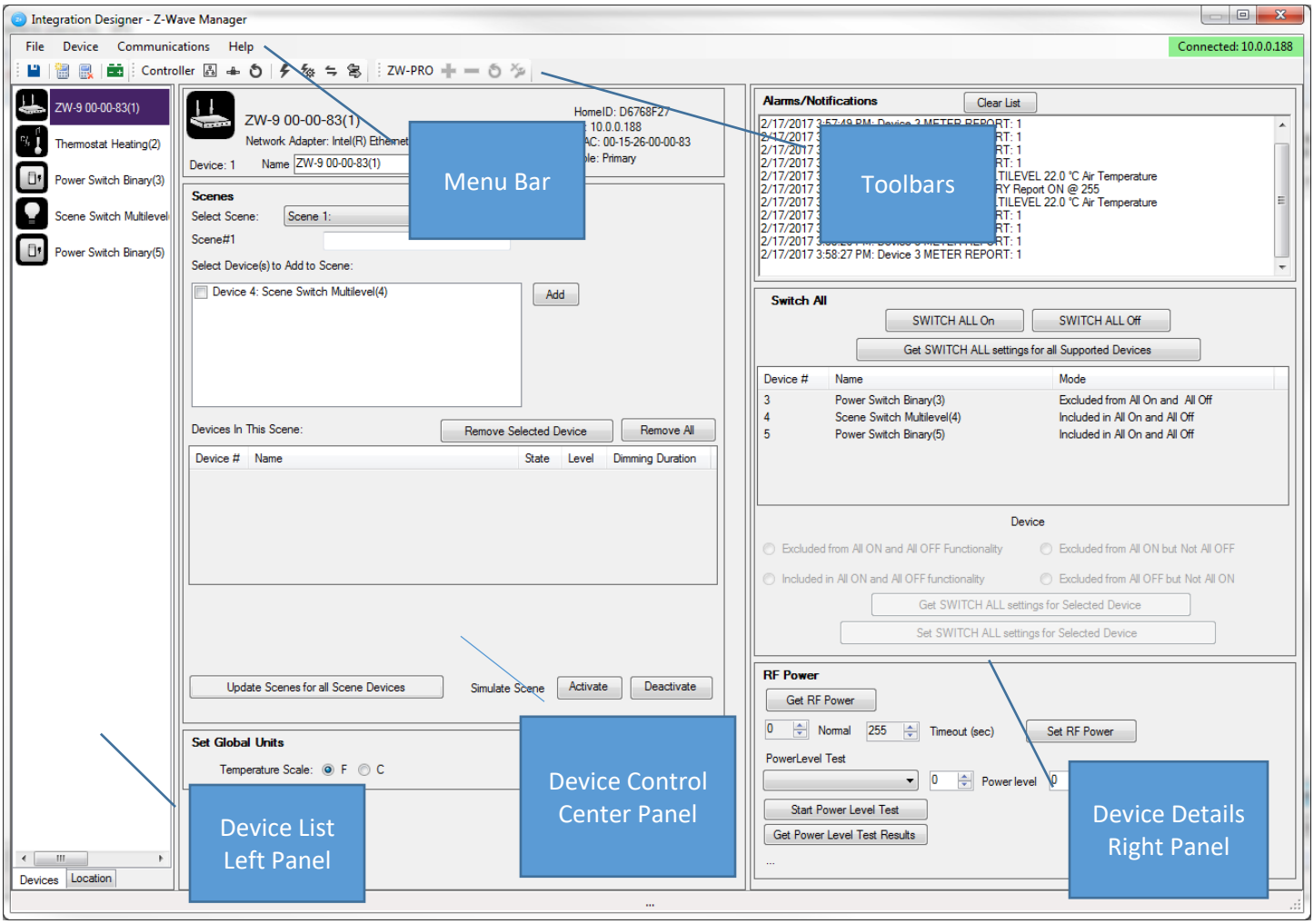
Retrieve All Device Information will collect all the details about the all the devices included except for battery devices (Battery device's information will have to be collected manually for each battery device, since they require the wakeup process). A dialog box will be displayed as the information is collected.



This process collects the information from each device this is needed for the configuration in Integration Designer.

Chapter 3 – Z-Wave Manager and Network Configuration

Program Layout



The Window space has 5 major components:

- The Main Menu Bar.
- The Toolbars: Main Toolbar, Controller Toolbar, and ZW-PRO Toolbar.
- Left Panel containing the Device List.
- Center Panel containing the main controls for the selected device in the Device List.
- Right Panel containing the Device Details about the currently selected device in the Device List. Contains items such as Configuration Parameters, Multi Channel Information, Notifications, Indicators, RF Power, etc.

The Device icon and descriptive text in the Device List will be highlighted for the currently selected device. Devices highlighted in **Red** indicate there was a communication error with the device.

TOOL BARS

There are three Toolbars which contain the most commonly used functions from the program menu.

The **Main** toolbar contains:

- Save Project
- Add/Include Device
- Remove/Exclude Device
- Ignore Battery Device Wake Up or

The **Controller** toolbar contains:

- Show Controllers on Local Network
- Network Settings
- Reset Controller/Start New Installation
- Become a Secondary Controller (Learn Mode)
- Become the Primary Controller (Learn Mode)
- Add Secondary Controller
- Add Primary Controller

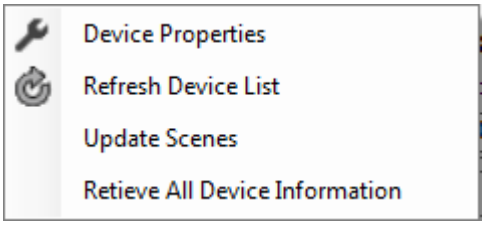
The **ZW-PRO** toolbar contains:

- Add ZW-PRO to Controller
- Remove ZW-PRO from Controller
- Reset ZW-PRO
- Remove Failed ZW-PRO

For operation of the individual toolbar items see the MENUS Section.

Context Menu Pop-Ups

In the Device List, Right Clicking on the top Controller Device will activate the Controller Pop-up Menu.



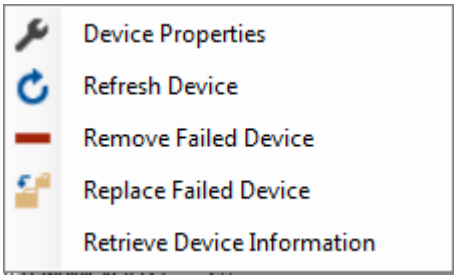
Device Properties will display a dialog box with the details about the ZW-9 Z-Wave Interface Module.

Refresh Device will do a rescan of all the Devices on the Z-Wave network collecting information about each device that is found. If battery devices are included in the network and the Ignore Battery Device Wakeup is NOT selected then you will be prompted to activate the wakeup of each battery device in the network. If the Ignore Battery Device Wakeup is selected each battery device will be skipped and its information will not be collected.

Update Scenes will update all devices with the Scene information.

Retrieve All Device Information will retrieve the information from all devices (Except Battery devices) needed for Integration Designer to complete the System Configuration.

In the Device List, Right Clicking any Device will activate the Device Pop-up Menu for controlling the Device options.



Device Properties will display a dialog box with the detail about the selected device.

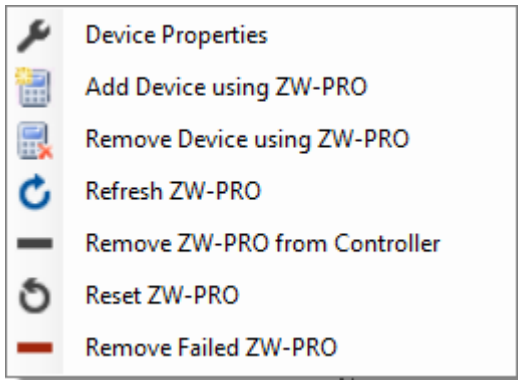
Refresh Device will do a rescan of the selected device. If the device is a battery device and the Ignore Battery Device Wakeup is NOT selected then you will be prompted to activate the wakeup of the battery device. If the Ignore Battery Device Wakeup is selected the battery device will be skipped and its information will not be collected.

Remove Failed Device will remove a device that is no longer functioning from the Z-Wave network.

Replace Failed Device is used to replace a failed device that is no longer functioning from the Z-Wave network and replace it with a new device, keeping the same Device ID. The replacement device should be identical to the failed device type, otherwise the rest of the RTI configuration (Integration Designer) will have to be changed/modified to reflect any differences.

Retrieve Device Information is used to retrieve the information needed for Integration Designer to complete the System Configuration.

In the Device List, Right Clicking the ZW-PRO device will activate the ZW-PRO Pop-up Menu.



Device Properties will display a dialog box with the detail about the selected ZW-PRO device.

Add Device using the ZW-PRO will add/include a device into the Z-Wave network using the ZW-PRO.

Remove Device using the ZW-PRO will remove/exclude a device from the Z-Wave network using the ZW-PRO.

Refresh ZW-PRO will refresh the Device list for the ZW-PRO device.

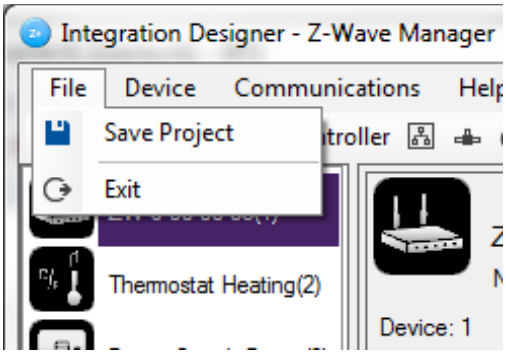
Remove ZW-PRO from the Controller will remove the ZW-PRO device from the Z-Wave network.

Reset ZW-PRO will reset the ZW-PRO device. This is normally done when the ZW-PRO device is first added to the Z-Wave network.

Remove Failed ZW-PRO will allow you to remove a failed ZW-PRO device that is not responding correctly.

MENUS

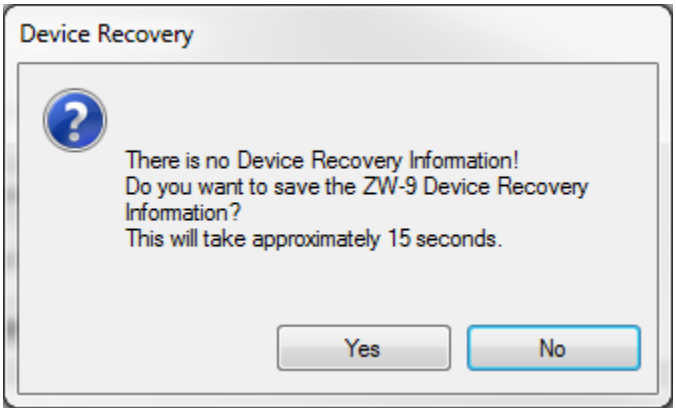
FILE Menu



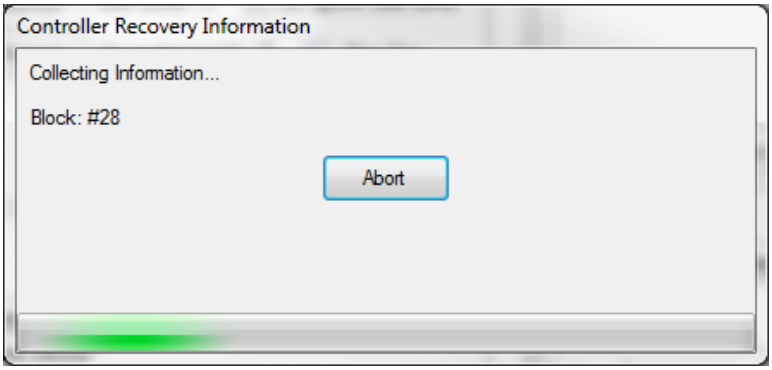
The FILE menu contains:

Save Project This Operation is perform on the normal Exit process.

Save the current project. If new devices have been added or others removed, you will be prompted to save the ZW-9 Controller Device Recovery Information. This saves the critical information needed to restore the ZW-9 device if it was damaged or fails to function normally. You will also receive this prompt if it has been longer than 10 days since the last Device Recovery Information has been collected.



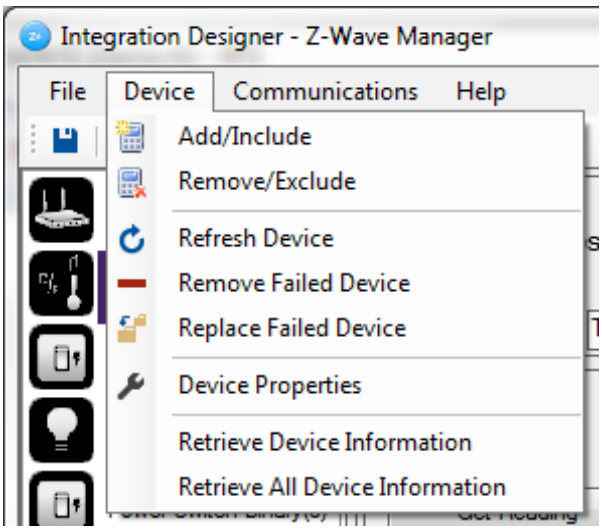
It will quickly process each of the 255 blocks of Device Information Recovery data.



Exit

Exit the Z-Wave Manager program.
Any changes will be saved upon returning to Integration Designer to complete the System setup process.
If the current project contains a ZW-PRO device, you will be prompted to remove the ZW-PRO device before exiting. See COMMUNICATIONS – ZW-PRO Sub-Menu for details.

DEVICE Menu



The DEVICE menu contains:

Add/Include

Add/Include a device into the Z-Wave network.

Remove/Exclude

Remove/Exclude a device from the Z-Wave network.

Refresh Device

Refresh the device by collecting the device's information from the Z-Wave network through the ZW-9.

Remove Failed Device

Remove a failed (non-responding) device from the Z-Wave network.

Replace Failed Device

Replace a Failed device with a replacement device is used to replace a failed device that is no longer functioning, from the Z-Wave network and replace it with a new device, keeping the same Device ID. The replacement device should be identical to the failed device type, otherwise the rest of the RTI configuration (Integration Designer) will have to be changed/modified to reflect any differences.

The Replace Failed Device performs a test to verify that the device is truly nonfunctional.

Retrieve Device Information

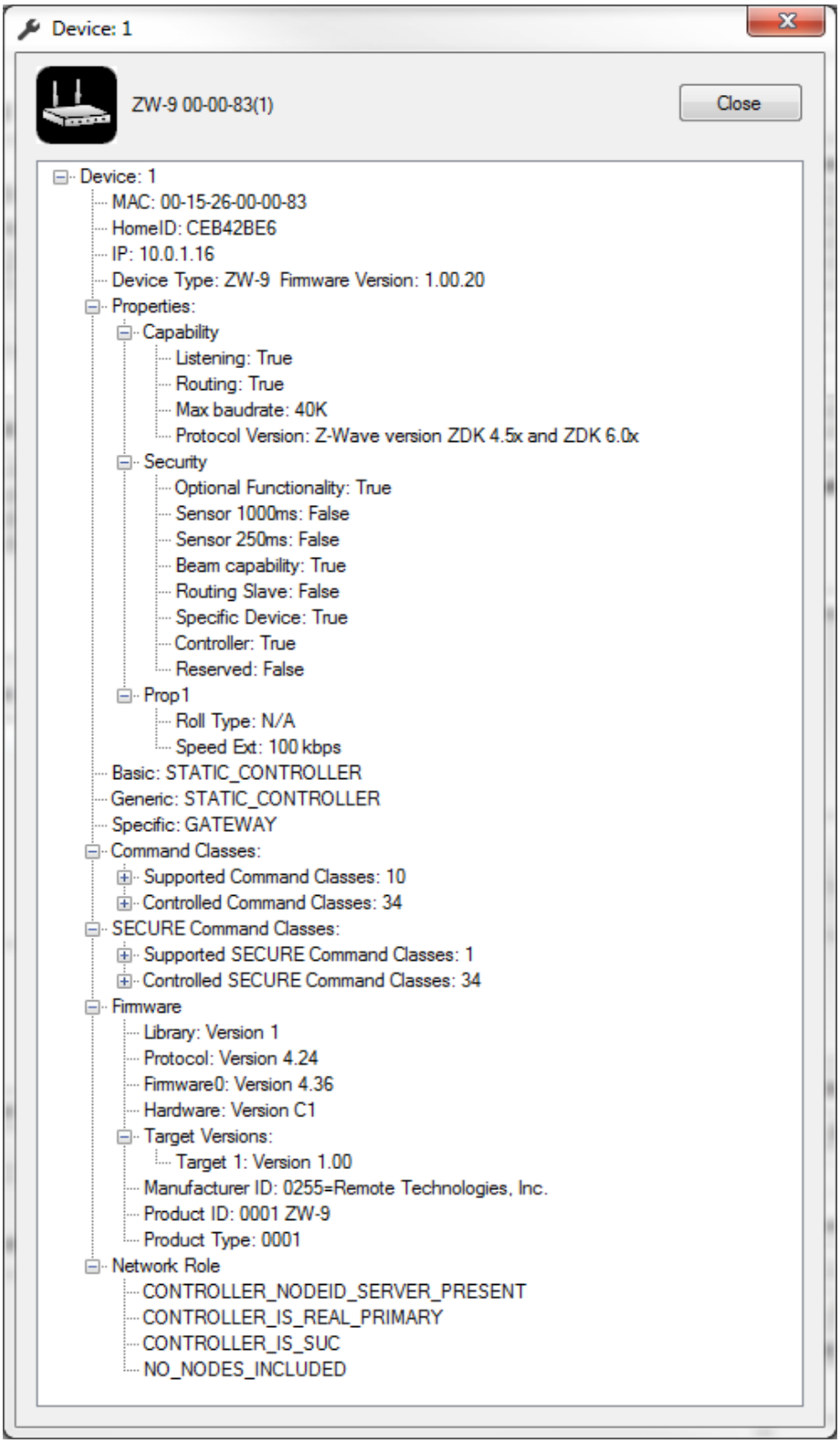
Retrieve Device Information is used to retrieve the information needed for Integration Designer to complete the System Configuration.

Retrieve All Device Information

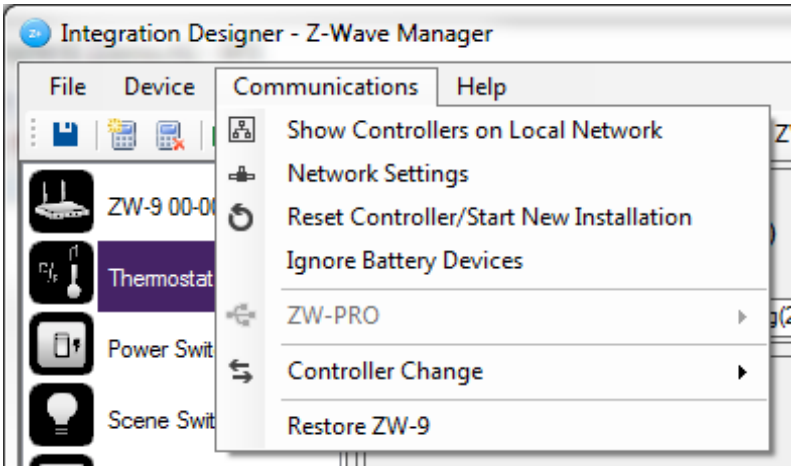
Retrieve All Device Information is used to retrieve the information from all devices (Except Battery devices) needed for Integration Designer to complete the System Configuration.

Device Properties

Device Properties will display a dialog box with the details about the selected device.
Each device's properties dialog will remain open until it is closed or the Z-Wave Manager program closes. This allows you to view the device details side by side to view any differences between devices.


Device: 1
ZW-9 00-00-83(1)
Close
Device: 1
MAC: 00-15-26-00-00-83
HomeID: CEB42BE6
IP: 10.0.1.16
Device Type: ZW-9 Firmware Version: 1.00.20
Properties:
Capability
Listening: True
Routing: True
Max baudrate: 40K
Protocol Version: Z-Wave version ZDK 4.5x and ZDK 6.0x
Security
Optional Functionality: True
Sensor 1000ms: False
Sensor 250ms: False
Beam capability: True
Routing Slave: False
Specific Device: True
Controller: True
Reserved: False
Prop1
Roll Type: N/A
Speed Ext: 100 kbps
Basic: STATIC_CONTROLLER
Generic: STATIC_CONTROLLER
Specific: GATEWAY
Command Classes:
Supported Command Classes: 10
Controlled Command Classes: 34
SECURE Command Classes:
Supported SECURE Command Classes: 1
Controlled SECURE Command Classes: 34
Firmware
Library: Version 1
Protocol: Version 4.24
Firmware0: Version 4.36
Hardware: Version C1
Target Versions:
Target 1: Version 1.00
Manufacturer ID: 0255=Remote Technologies, Inc.
Product ID: 0001 ZW-9
Product Type: 0001
Network Role
CONTROLLER_NODEID_SERVER_PRESENT
CONTROLLER_IS_REAL_PRIMARY
CONTROLLER_IS_SUC
NO_NODES_INCLUDED

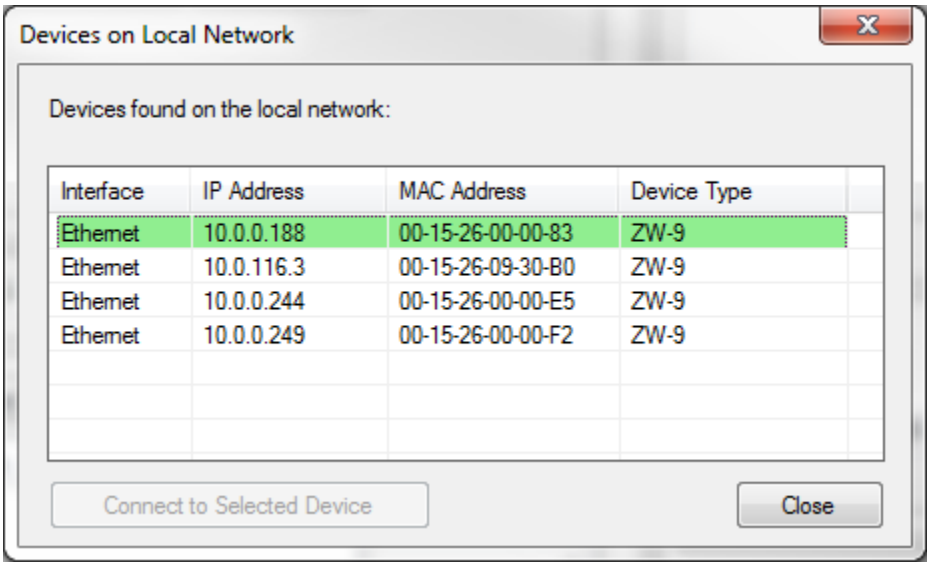
COMMUNICATIONS Menu



The COMMUNICATIONS menu contains:

Show Controllers on Local Network

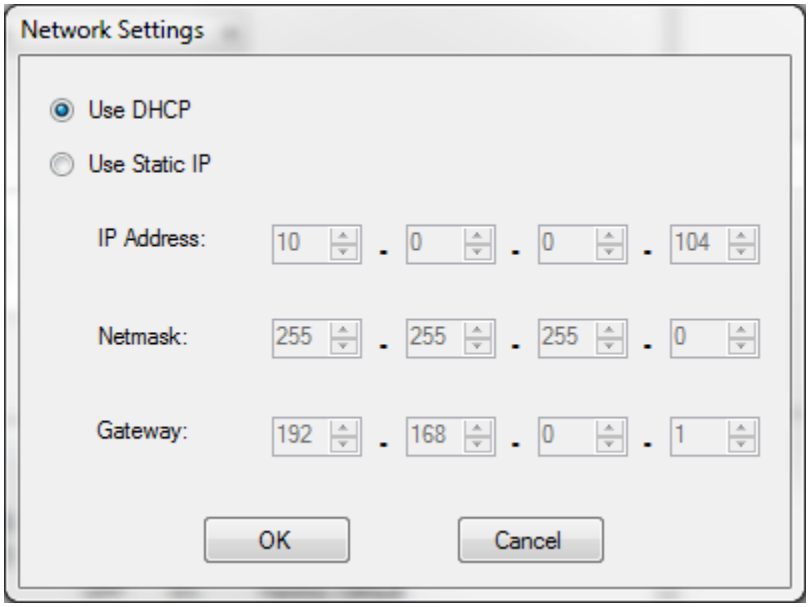
This will display the dialog box showing the currently detected ZW-9 Z-Wave Interface Modules on the network.



This dialog is updated every 4 seconds. If a ZW-9 is detectable through the Ethernet or Wireless Interface on the computer then the ZW-9 will be listed twice and the connection to the device can be done through either interface depending on which one is selected. The best way to identify a ZW-9 device is by its unique MAC Address (MAC address can be found in the ZW-9 packaging).

Network Settings

Network Settings is used to set whether the ZW-9 uses DHCP to get a network IP address or Static IP.



If the ZW-9 has been set to use a Static IP and the assigned Static IP address is no longer valid for the local network. The ZW-9 can be returned to use DHCP by following these steps.

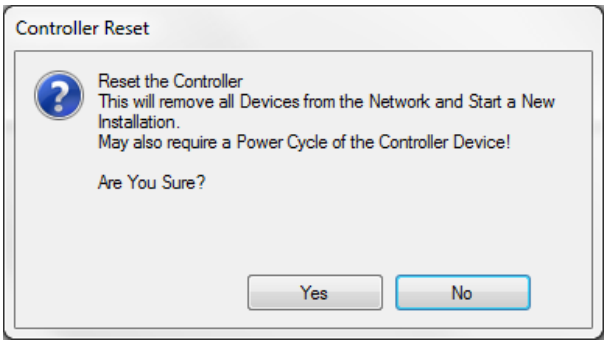
Power off the device.
Press and hold the Reset button.

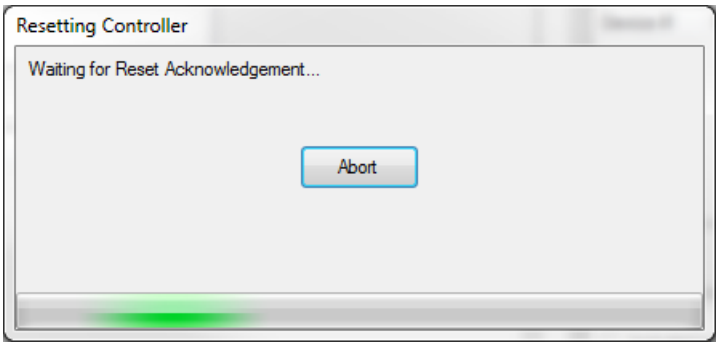
Apply power and continue to hold the Reset button for approximately 5 seconds, then release the reset button. Releasing the Reset button after 5 seconds will result in the device rebooting and using DHCP to obtain an IP address on the network.

Reset Controller/Start New Installation

Reset Controller/Start New Installation is use to set the ZW-9 to Defaults. This allows the setup of a new Z-Wave network configuration. The ZW-9 will become the primary controller, all Z-Wave devices will be removed from its memory and a new HomeID will be assigned.

Use with Caution! You will be prompted to confirm this operation.





Ignore Battery Devices

When checked, the prompt to wake up battery operated devices will be ignored and those devices will not be updated.
When unchecked, you will be prompted to wake up a battery operated device when communications are needed to send or collect information.

ZW-PRO

Sub menu for interfacing to the ZW-PRO device. See COMMUNICATIONS – ZW-PRO Sub-Menu for details.

Controller Change

Sub menu for interfacing to the Controller Change functions. See COMMUNICATIONS – CONTROLLER CHANGE Sub-Menu for details.

Request Network Update

Is used to request a network update of the ZW-9 Controller when it is a Secondary Controller in the network. This menu option will only be visible if the ZW-9 Controller has been setup as a Secondary Controller in the Z-Wave network.

Restore ZW-9

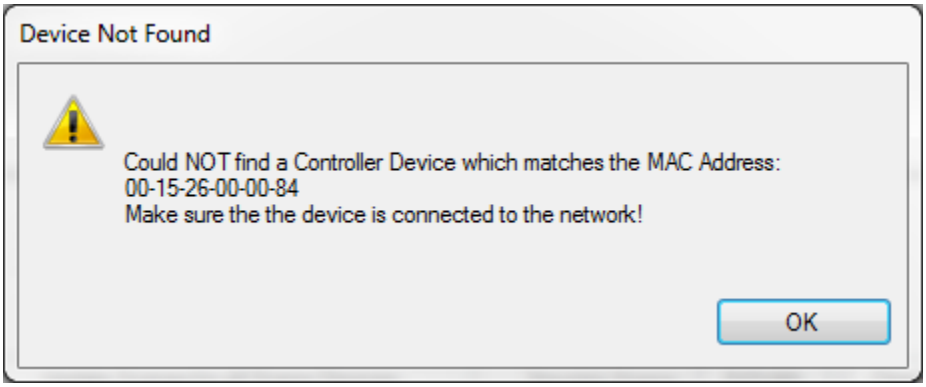
ZWaveMgr will prompt you to save the Recovery Information any time that it is determined that the information needs to be updated. If the ZW-9 fails for some reason and needs to be replaced, this Recovery information can be used to replace the damaged ZW-9 and have your Z-Wave network back up and operating without having to go through the process of removing and re-adding each Z-Wave node device. See Save Project This Operation is perform on the normal Exit process.

To Restore the ZW-9 to a saved working state follow these steps.
Step 1

Obtain a new working ZW-9. Remove the damaged ZW-9 from the network and replace it with the new working ZW-9.

Step 2

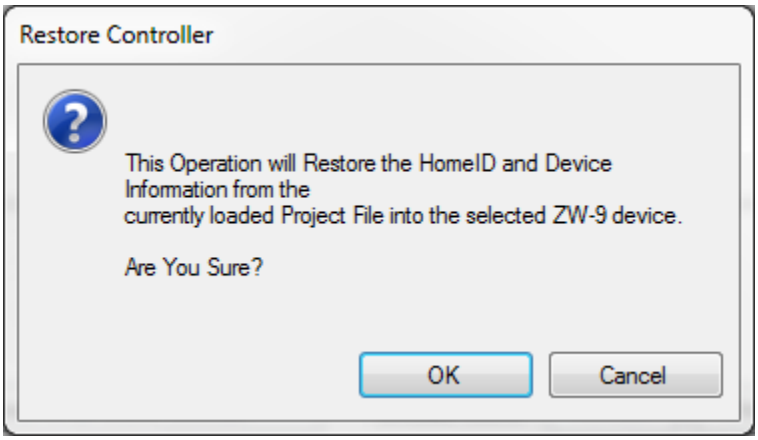
Launch Integration Designer and Select the Edit Expansion Device to launch ZWaveMgr.
You will be presented with the following Dialog Box indicating that the old ZW-9 device was not found.



Just click the OK button to acknowledge.

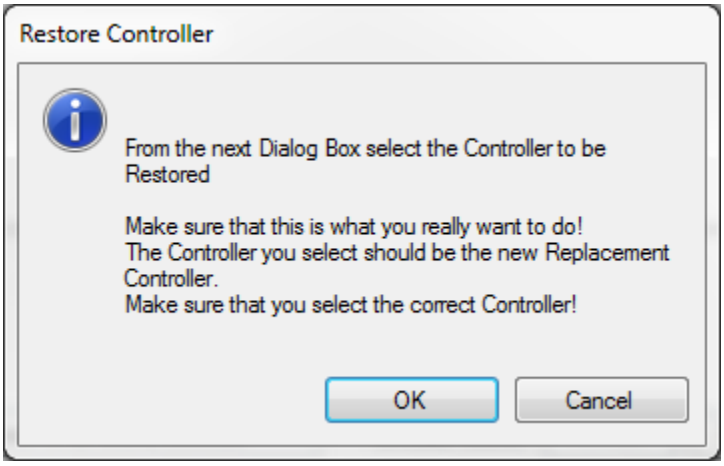
Then from the Menu select Communications - Restore ZW-9.

The following dialog box will be display asking for confirmation:



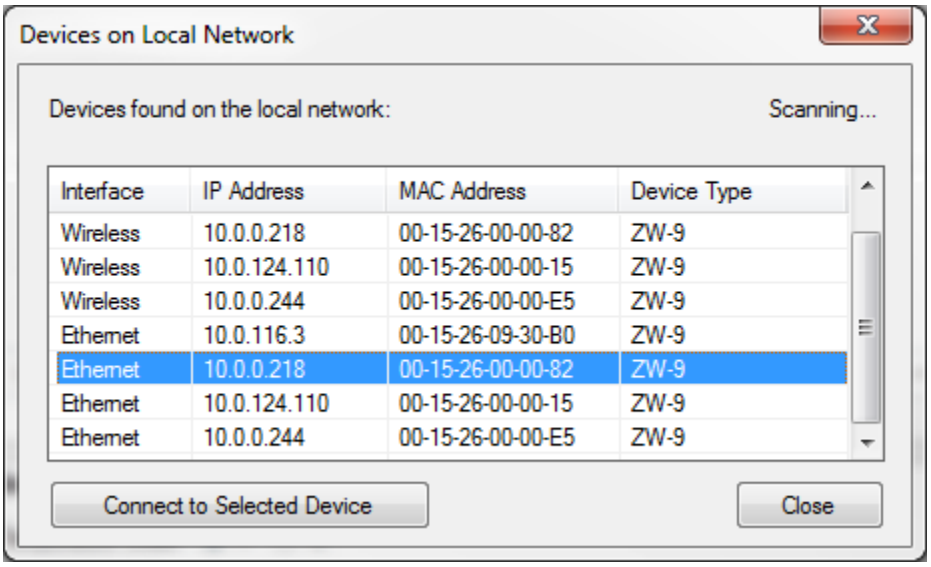
Click OK to continue.

The next dialog will explain that you need to select the correct newly install ZW-9 Controller device.



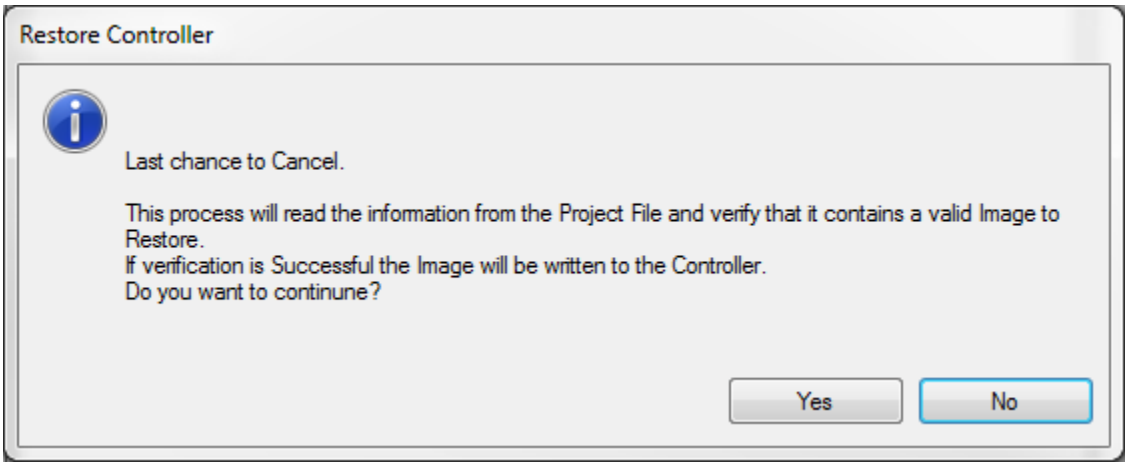
Click OK to continue.

The dialog box will detect and show all available ZW-9 devices. Confirm the MAC address for your new ZW-9 device that you just setup and connected to your network.

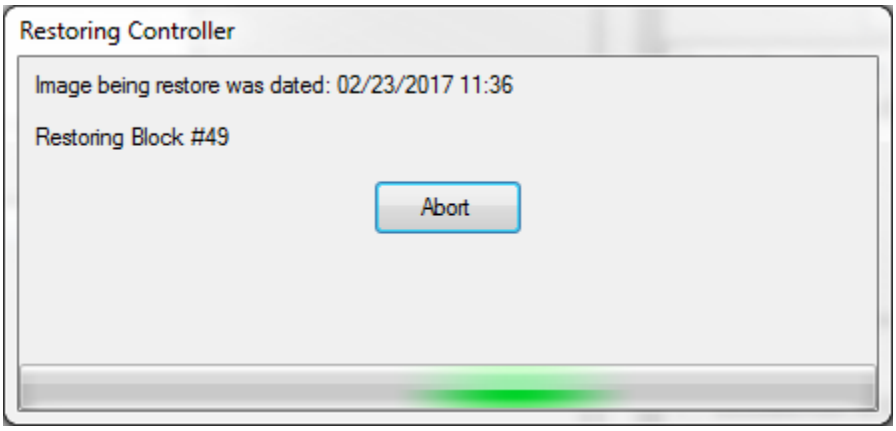


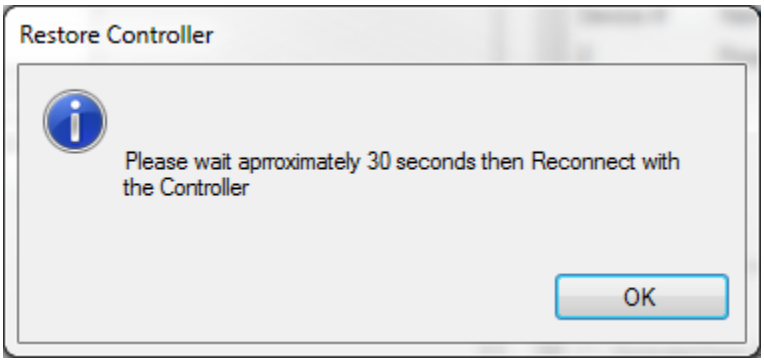
Then Select the device in the list and click the “Connect to Selected Device” button, or double click the correct device in the list. (In this example the New ZW-9 device has a MAC Address of 00-15-26-00-00-82).

You will then be given the last chance to abort this operation. Only continue if you are sure.

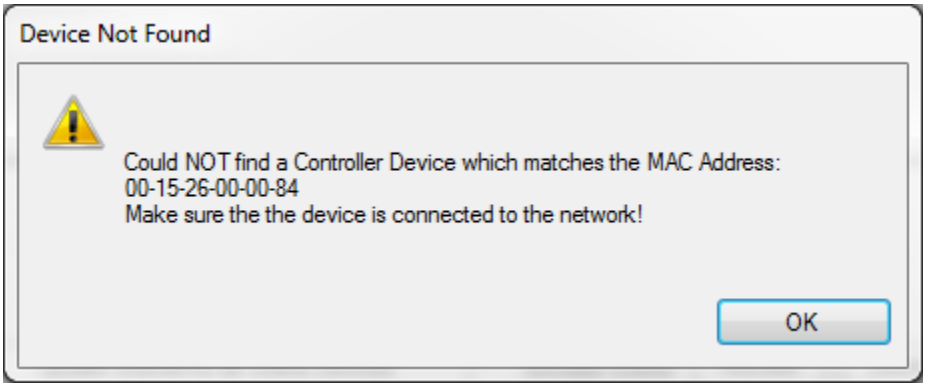


Several dialog boxes will be displayed shown the progress of the Restore Operation.



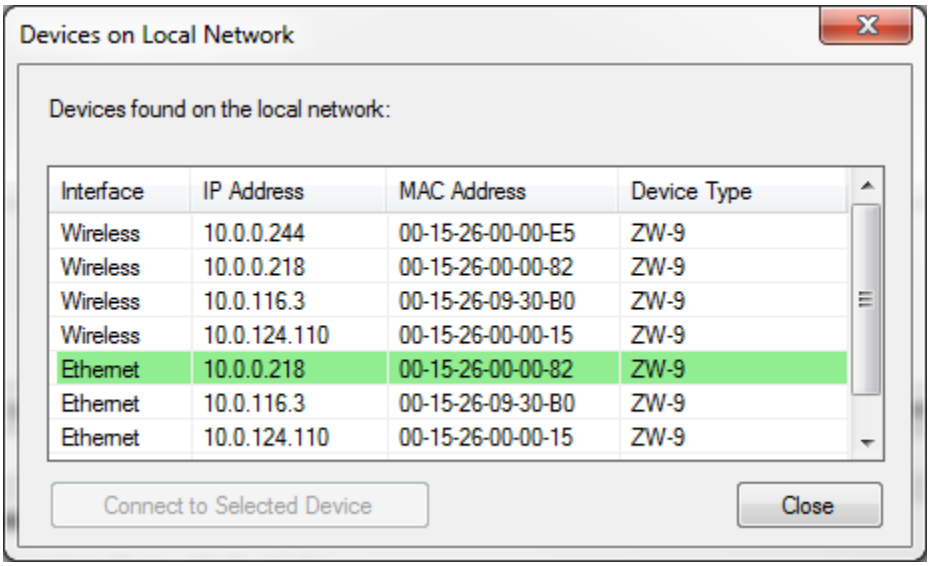


After wait 30 seconds click the OK button, ZWaveMgr will redetect the ZW-9 Devices and try again to match the Original MAC Address of the original old (damaged ZW-9) device. And indicate that the device could not be found.

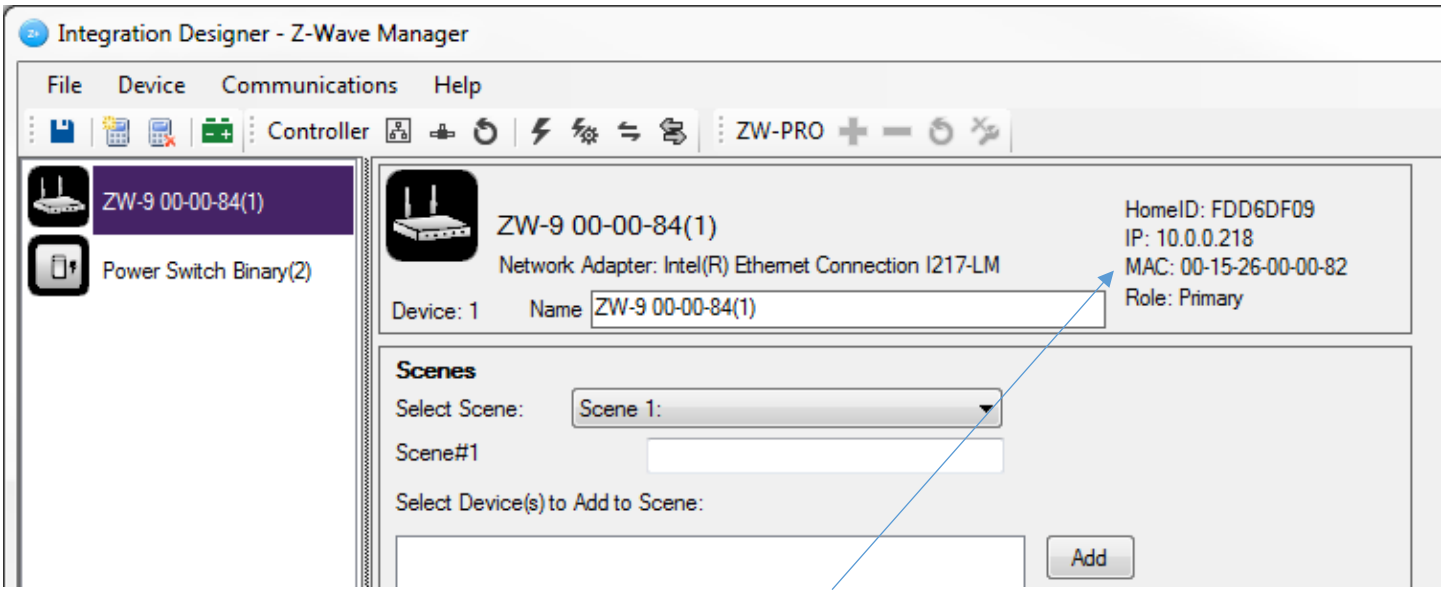


Click OK to close the dialog box.

Then from the menu select Communications – Show Controllers on Local Network. The new dialog box will scan you network to detect the available ZW-9 devices.



Select the new ZW-9 Device based on the MAC Address.
(In this example the New ZW-9 device has a MAC Address of 00-15-26-00-00-82).
ZWaveMgr will then determine that this new ZW-9 has the correct HomeID from the project file.

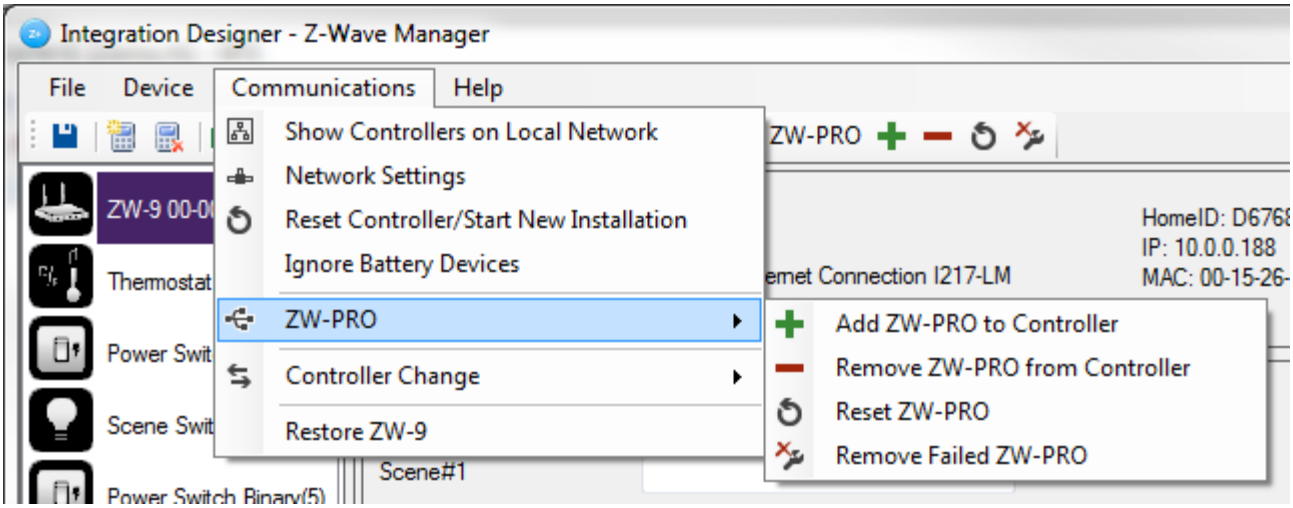


You will notice that the MAC address displayed for this device is the new ZW-9 MAC Address. In this example the New ZW-9 MAC address is 00-15-26-00-00-82.

The Old ZW-9 MAC Address was 00-15-26-00-00-84. In this example the ZW-9 device NAME was never changed from the original default assigned name "ZW-9 00-00-84(1)" which contains the last 3 sets of digits from the MAC Address followed by the device ID (1) of the ZW-9 Controller device.
You most likely would have given your original ZW-9 a descriptive name, so that same name would still exist for your new ZW-9 replacement device.
At this point you can exit ZWaveMgr and go back to Integration Designer to make any necessary changes.

Your system should be back in working order.

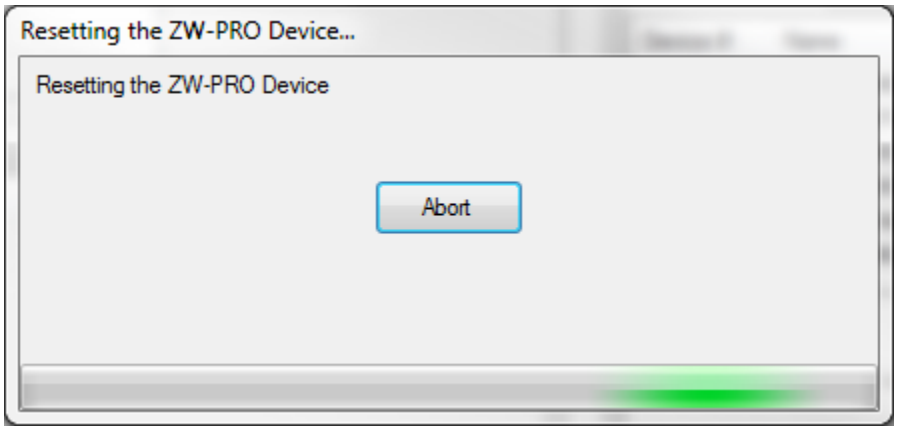
COMMUNICATIONS – ZW-PRO Sub-Menu



The ZW-PRO USB adapter device is used to add/remove devices from the Z-Wave network that must be in close proximity during the add/remove process (ex. Door locks). If the ZW-PRO was inserted before the Z-Wave Manager program was started you should see the ZW-PRO options on the menu and toolbar enabled.

If the ZW-PRO was not inserted you will have

If you insert the ZW-PRO device after the Z-Wave Manager program has started it will auto detect the device and Reset it to a known state. You would see the following dialog box.

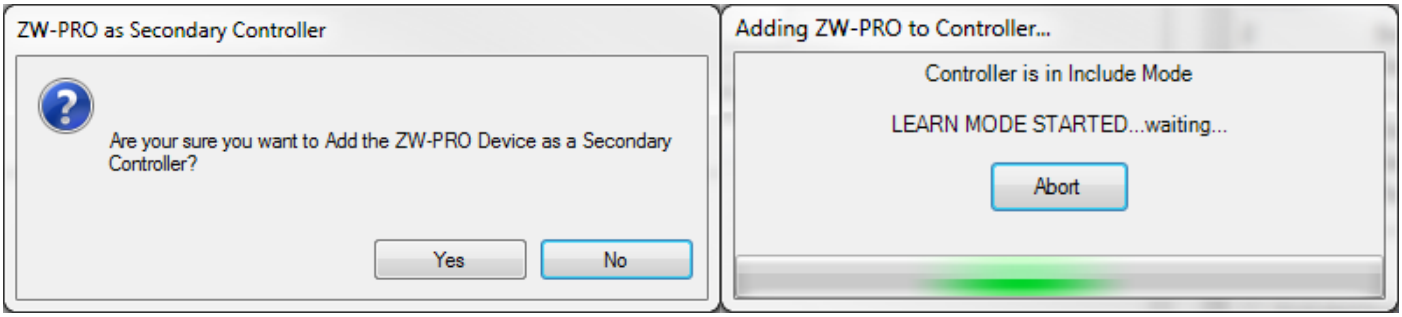


After this dialog box closes the menu and toolbar options for the ZW-PRO should now be enabled.

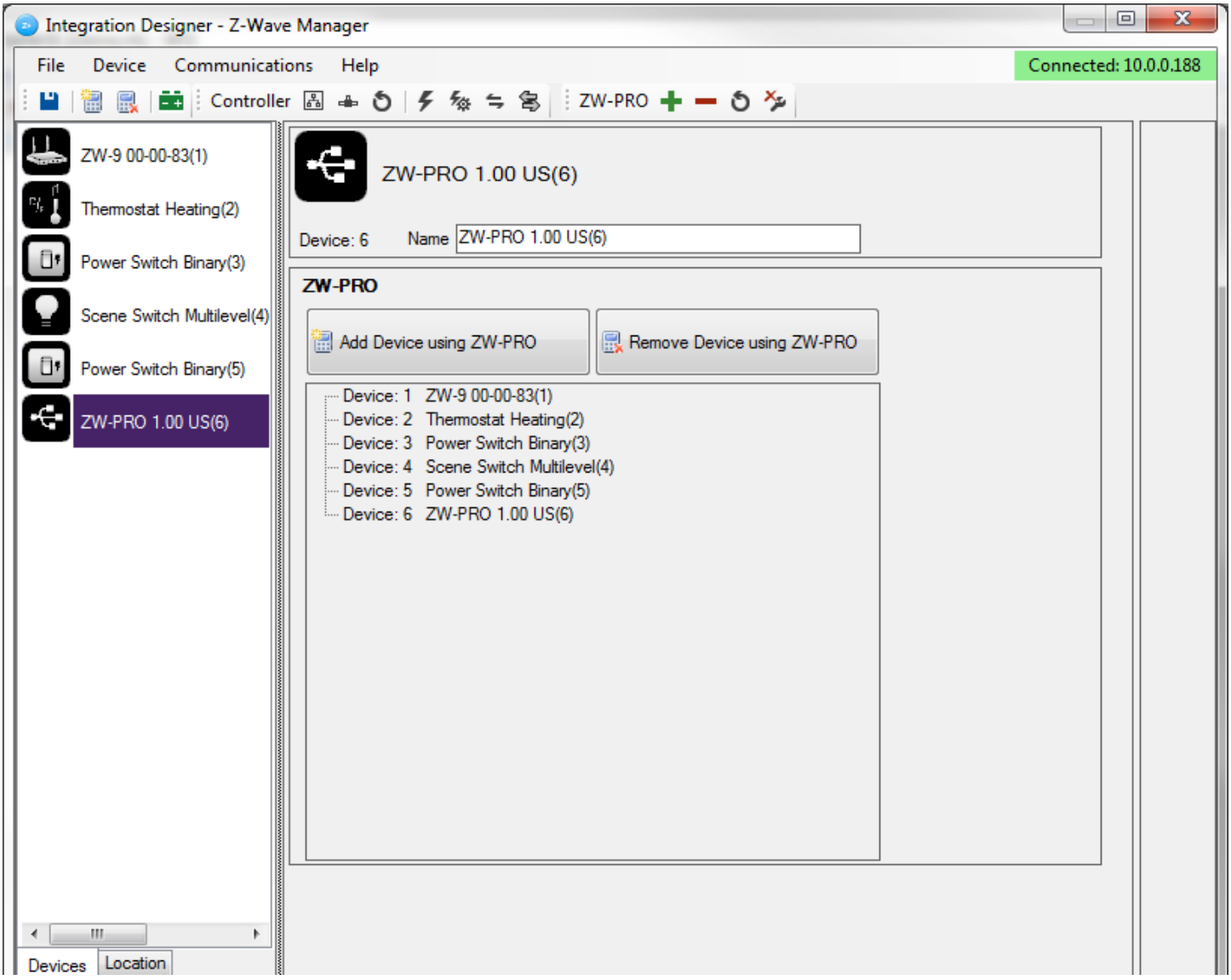
The COMMUNICATIONS – ZW-PRO submenu contains:

Add ZW-PRO to Controller ✚

This will add a ZW-PRO USB adapter device to the ZW-9 as a secondary Inclusion Controller.



Once the ZW-PRO is added successfully you should see the ZW-PRO listed on the left in the Device List.



On the right side will be the details about the ZW-PRO device which should contain the listing of all the devices on the Z-Wave network.

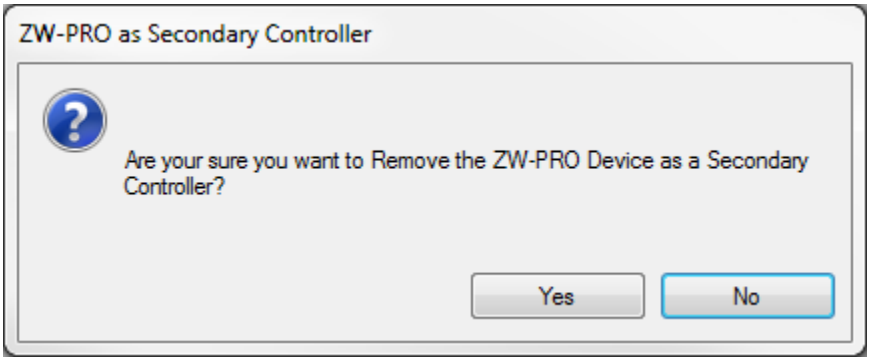
To add/include a device using the ZW-PRO take the laptop computer with the ZW-PRO installed near the Z-Wave device to be added and click the button “Add Device using ZW-PRO”. You will be presented with the same Add/Include dialog box that is displayed during the normal Device Add/Include process as described in Add/Include. Follow those procedures for Adding a device.

To remove/exclude a device using the ZW-PRO click the button “Remove Device using the ZW-PRO”. You will be presented with the same Remove/Exclude dialog box that is displayed during the normal Device Remove/Exclude process as described in Remove/Exclude. Follow those procedures for removing a device.

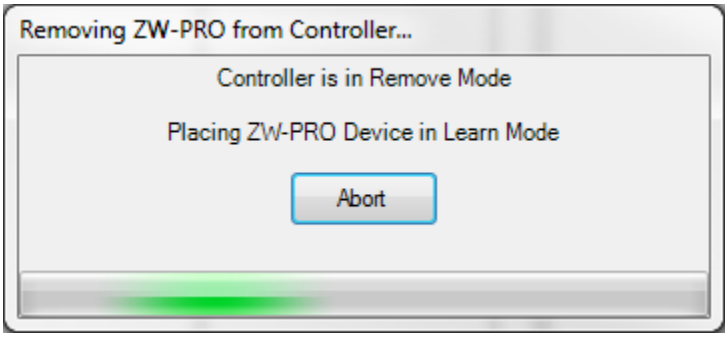
Once you are done using the ZW-PRO device you should remove it from the Z-Wave network.

Remove ZW-PRO from Controller

Selecting this option will display the following dialog box confirming the action.



Selecting yes will display the following dialog box.



Once the process is completed the dialog box will close and the ZW-PRO will have been removed from the Z-Wave network and no longer displayed in the Device List.

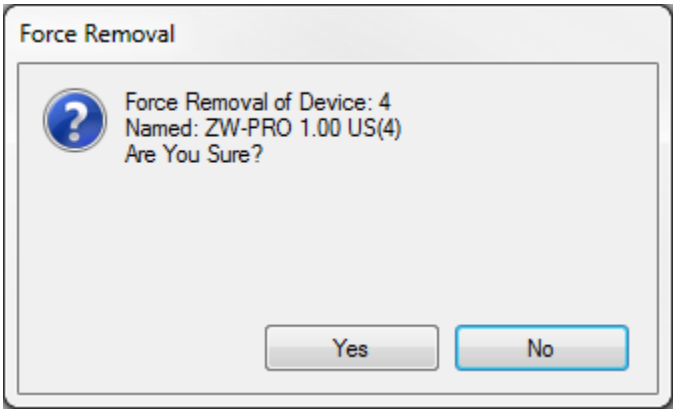
If you do not remove the ZW-PRO from the Z-Wave network and attempt to close the Z-Wave Manager program it will prompt you to remove the ZW-PRO device before allowing you to exit.

Reset ZW-PRO

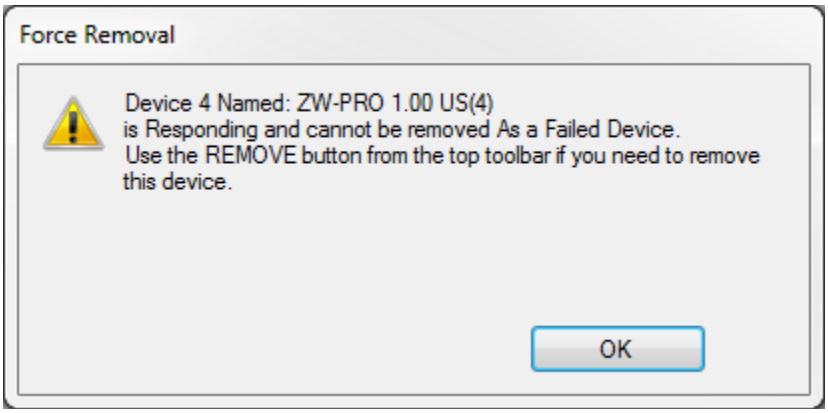
This operation allows you to reset the ZW-PRO device to a known state. This operation is done automatically if you insert the ZW-PRO while the Z-Wave Manager program is active. But if you have inserted the ZW-PRO before starting the Z-Wave Manager program you will have to manually reset the device before using it.

Remove Failed ZW-PRO

If there is an error with the ZW-PRO after it has been added to the ZW-9 this option allows you to remove it.

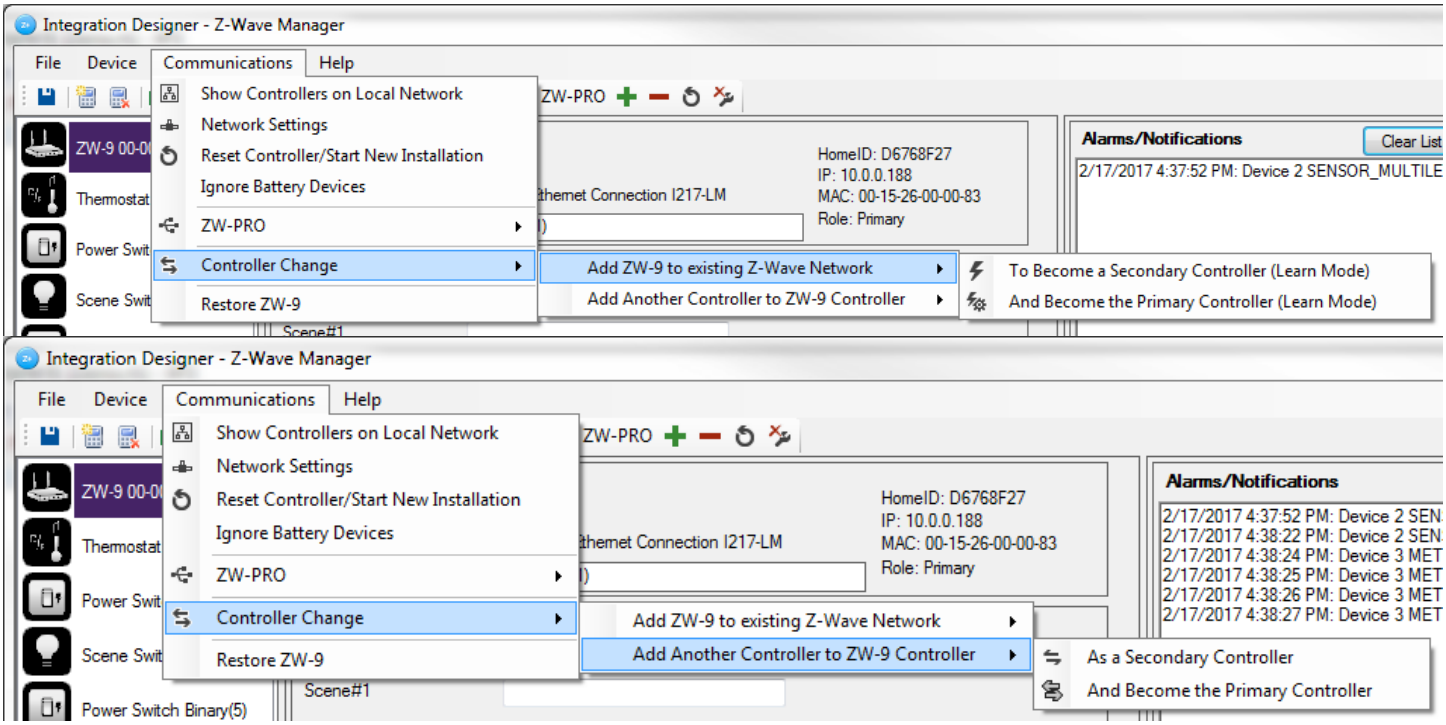


You will be ask to confirm the operation. If it detects that the ZW-PRO is attached to the computer and is functioning properly you will get the follow message.



Otherwise it will be removed from the Device List.

COMMUNICATIONS – CONTROLLER CHANGE Sub-Menu



There are three (3) basic parts of the Controller Change operations. Replication, Controller Shift, and Learn Mode.

"Replication" refers to the protocol replication between Controllers that is used to exchange protocol data between different Controllers of the same network. The Z-Wave controllers receive and transmit protocol replication data during the Learn Mode and Controller Shift operations.

"Controller Shift" refers to the process of adding a second Z-Wave Controller to an existing Z-Wave network to become a Secondary Controller or to become the Primary Controller.

"Learn Mode" refers to the process of placing a Controller device into a mode where it can be added to an existing Z-Wave network to take on the role of a Secondary Controller or take on the role as the Primary Controller.

Controller Shift and Learn Mode are used when you want to add a new controller device (with no Z-Wave network devices configured) to an existing Z-Wave network that already has a Primary Controller (with Z-Wave network devices already configured).

Add ZW-9 to existing Z-Wave Network

To Become a Secondary Controller (Learn Mode)

This option allows the ZW-9 device to be placed into Learn Mode so that it can be added to an existing third-party Z-Wave Controller and take on the role as a Secondary Controller. The existing Z-Wave Controller configuration will determine if the ZW-9 will be a Secondary Inclusion Controller (Can Add/Remove devices from the Z-Wave network) or a Secondary Controller (Cannot Add/Remove devices from the Z-Wave network). (See the documentation for the third-party Z-Wave Controller device for details about making this selection).

This option normally requires the existing Primary Controller device to be setup to include a Secondary Controller.

First activate the Include process on the third-party Primary Controller device. Then select the on the Controller toolbar to activate the Learn Mode on the ZW-9.

And Become the Primary Controller (Learn Mode)

This option allows the ZW-9 to be placed into Learn Mode so that it can be added to an existing Z-Wave Controller and take on the role as the Primary Controller in the Z-Wave network.
(See the documentation on the other Z-Wave Controller device for details about making this selection).
This is normally referred to as a Controller Shift operation.

First activate the Include process on the other Primary Controller to add another controller as the Primary Controller. Then select the on the Controller toolbar to activate the Learn Mode on the ZW-9.

Add another Controller to ZW-9 Controller

As a Secondary Controller

This option allows a third-party Z-Wave controller to be added to as a secondary controller to an existing Z-Wave network controlled by the ZW-9 Primary Controller. This process involves having the third-party Z-Wave controller placed into Learn Mode.
(See the documentation on the third-party Z-Wave Controller device for details about making this selection).

And Become the Primary Controller

This option allows a third-party Z-Wave controller to be added to an existing Z-Wave network controlled by the ZW-9 and take on the role as the Primary Controller while the ZW-9 becomes the Secondary Controller.
(See the documentation on the third-party Z-Wave Controller device for details about making this selection).

Chapter 4 ZW-9 Controller Properties

Controller Operations

The ZW-9 is an Interface Module which acts as a Gateway to/from the Z-Wave network.

The ZW-9 interface module is used with RTI XP control systems to enable full control and automation abilities with Z-Wave enabled products. Enables lights, door locks, shades, thermostats, smoke alarms, etc. to be integrated and controlled with feedback through any RTI XP series processor. The ZW-9 contains a built in Z-Wave antenna and communicates with RTI XP processor via Ethernet. Specialized in-house designed (by RTI) system software enables specific configuration of any third-party Z-Wave device ready for control through RTI system. Unit is powered via PoE or direct power supply.

Therefore, the ZW-9 will pass information from the Z-Wave network on to the RTI XP control system. The ZW-9 will not directly respond to the Basic Command or other Unsolicited Commands such as Sensor readings, alarm notifications, etc. But will instead pass it on to the RTI XP control system where it will be processed. The actual process taken depends solely on the User's Configuration of the RTI control system. It could ignore the information or take a specific action based on what type of information is being conveyed. If the information requires notification to another Z-Wave device on the Z-Wave network, then the RTI XP control system will pass the information to the Z-Wave network through the ZW-9 device.

Lifeline Association Group

The ZW-9 only supports 1 Association Group which is the Lifeline group. This enables the RTI control system to receive the critical notifications from Z-Wave devices in the Z-Wave network. The Z-Wave Plus devices are automatically associated with the ZW-9 when the ZW-9 adds the device to the network.

This Association Group is identified by the ZW-9 through the COMMAND_CLASS_ASSOCIATION_GROUP_INFO as Association Group 1, with the Group Name of "Lifeline".

Device Icon/Name Properties

For the ZW-9 the Device Icon/Name Properties include:

- An Icon that provides an identity of the ZW-9.
- A name for the ZW-9:

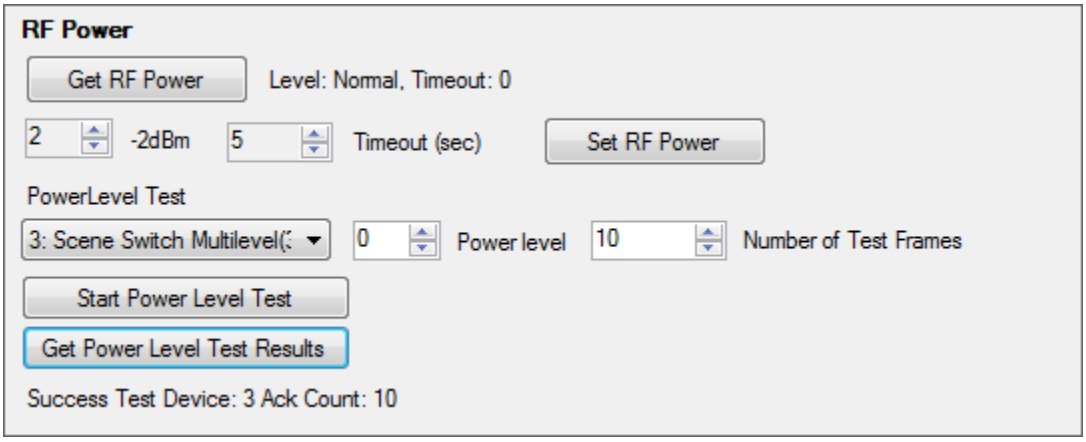
  Give the ZW-9 a descriptive name that helps to identify the Z-Wave network.
  The name can contain up to 32 characters. This name is not stored in the device. It is used for identifying the ZW-9 in the Z-Wave Manager program and the RTI Integration Designer software.

  The default name is given the last 3 digit sets of the ZW-9 MAC Address (In this case 00-00-83) and the Device ID assigned to the ZW-9 (In this case (1)).

- The network interface being used to make the connection to the ZW-9.
- The current HomeID of assigned to the ZW-9.
- The IP address of the ZW-9.
- The network MAC address assigned to the ZW-9.
- The current Role that the ZW-9 has in the Z-Wave network.

  This can be one of Primary (Primary Controller) or Secondary (Secondary Controller).

RF Power Properties



The Power Level Test is used to perform an actual power level test between the ZW-9 device and one of the devices in the Z-Wave network. In the dropdown list select the device to test with. Only the devices that support the COMMAND_CLASS_POWERLEVEL command class (found in the device properties dialog) will be available. Select the desired power level and select the number of test frames to be sent.

The button “Get RF Power” will retrieve the current Power level setting in the ZW-9 and how long it will be before it times out and returns to the normal power level setting.

Select a Power level of 0 for normal or -1 to -9 dBm.

Select the timeout value of up to 255 seconds.

Then select the “Set RF Power” button to apply the settings.

After applying the settings you can click the “Get RF Power” button to retrieve the settings to see what power level the device is currently at and the remaining time in seconds before the device returns to normal power level. If you select a low power level (i.e. -9 dBm) you may not get a result if the ZW-9 cannot communicate with the selected device at the power level selected.

Start the test by clicking the “Start Power Level Test” button. Select the “Get Power Level Test Results” button to see the test results. If the test is not completed yet you will see the results as:
“Test In Progress! Test Device: 3 Ack Count: 56”

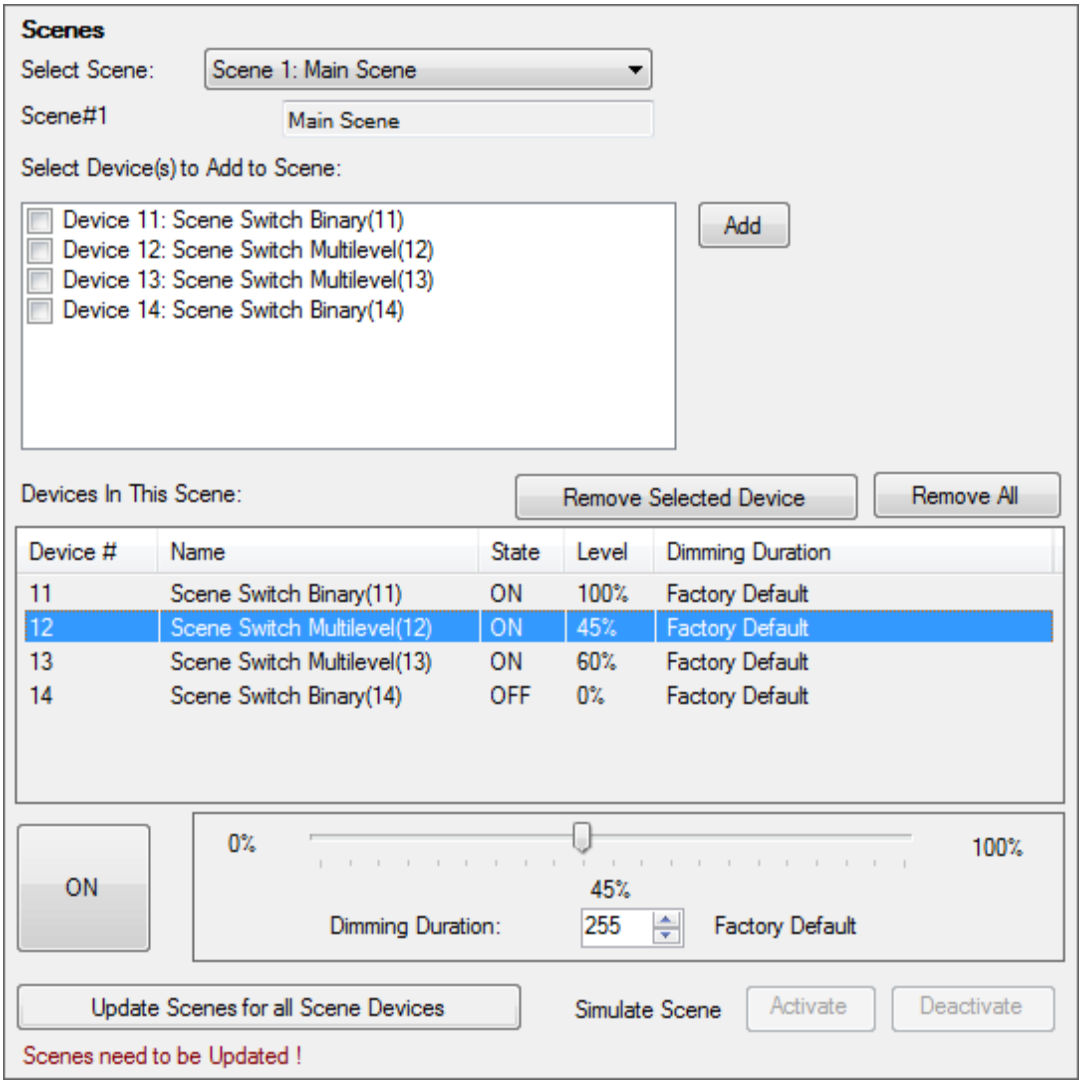
When the test is completed you will see the results as:

“Success Test Device: 3 Ack Count: 10” or “Success Test Device: 3 Ack Count: 9”

Or

“Failed! Test Device 3 Ack Count: 0”

Scene Configuration



This is where you define the 255 possible Scenes that can exist in the Z-Wave network. The top dropdown list is where you select the Scene you what to create or modify. You can select any of the possible 255 Scenes to create or modify. Once you select a Scene you can create a Scene name with a possible 20 character description. In this example Scene #1 is called Main Scene.

In the "Select Device(s) to Add to the Scene" list you can select the possible devices that have been added to the Z-Wave network that are capable of being included in a Scene. Only devices that support the Z-Wave COMMAND_CLASS_SCENE_ACTUATOR_CONF command class will be listed.

You select a device by checking it in the list and then clicking the "Add" button. Multiple devices can be added at the same time. Once a device is added to the Scene it will be listed in "Devices in This Scene".

You can remove all the devices from the Scene by selecting the "Remove All" button or you can remove an individual device from the Scene by highlighting it and selecting the "Remove Selected Device" button.

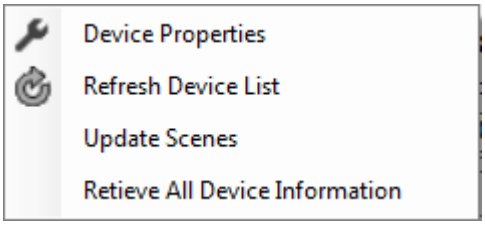
Once you add a device and select it in the "Devices in This Scene" list you can then edit the behavior or state this device takes for the selected Scene. If it is a Binary device it can be selected as either ON or OFF for the Scene and if it is a Multilevel device you can choose whether it is ON or OFF and what brightness level it takes in the Scene and how long (Dimming Duration) it takes to reach that desired brightness level when the Scene is activated.

After all devices have been configured for the Scene, use the "Update Scene for all Scene Devices" button to program the devices for the selected Scene. Once the Update has completed it will then be possible to simulate the Scene to see the results. The "Activate" button will activate the selected Scene and the "Deactivate" button will turn off the selected Scene.

After setting up a Scene, save the project. The Scene information is not stored in the ZW-9 Z-Wave Controller device, but each device stores the details they need for each individual Scene they will participate in.
When Scenes have been modified but not yet updated, the text "Scenes need to be updated!" will be displayed at the bottom of the Scene Configuration screen.

There will also be an icon S on the ZW-9 Device Icon/Name Properties screen.

The ZW-9 Controller Context Menu can also be used to perform the Scene Updates.

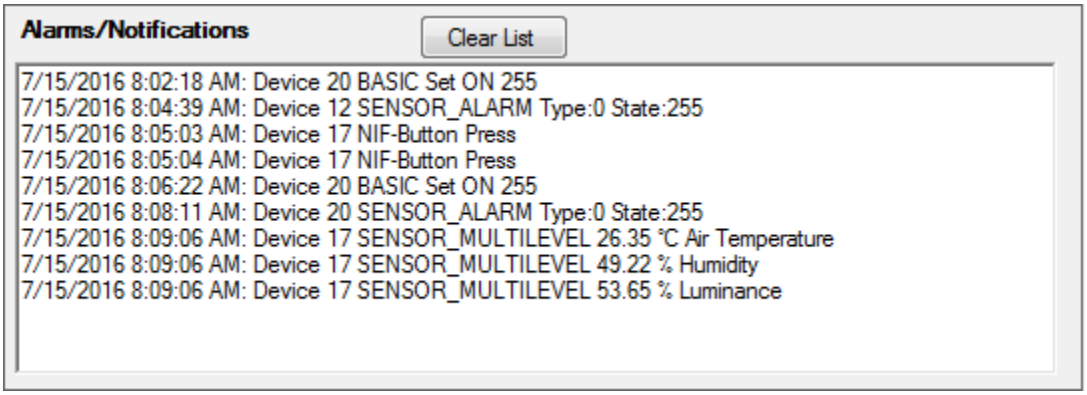


Set Global Units

Global Units setting is used to tell Integration Designer what temperature scale is being used by the Z-Wave devices in the system.

- "Select Temperature Scale" selects the temperature scale (F – Fahrenheit, or C- Celsius).

Alarm/Notifications



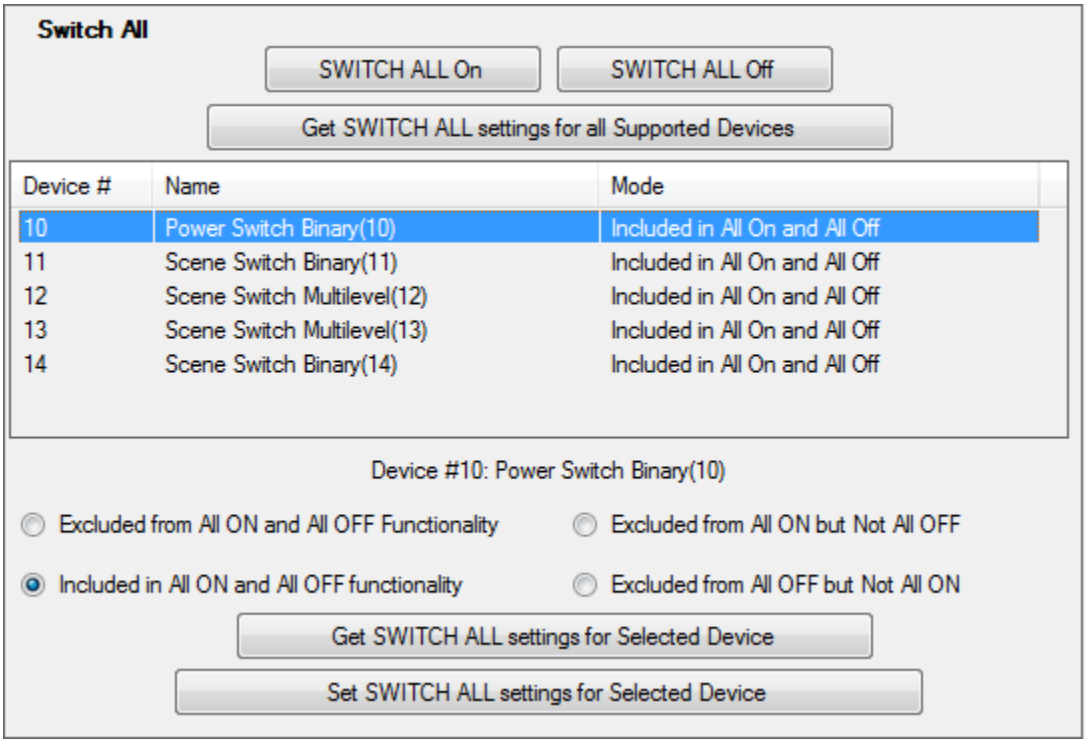
Unsolicited messages are displayed under the Alarm/Notification on the Right Panel when the ZW-9 Controller device is selected in the Left Panel.

When a Z-Wave device sends unsolicited messages, which have been configured to be sent directly to the ZW-9 Controller or to the Broadcast address these messages will be displayed with a Time Stamp, Device ID, and the type of messages.

In the real runtime environment these messages are passed from the ZW-9 Controller to the XP processor for processing, as the user has configured them to be processed by the XP Controller Processor.

During configuration they are displayed in Z-Wave Manager for diagnostic purposes.

SWITCH ALL Properties



The Switch All Properties configures the behavior of each device that supports the Command Class COMMAND_CLASS_SWITCH_ALL. The Switch All Command Class is used to switch all devices on or off. Devices may be excluded/included from the all on/all off functionality.

The “SWITCH ALL ON” button will activate the Switch All On functionality so that you can see the results of the Switch All On settings.

The “SWITCH ALL OFF” button will activate the Switch All Off functionality so that you can see the results of the Switch All Off settings.

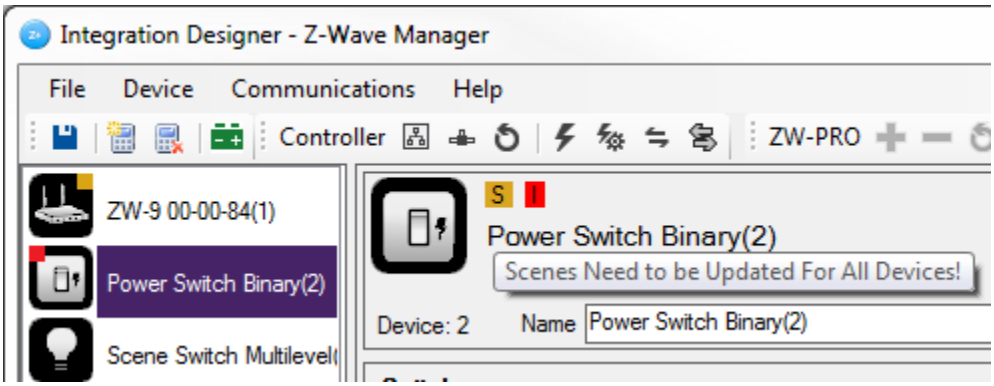
The first step is to retrieve the Switch All settings from all the devices that support the Switch All command.

- Use the “Get SWITCH ALL settings for all Supported Devices” button to retrieve the settings.
- Select an individual device in the list to edit its behavior with the radio buttons below the list.
- The button “Get SWITCH ALL settings for the Selected Device” will retrieve the settings for the individual device and the button “Set SWITCH ALL settings for the Selected Device” will apply the selected settings for the individual device selected.

Status Indicators

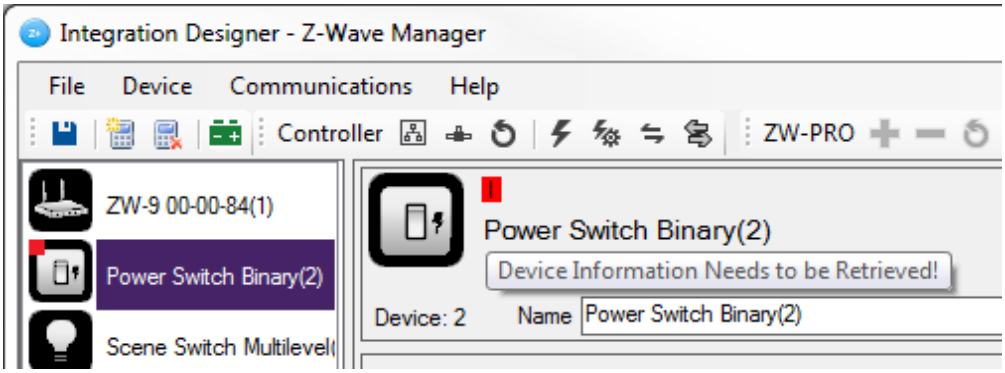
Just like the Scenes Need Updating Indicator being display next to the ZW-9 Controller device, there are other indicators displayed here.

Scenes Need Updating icon S on the ZW-9 Device Icon/Name Properties screen.



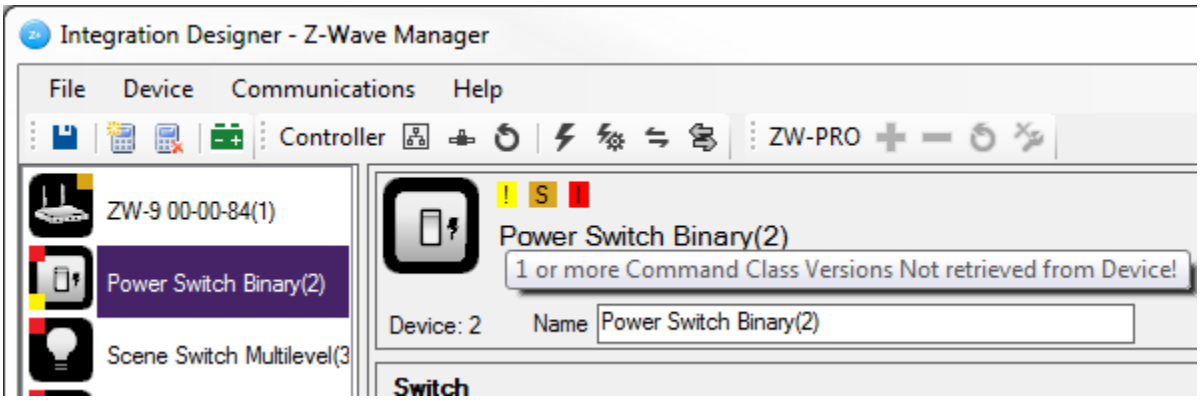
The dark yellow square will appear on the ZW-9 Controller Icon in the upper right corner if the Scenes need to be updated.

When a Z-Wave Device is selected in the Device list the icon I is displayed if information from the device that is needed by Integration Designer has not be retrieve.



In the Device List each device will have the small red square in its upper left corner if this condition exist for any device. This way the user can see all the information without selecting the individual devices.

If an information retrieval operation is aborted or if there was a communication error with a device and its Command Class Versions have not been retrieved a small yellow square will appear in the lower left corner of the device icon.



These Visual Indicators will quickly allow the user to determine in all information is collected from all Z-Wave device, that is needed for Integration Designer to complete the system configuration.

Chapter 5 Device Properties

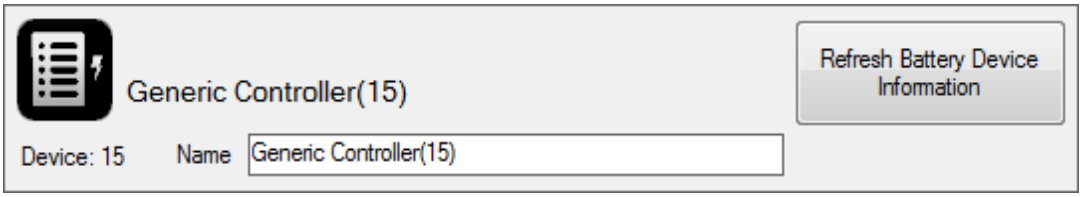
Introduction

A device may support a variety of Command Classes as determined by the manufacturer.

Select a device in the list to view its properties in the Device Details section. Use the scroll bar if this section has many properties. The first device detail properties section will be the Device Icon/Name Properties where you can enter a descriptive name for the device. The name is used for identifying the device in the Z-Wave Manager program and the RTI Integration Designer software. The name can contain up to 32 characters.

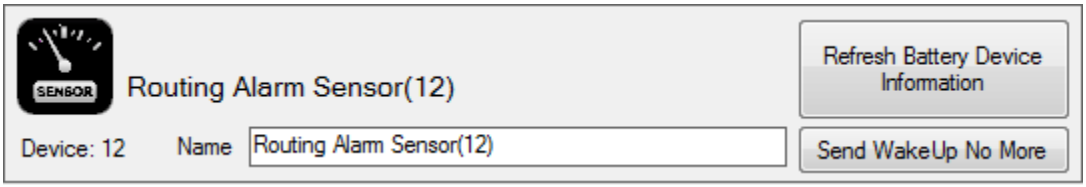
Device Icon/Name Properties

If the device is a Battery operated device. The Device Icon and Device Name Properties will contain a button for Refreshing the Information about the Battery operated device as shown below.

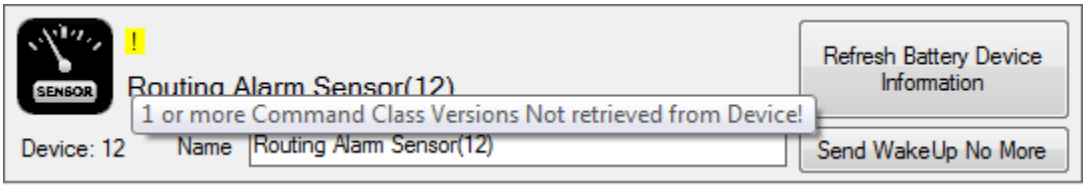


The setting of the “Ignore Battery Device“ option will have an effect on how this button functions.
If the device is a Battery operated device that supports the COMMAND_CLASS_WAKE_UP.

The Device Icon/Name Properties will contain a button to send the Wake Up No More command to the device.



Usually when a device is added the Command Class Versions are automatically retrieved, but if there was a communication error or if the device was a battery device and the Ignore Battery option was selected this information may not have been collected. In this case there would be a marker indicating this condition for the selected device.

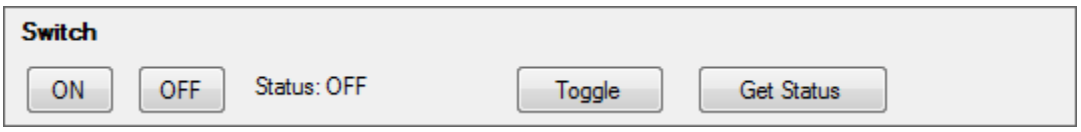


Basic Properties

A Basic device type or an unknown device type will contain the Basic Properties:

- "ON" button to turn the device on.
- "OFF" button to turn the device off.
- "Status" that will show the current status of the device on or off.

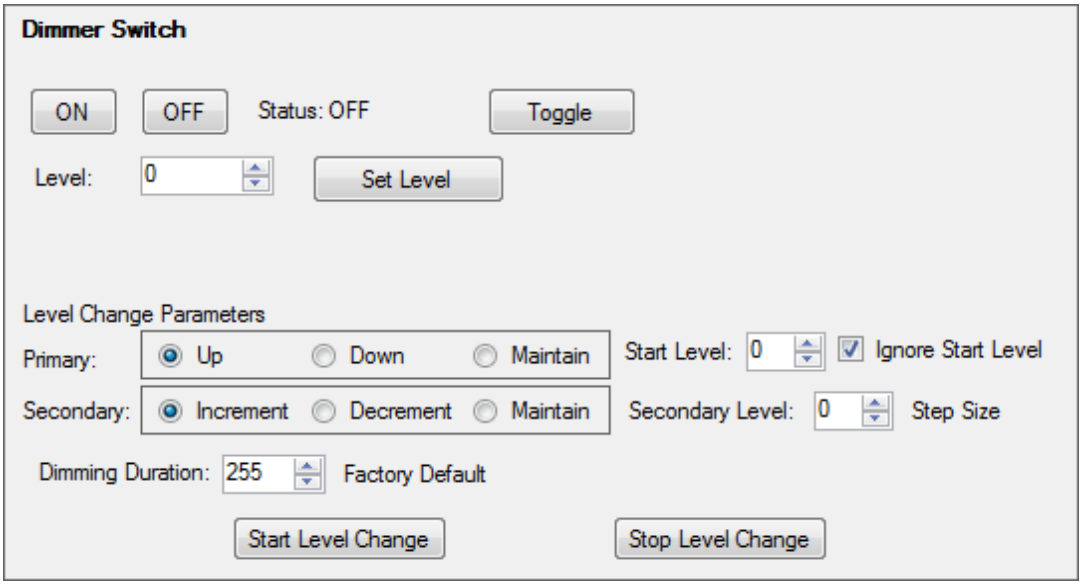
Switch Properties



A device that is a Binary Switch will contain the properties:

- "ON" button to turn the device on.
- "OFF" button to turn the device off.
- "Status" that will show the current status of the device on or off.
- "Toggle" button to toggle the state of the device.
- "Get Status" button to retrieve the current state of the device.

Dimmer Switch Properties



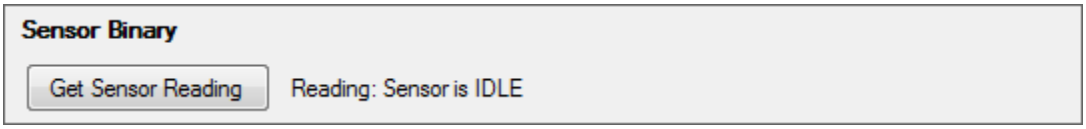
A device that is a Multilevel (Dimmer) Switch will have the properties:

- "ON" button to turn the device on.
- "OFF" button to turn the device off.
- "Status" that will show the current status of the device on or off.
- "Toggle" button to toggle the state of the device. The Toggle button will toggle the device between OFF and ON at full Brightness regardless of the previous brightness level setting.
- "Level" entry to set the desired brightness level for the device.
- "Set Level" button to set the device to the selected brightness level.

If the Dimmer switch supports version 3 or higher the controls for Level Change will be enabled.

- "Primary Up, Down, Maintain" selects the Primary switch direction of the level change
- "Start Level" selects the level to start at, if the device supports the start level.
- "Ignore Start Level" check box allows to ignore the start level and start at its current level.
- "Secondary Increment, Decrement, Maintain" selects the Secondary switch if the device supports a secondary switch.
- "Secondary Level Step Size" selects the step size to use if the device supports the secondary switch.
- "Dimming Duration" selects the time frame for the Level Change to complete.
- "Start Level Change" button will start the level change operation.
- "Stop Level Change" button will stop the level change operation.

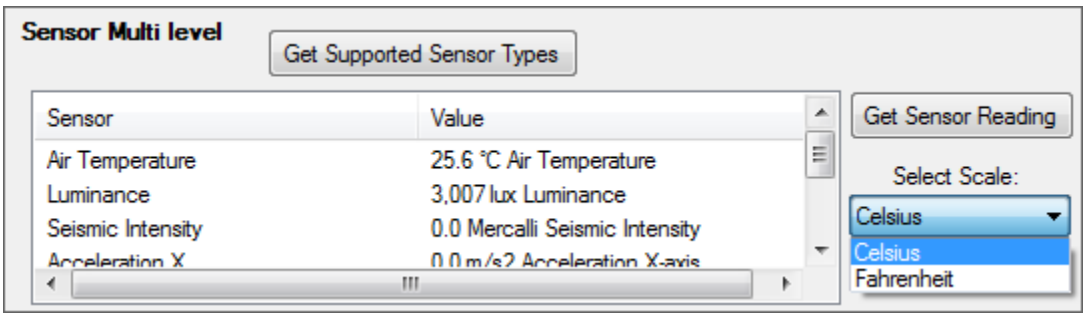
Sensor Binary



A device that supports the COMMAND_CLASS_SENSOR_BINARY will have the properties:

- "Get Sensor Reading" button to retrieve the current status of the binary sensor.

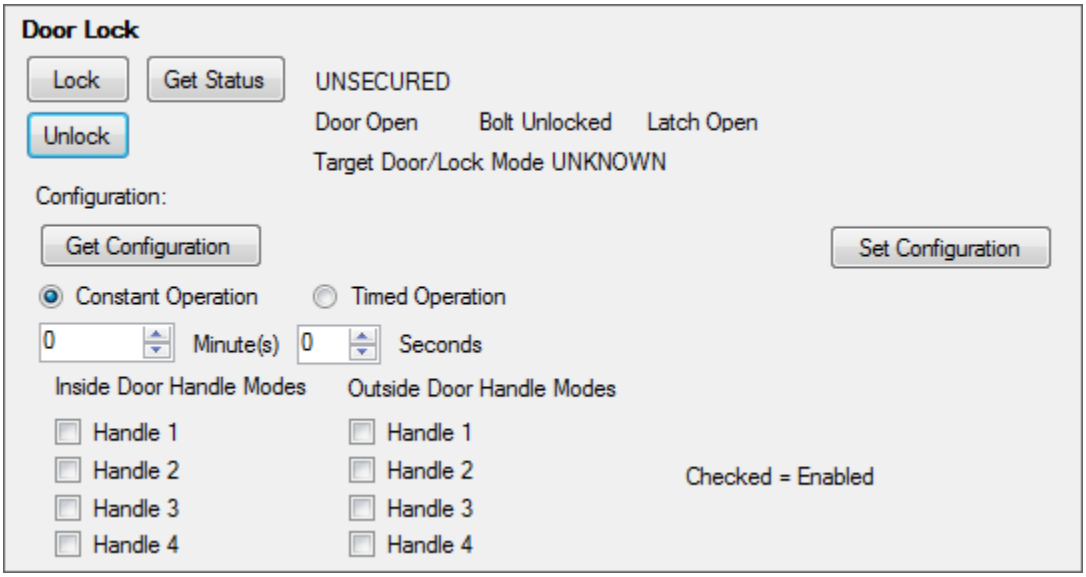
Sensor Multi Level



A device that supports the COMMAND_CLASS_SENSOR_MULTILEVEL will have the properties:

- "Get Supported Sensor Types" button to retrieve the available sensors.
- Once the sensors have been detected they will be display as shown above.
  Then select a sensor in the list and use the "Get Senor Reading" button to retrieve the current sensor value.
- "Select Scale" drop down list is used to select the available scales a sensor supports.

Lock Properties

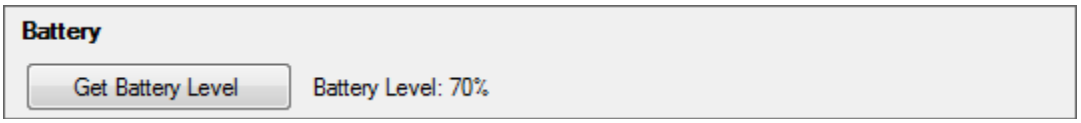


A device that is an Entry Control will contain:

- "Lock" button for placing the device in the locked state.
- "Unlock" button for placing the device in the unlocked state.
- "Get Status" button for retrieving the state of the device, locked or unlocked.

If the Door Lock supports Timed Operation then the Timed Operation Controls can be used. See the device manual for specific operation.

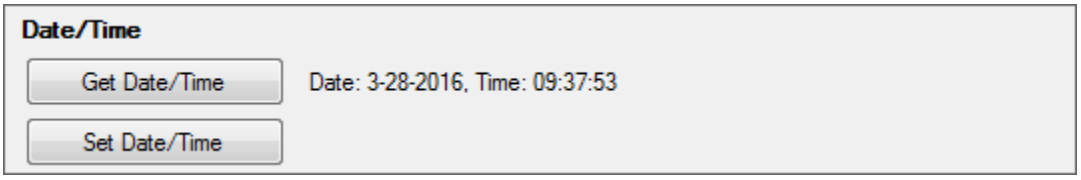
Battery Properties



A device that supports COMMAND_CLASS_BATTERY will contain:

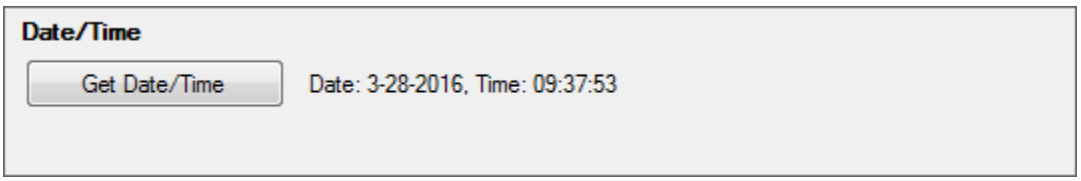
- "Get Battery Level" button to retrieve the current battery level in the device.
- "Battery Level Status" label that will show the current battery level in the device.

Data/Time Properties

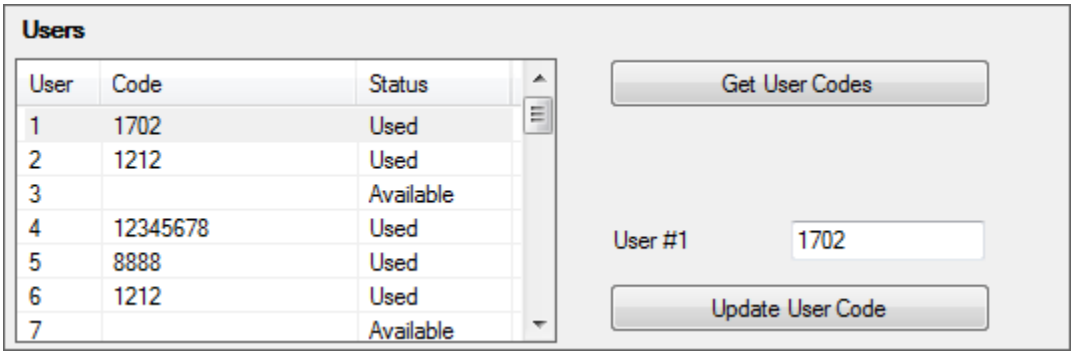


A device that supports the COMMAND_CLASS_TIME_PARAMETERS will contain:

- "Get Date/Time" button to retrieve the current date and time settings in the device.
- "Set Date/Time" button set the date and time in the device to the currents date and time settings from the computer.
- If the Device only supports the Time Command Class it will only contain:
- "Get Date/Time" button.



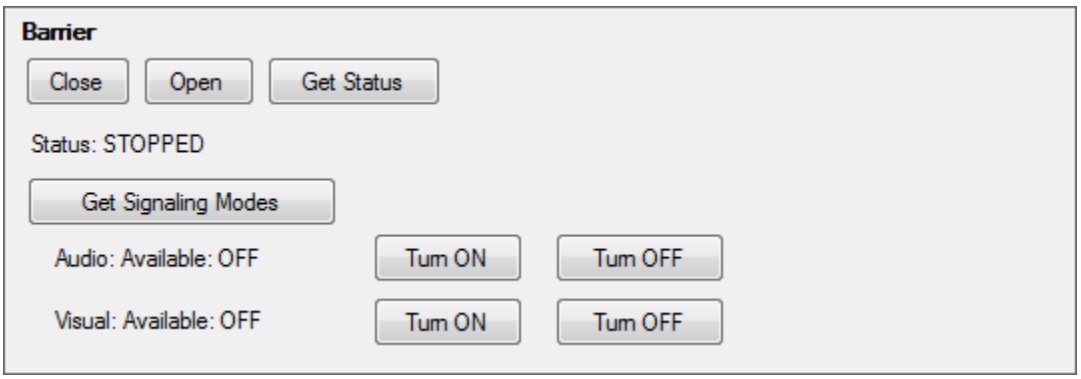
Users Properties



A device that supports the COMMAND_CLASS_USER_CODE will contain:

- "User List" that shows all the possible user settings.
- "Get User Codes" button to retrieve the User list from the device.
- After retrieving the User Code list the User List will display all the users, their codes and the status of "Used" or "Available".
- User Code Entry field – Allows a new user code to be entered.
- "Update User Code" button to assign the newly entered code.

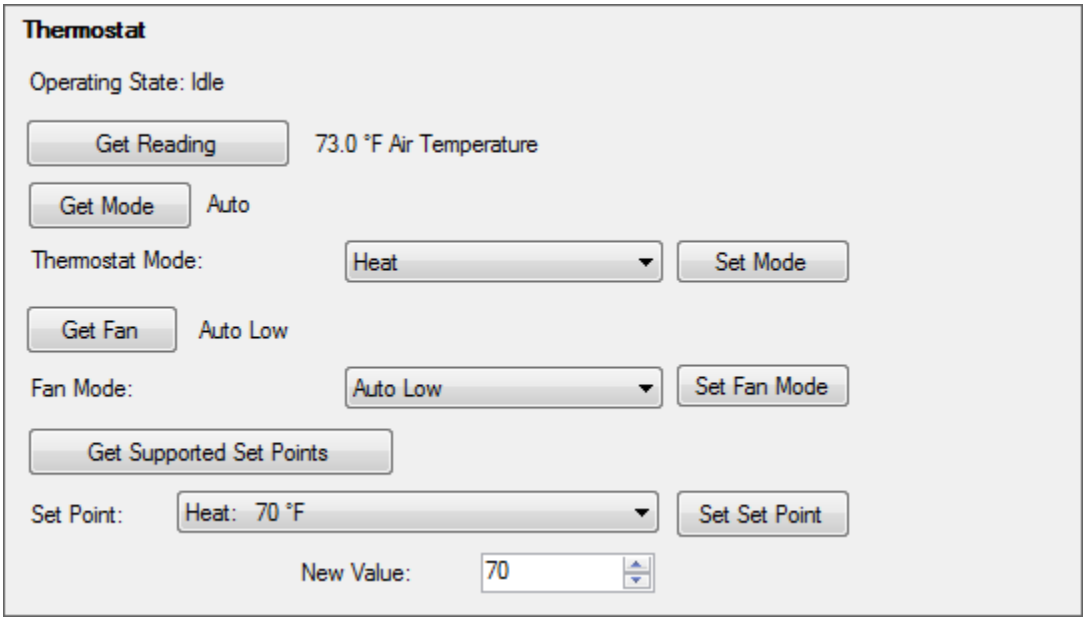
Barrier Properties



A device that supports the COMMAND_CLASS_BARRIER_OPERATOR will contain:

- "Close" button to close the barrier device.
- "Open" button to open the barrier device.
- "Status" label to show the current status of the barrier device, OPENED, OPENING, CLOSED, CLOSING, or STOPPED.
- "Get Signaling Modes" button to retrieve the possible signaling modes, Audio or Visual.
- "Turn ON" and "Turn OFF" buttons for each signaling mode to turn the mode on or off.

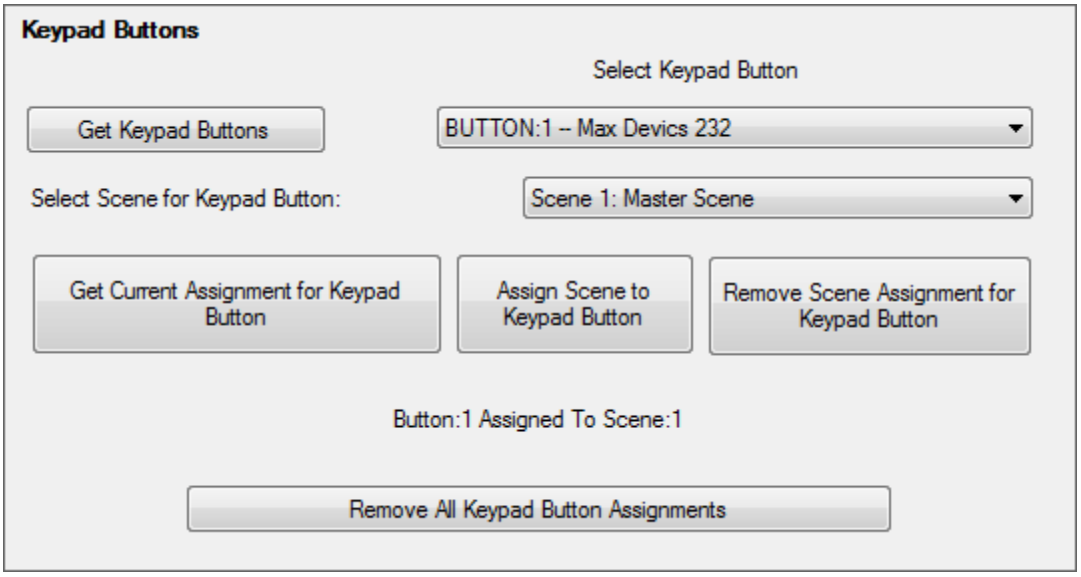
Thermostat Properties



A device that supports the COMMAND_CLASS_THERMOSTAT will contain:

- "Operating State" label to show the current state of operation. Usually one of the following: Idle, Heating, Cooling, Fan Only, Pending Heat, Pending Cool, Vent/Economizer, Aux Heating, 2nd Stage Heating, 2nd Stage Cooling, 2nd Stage Aux Heat, or 3rd State Aux Heat.
- "Get Reading" button retrieves the temperature reading from the device.
- "Get Mode" button retrieves the operating mode of the thermostat. Once this is selected it will populate the thermostat mode dropdown list with the possible choices for the thermostat operating mode.
- "Set Thermostat Mode" dropdown list to select the thermostat operating mode. Once an entry is selected in the list, select the "Set mode" button to set the thermostat to this mode.
- "Get Fan" button to retrieve the fan operating mode of the thermostat. Once this is selected it will populate the thermostat fan mode dropdown list with the possible choices for the fan operating mode.
- "Set Fan Mode" dropdown list to select the thermostat fan operating mode. Once an entry is selected on the list, select the "Set Fan Mode" button to set the thermostat fan mode to this mode.
- "Get Supported Set Points" button to retrieve the possible set points in the thermostat. This process will take a while to complete. Once completed it will populate the Set Point dropdown list with the possible set points the thermostat supports.
- "Set Point Dropdown list" is used to select a set point for setting its value using the "New Value" entry field and the "Set Set Point" button.

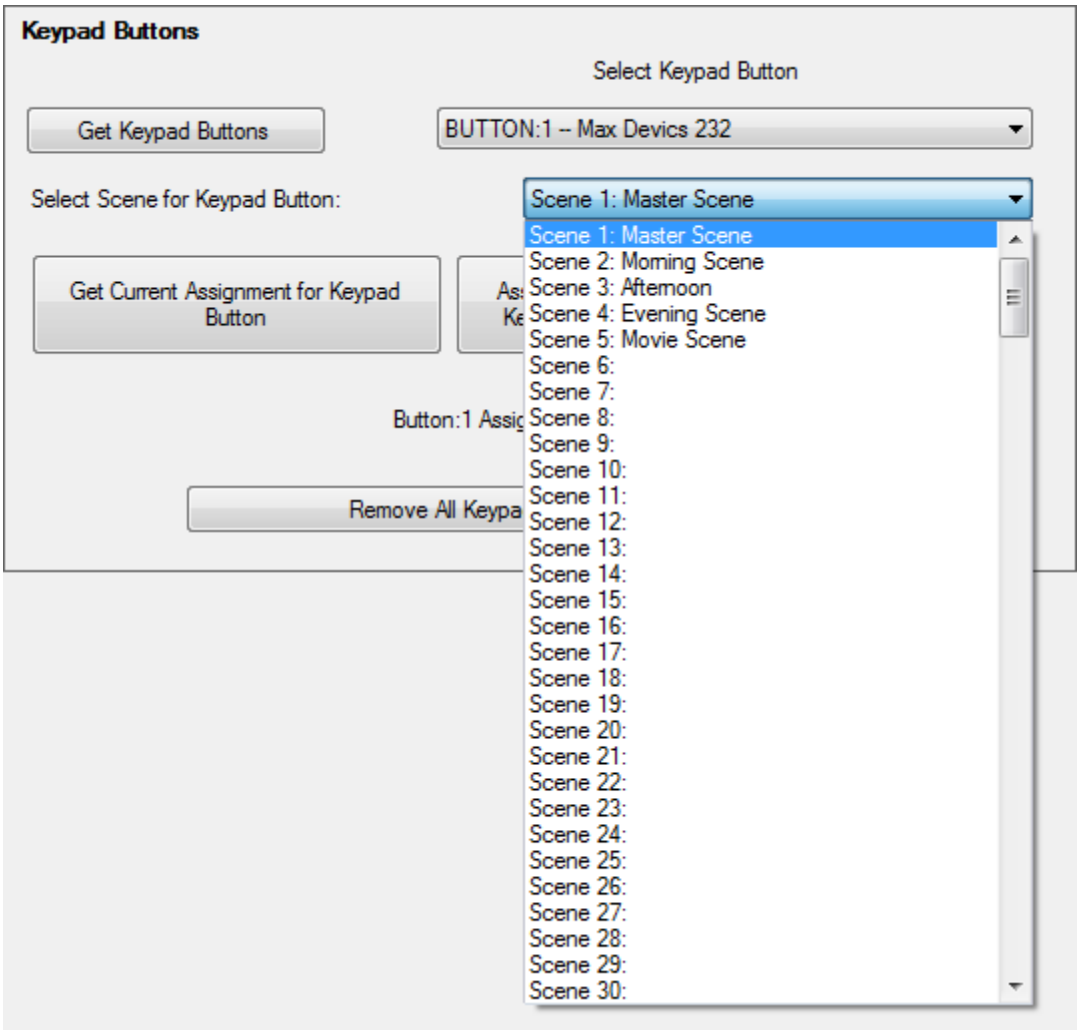
Keypad Buttons Properties (Scene Controller Device)



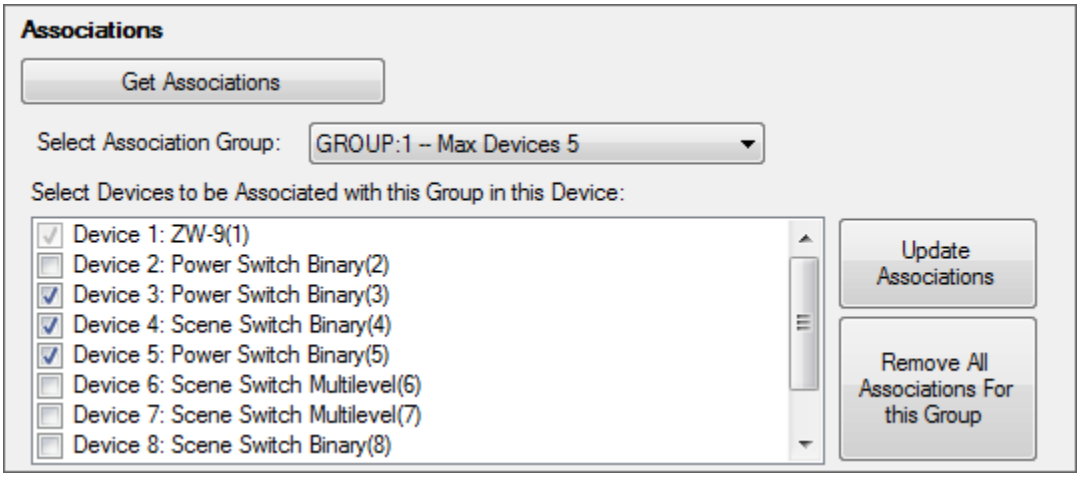
A device that supports the COMMAND_CLASS_SCENE_CONTROLLER_CONF will contain:

- "Get keypad Buttons" button to retrieve the number of keypad buttons the device
- supports.
- Once selected it will populate the "Select Keypad Button" dropdown list with the available buttons on the device.
- "Get Current Assignment for Keypad Button" button is used to retrieve the current Scene assigned to the keypad button selected in the "Select Keypad Button" dropdown list. Its assignment is shown below this button.
- "Assign Scene to Keypad Button" button is used to make the Scene assignment to the selected button.
- "Remove Scene Assignment for Keypad Button" button is used to remove the Scene assignment from the selected button.
- "Remove All Keypad Button Assignments" button is used to remove all the Scene assignments from all keypad buttons.

"Select Keypad Button" dropdown list is used to select the keypad Button to assign a Scene to, the Scenes should first be setup using the Scene configuration under the ZW-9. See Scenes for details on setting up the Scenes. Once a keypad button is selected, use the "Select Scene for Keypad Button" dropdown list to select the Scene to be assigned. Then select the "Assign Scene to Keypad Button" button to assign the Scene.



Associations Properties



A device that supports the COMMAND_CLASS_ASSOCIATION will contain:

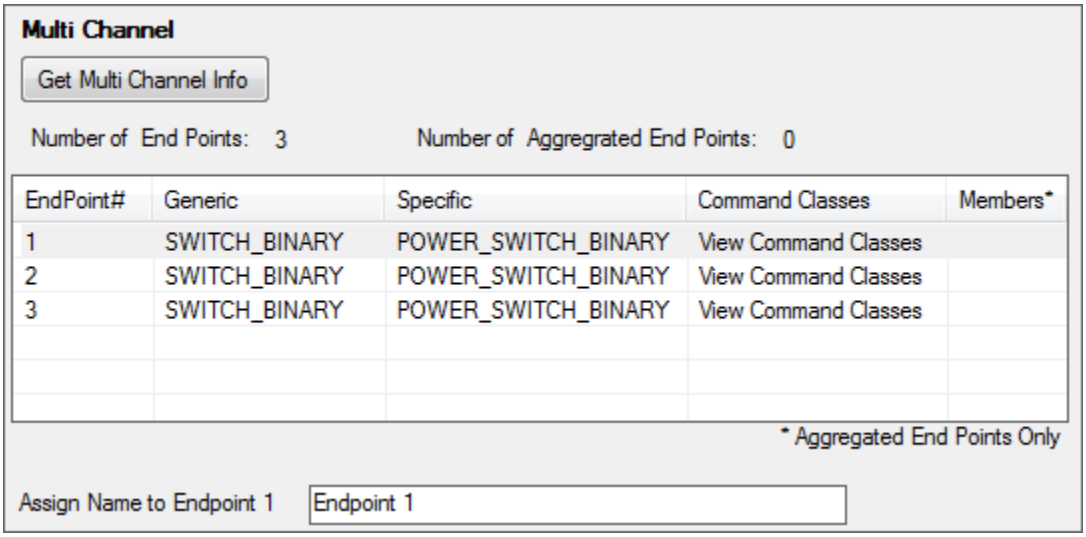
- "Get Associations" button is used to retrieve the Association Groups the device supports. Once selected it will populate the "Select Association Group" dropdown list and the maximum number of devices that can be associated in the Group.
- Use the "Select Association Group" dropdown list to select an Association Group to work with.
- "Select Devices to be associated with this Group in this Device:" list is used to select the devices that are to be associated with this grouping in this device. After the devices are selected "Checked" use the "Update Associations" button to make the associations.
- "Remove All Associations for this Group" button is used to remove all the associations for the selected Group.

Update Scenes for a Device Properties

If a device supports Scenes, then the above box will be displayed allowing the Scenes that have been setup to be sent to the scene device.

Executing this operation will not clear the Scene indicator S. It only updates the scenes for this currently selected device. It is important to update all Scene Devices when the scenes have been modified. This option here can be used when you are sure that only this device needs updating when just this currently selected device has its scene conditions modified.

Multi-Channel Properties

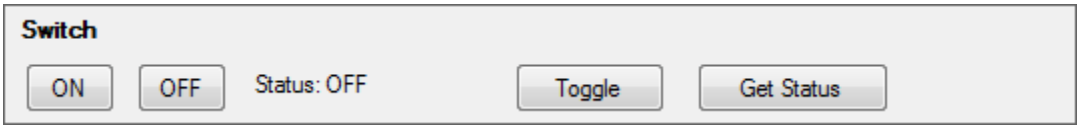


A device that supports the COMMAND_CLASS_MULTI_CHANNEL will contain:

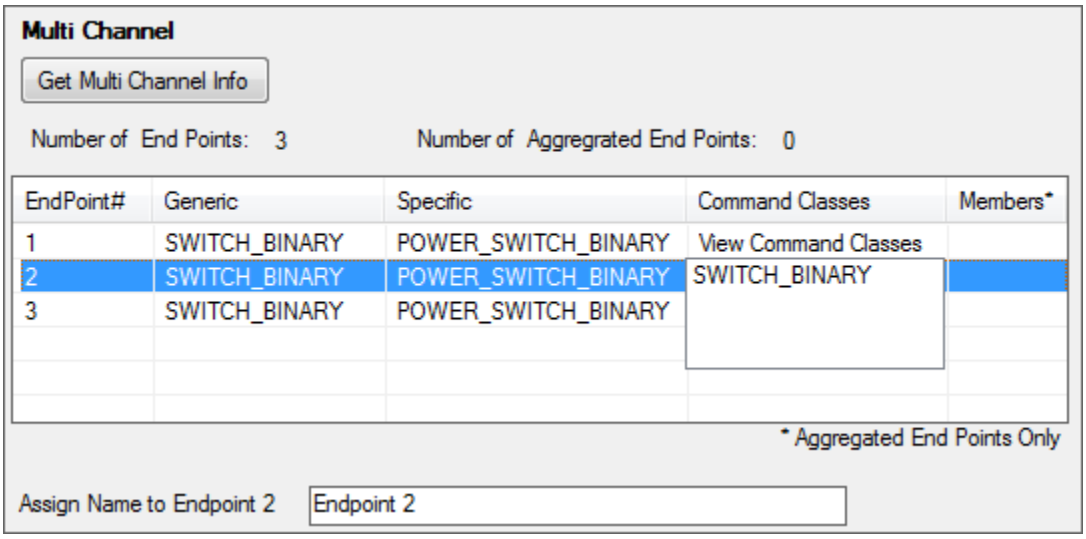
- "Get Multi Channel Info" button to retrieve the Multi-Channel setup in the device. A Multi-Channel device may implement from 1 to 127 end points. Once this button is selected it will populate the End Points List.
- The List will show the End point number, its Generic device class, its Specific device Class, and possible Command Classes for each end point
- The "Command Classes" column in the List will allow you to view the Command Classes supported by the end point.
  Double Clicking an entry in the "Command Classes" dropdown list will select this Command Class for configuration. Once an entry is double clicked a control object based on the Command Class will be displayed directly below this Multi Channel control box. See the following sections for more details.
- If a device supports Aggregated End Points, they will be listed after the regular individual end points and the End points that are members of this Aggregated End point will be listed in the Member* Column.
- Each Endpoint can be assigned a Name that will be useful in Integration Designer when configuring a system.

Switch - Multi Channel Properties

A device that is a Binary Switch that supports COMMAND_CLASS_MULTI_CHANNEL will contain the general Binary Switch controls in the Center panel:



With the Right Panel containing the controls for the Multi Channel Information:

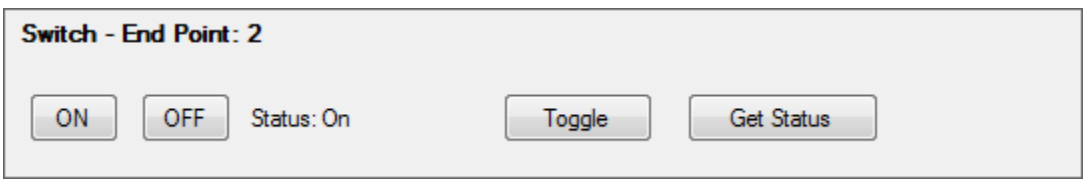


The Binary Switch Controls in the Center Panel will operate the Default Switch in the Multi Channel device. The Default switch is manufacturer specific, the default switch in a Multi Channel device could be the first end point or it may operate all end points.

A Multi Channel Device may have from 1 to 127 end points.
Use the “Get Multi Channel Info” button to retrieve the number of End Points the device supports.

Under the Command Classes column click on “View Command Classes” to see the available Command Classes an end point may support.

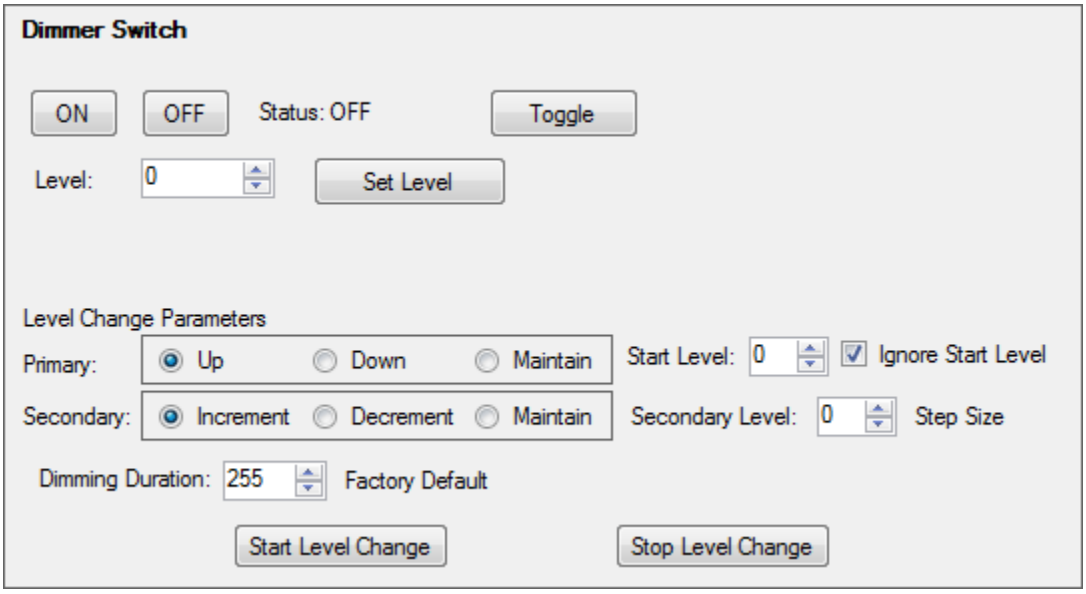
Double Click a Command Class in the dropdown list to control the command class for the end point.
Once an end point Command Class is selected (Double Clicked) the control object for the end point will be displayed directly below the “Multi Channel” end point selection control.



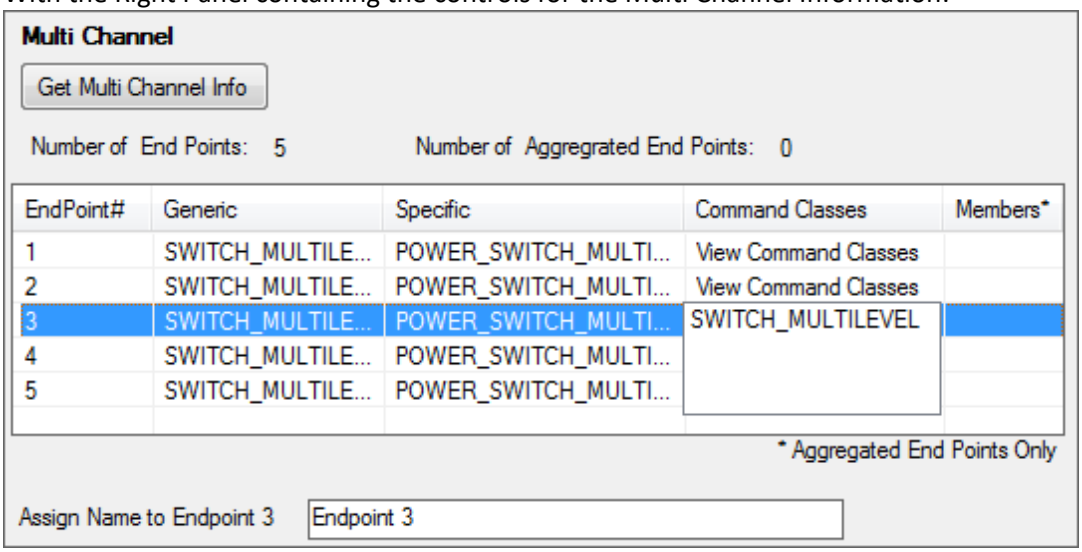
It will be labeled with the selected End Point.

Dimmer Switch – Multi Channel Properties

A device that is a Multilevel (Dimmer) Switch that supports COMMAND_CLASS_MULTI_CHANNEL will contain the general Multilevel (Dimmer) Switch controls in the Center Panel:



With the Right Panel containing the controls for the Multi Channel Information:



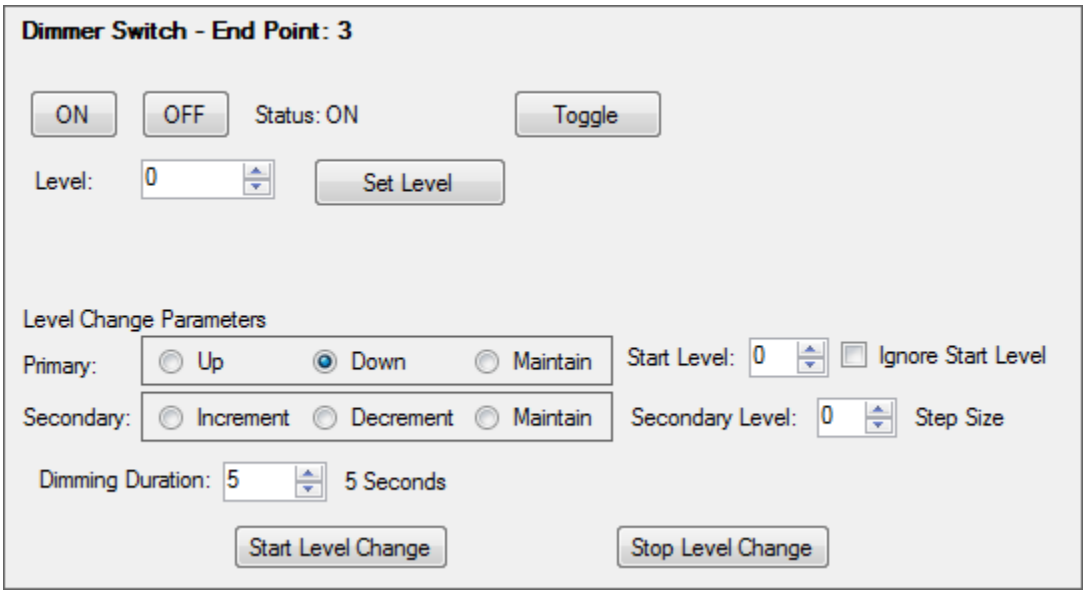
The Binary Switch Controls in the Center Panel will operate the Default Switch in the Multi Channel device. The Default switch is manufacturer specific, the default switch in a Multi Channel device could be the first end point or it may operate all end points.

A Multi Channel Device may have from 1 to 127 end points.
Use the “Get Multi Channel Info” button to retrieve the number of End Points the device supports.

Under the Command Classes column click on “View Command Classes” to see the available Command Classes an end point may support.

Double Click a Command Class in the dropdown list to control the command class for the end point.

Once an end point Command Class is selected (Double Clicked) the control object for the end point will be displayed directly below the “Multi Channel” end point selection control.



If the Multi-Channel Dimmer Switch supports Version 3 or higher the controls for Level Change will be available.

Multi Channel Properties for Other Devices

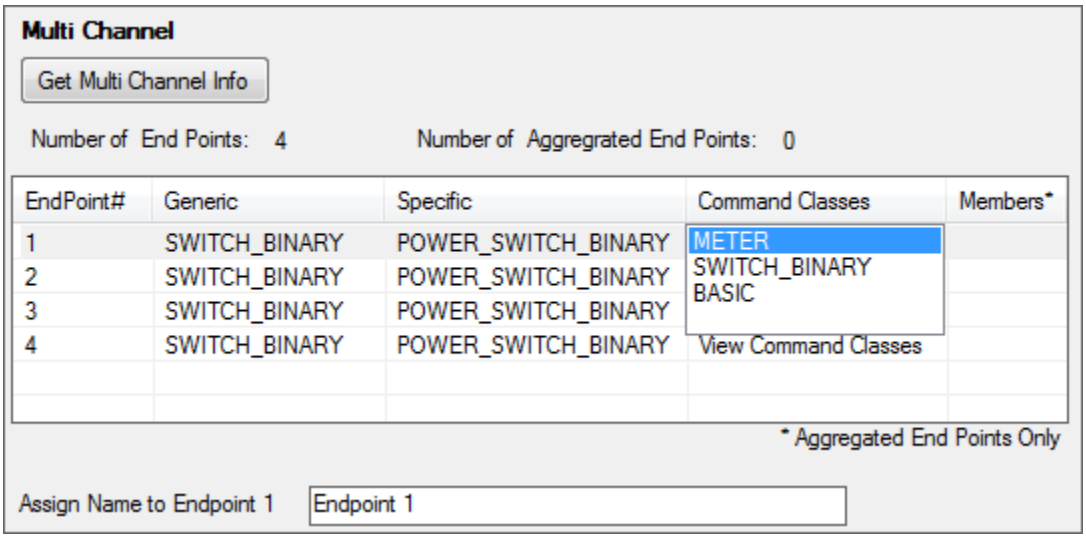
A device may support the Multi Channel Command Class for multiple end points which are not Switches or Dimmer Switches. For instance a device may support Association Command Class for an end point, allowing the specific end point to be associated with other end points or even associated with other root devices. A Thermostat device could support Multi Channel for Sensors where End Point #1 would provide a temperature reading and End Point #2 would provide a humidity reading.

When a Multi Channel device shows that an end point supports other command classes, selecting the Command Class in the “View Command Classes” dropdown list will result in a control object being displayed below the Multi Channel control object.

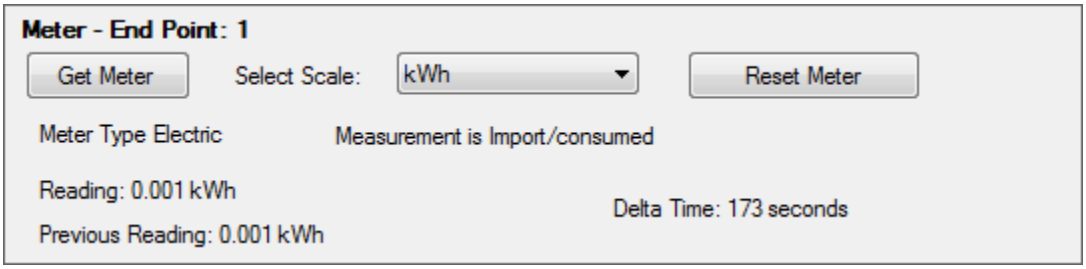
Some examples are:

EXAMPLE 1 – Multi Channel Binary Switch

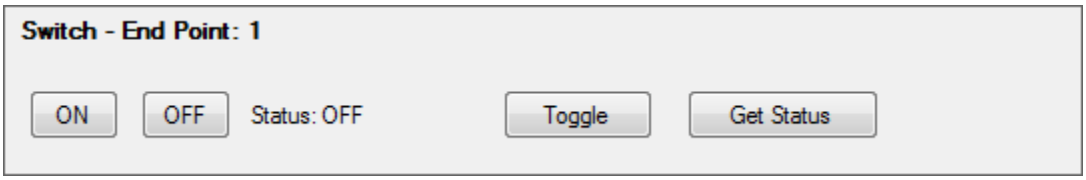
This device supports the Meter Command Class, Switch Binary Command Class and Basic Command Class for each of its 4 endpoints.



Selecting METER in the "View Command Classes" dropdown list for end point #1 will display:

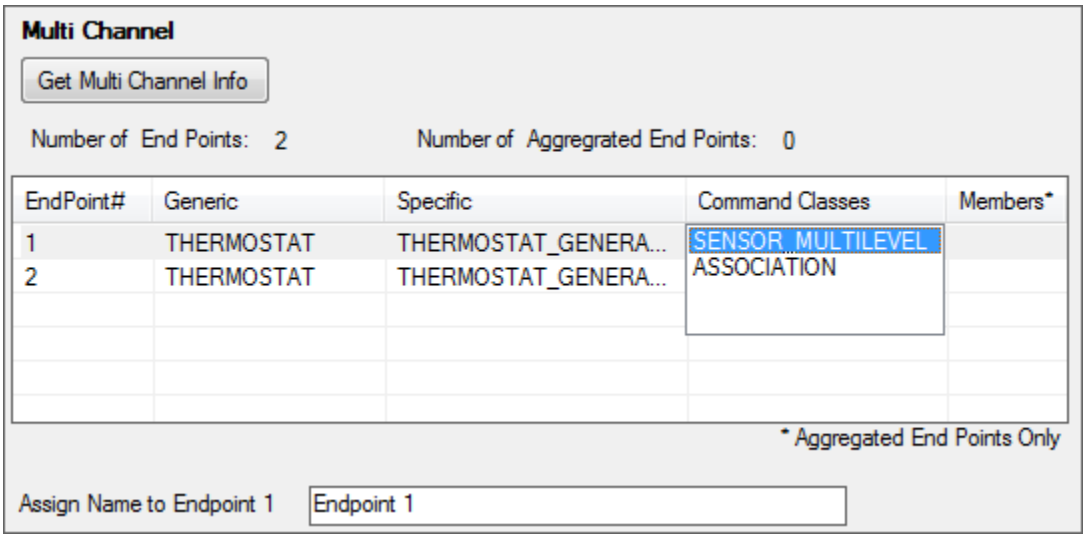


Selecting Switch Binary in the "View Command Classes" dropdown list for end point #1 will display:



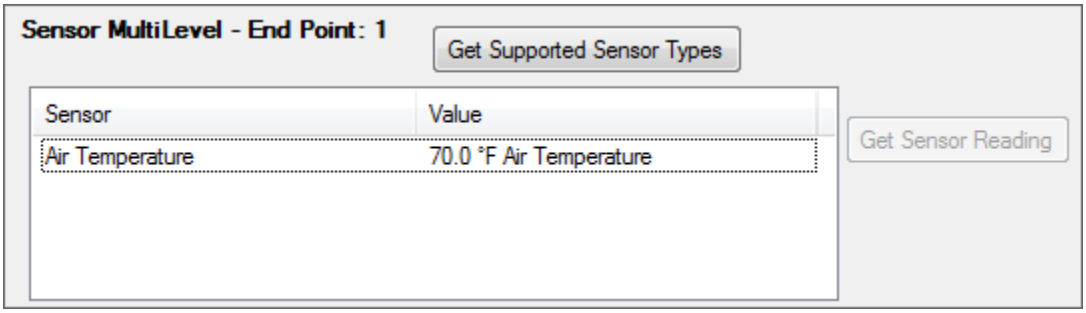
Selecting Basic in the "View Command Classes" dropdown list for end point #1 will display:

EXAMPLE 2 – Thermostat controller with 2 end points.

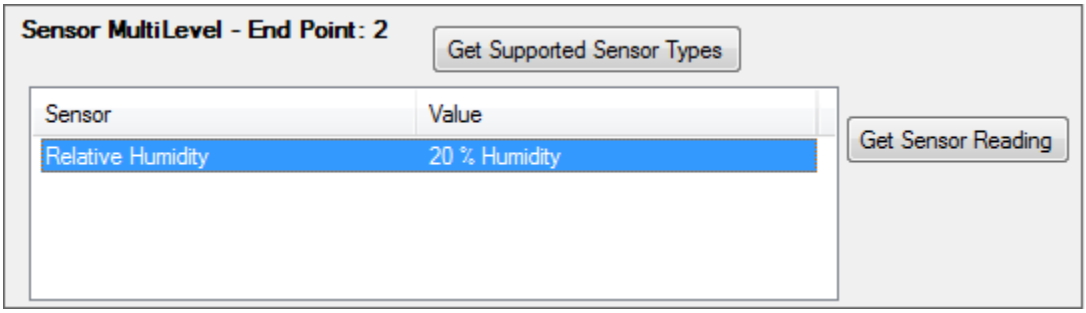


This device supports the Sensor Multilevel Command Class and the Association Command Class for each end point.

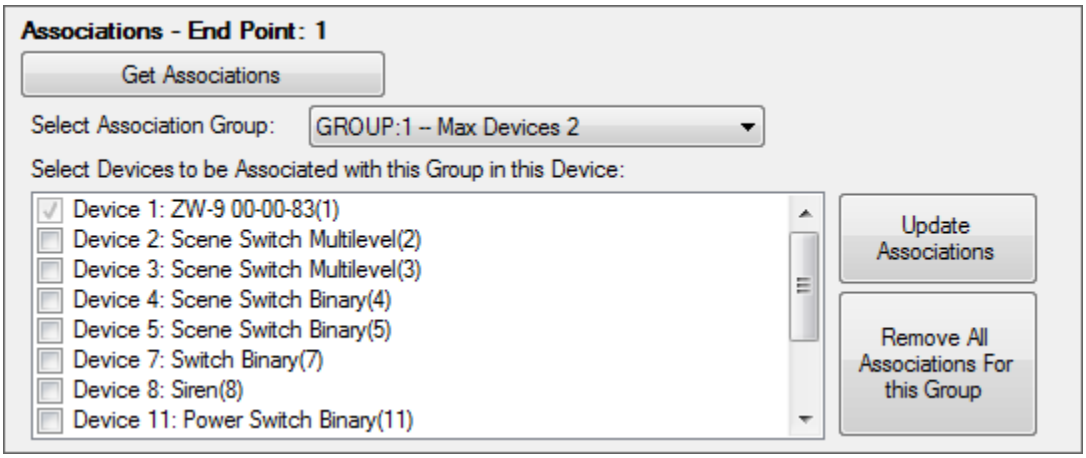
End Point #1 provides the Temperature Sensor.



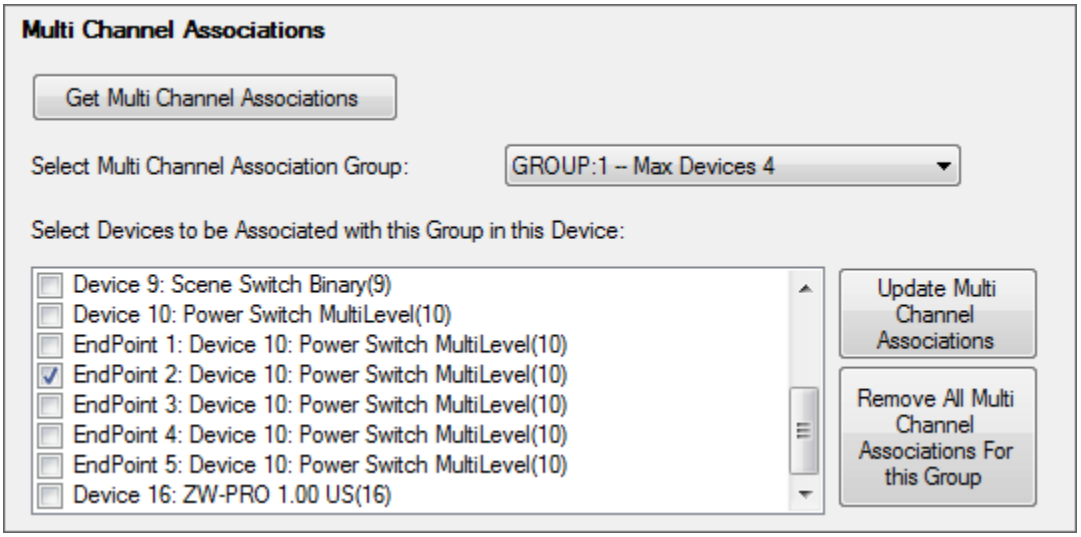
End Point #2 provides the Humidity Sensor.



The Association for each end point can be set by selecting ASSOCIATION from the “View Command Classes” dropdown list.



Multi-Channel Associations Properties



A device that supports the COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION will contain:

“Get Multi Channel Associations” button is used to retrieve the Multi Channel Association Groups that the device supports. Once selected it will populate the “Select Multi Channel Association Group” dropdown list and the maximum number of devices that can be associated in the Group.

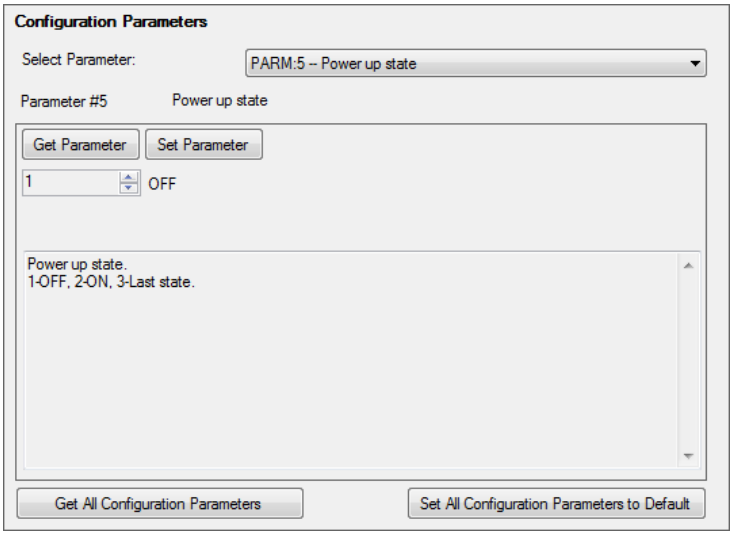
Use the “Select Multi Channel Association Group” dropdown list to select an Association Group to work with.

“Select Devices to be associated with this Group in this Device:” list is used to select the Devices or End points that are to be associated with this grouping in this device. After the devices/End points are selected “Checked” use the “Update Multi Channel Associations” button to make the associations.

“Remove All Multi Channel Associations for this Group” button is used to remove all the associations for the selected Group.

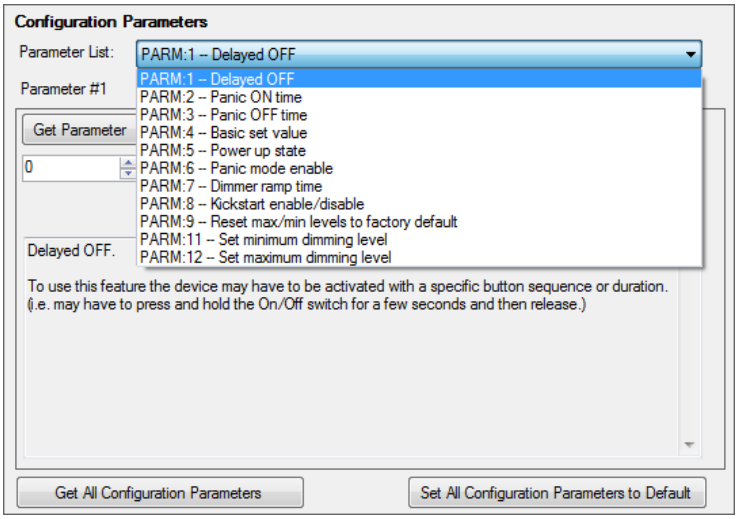
Configuration Parameters Properties

If the device is an RTI Product, the Z-Wave Manager can detect this and display the specific Configuration Parameters that the device supports. The "Select Parameter" dropdown list will be populated with the supported parameters. The "Get All Configuration Parameters" button can be used to collect all of the parameters.

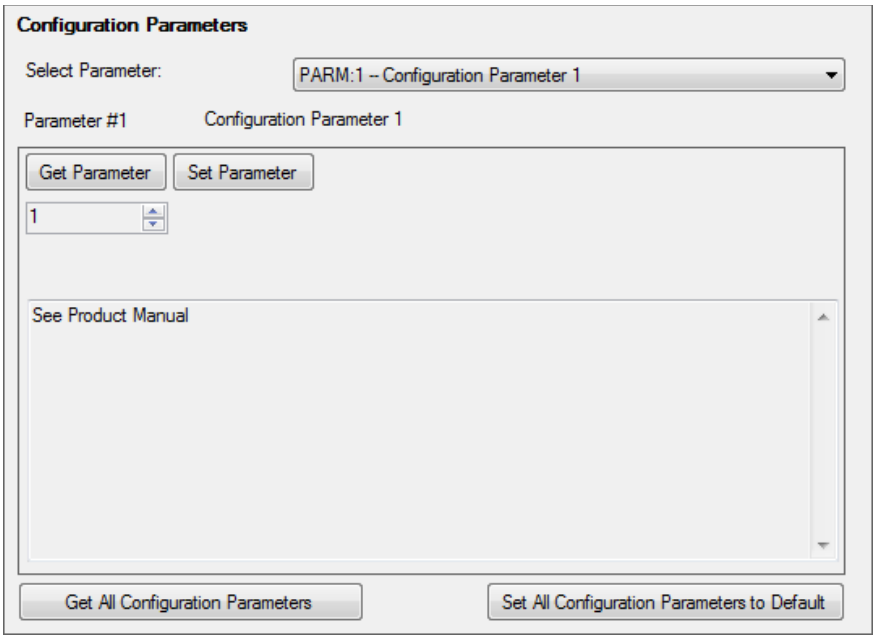


A device that supports the COMMAND_CLASS_CONFIGURATION will contain:

- "Select Parameter" dropdown list allows the selection of an individual parameter for modifications.
- "Get Parameter" button is used to retrieve the current settings for the selected parameter.
- "Parameter Value" entry is used to select a possible value for the parameter.
- "Set Parameter" button is used to set the parameter to its selected value.
- Below "Parameter Value" is the notes about the individual parameters that are know if it is an RTI Product.
- If the device is a 3rd party device, the "Get All Configuration Parameters" button will not be available. Each parameter will have to be retrieved individually.
- "Set All Configuration Parameters to Default" will issue the command to set all parameters to default, but this behavior is device dependent.

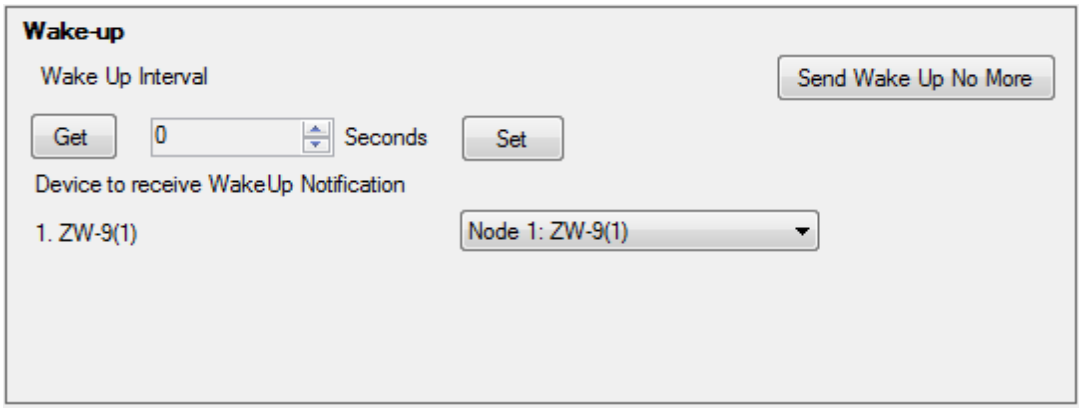


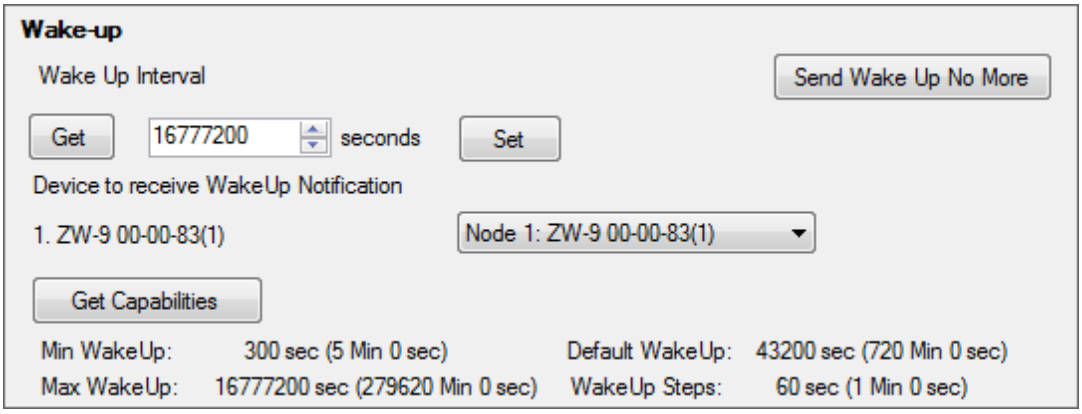
It the device is a 3rd Party device, the Z-Wave Manager will display the Configuration Parameters as Parameter 0 through Parameter 255. The actual number of parameters supported by the device will be unknown and the process of polling the device to collect the information will take some time. The individual Notes for each parameter will simply display “See Product Manual”. See the product manual for the device to get the details about the Configuration Parameters. For 3rd Party devices the “Get All Configuration Parameters” button will not be visible (Since the number of parameters is unknown).



Wake Up Properties

If a Battery operated device supports the Wake Up Command Class it allows the battery-powered device to notify another device, that it is awake and ready to receive any commands.

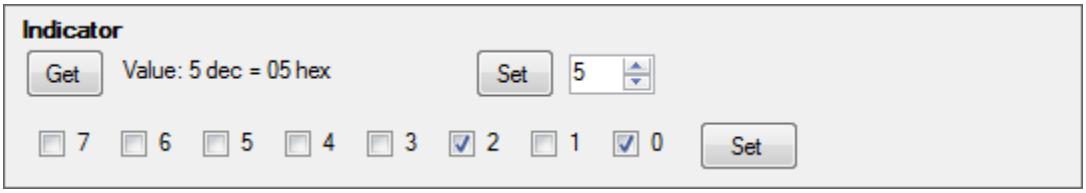




A device that supports the COMMAND_CLASS_WAKE_UP will contain:

- "Get" button is used to retrieve the Wake Up Interval setting.
- After using the "Get" button, if the device supports the Wake Up capabilities the "Get Capabilities" button will be displayed.
- "Get Capabilities" button to retrieve the wake up properties.
- "Seconds" entry is used to set the seconds.
- "Device to receive Wake Up Notification" dropdown list is used to select the device to receive the wake up notification when the device wakes up. This would normally be set to the ZW-9 Controller device.
- "Set" button is used to set the wake up interval.
- "Send Wake Up No More" button can be used to let the device know it can return to sleep mode.

Indicator Properties



A device that supports the COMMAND_CLASS_INDICATOR will contain:

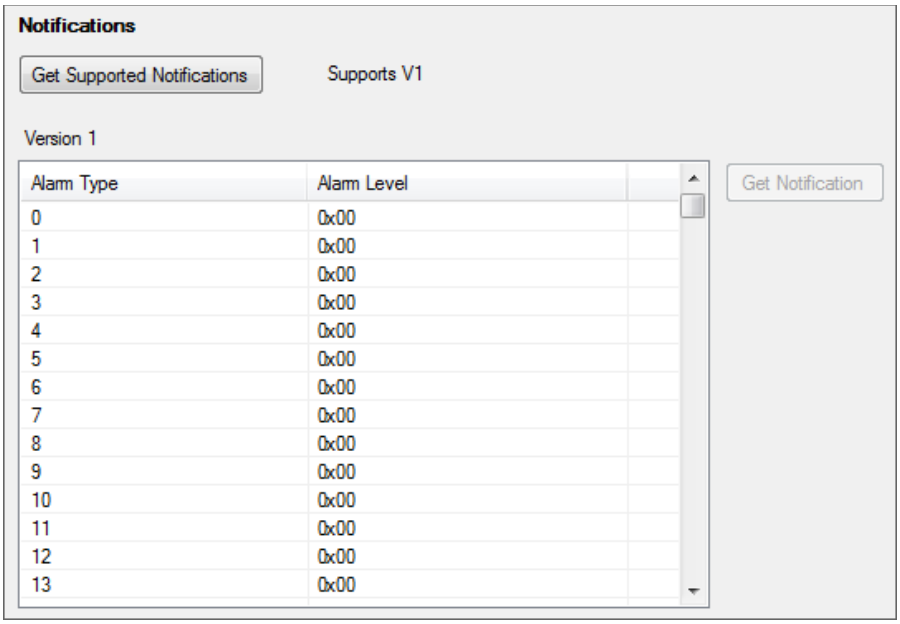
- "Get" button to retrieve the current state, level, etc. of the device.
- "Set" button to enable or disable the indicators.
- Use the Numeric Up/down indicator or the 8 checkboxes to set the indicators.

Some devices may show a value of 1 to 99.
A value of 0 means off/disabled.
A value of 255 (0xFF) means on/enabled.

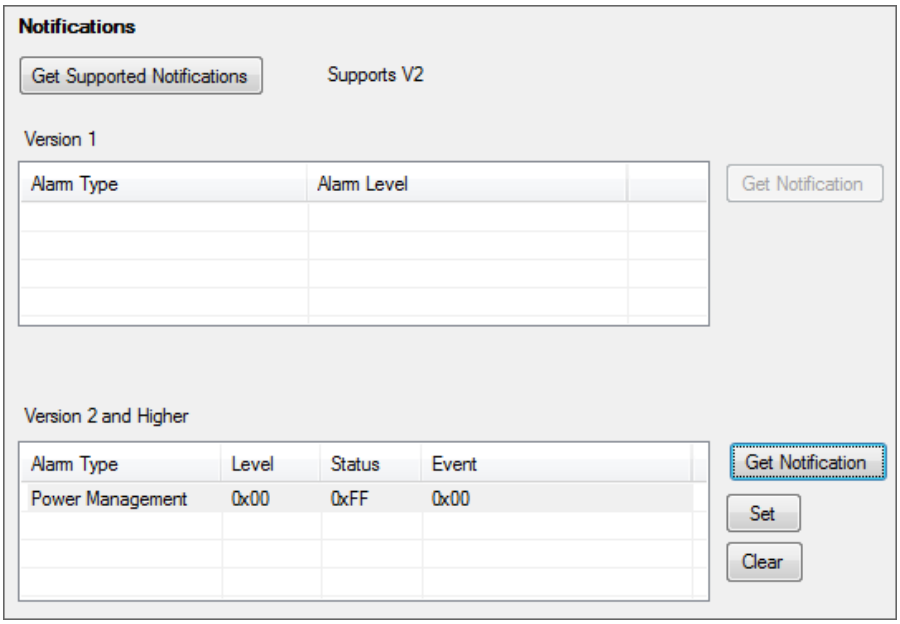
Notifications Properties

Depending on which version of the Notification Command Class a device supports different options will be displayed.

If the device supports Version 1 the following will be displayed:

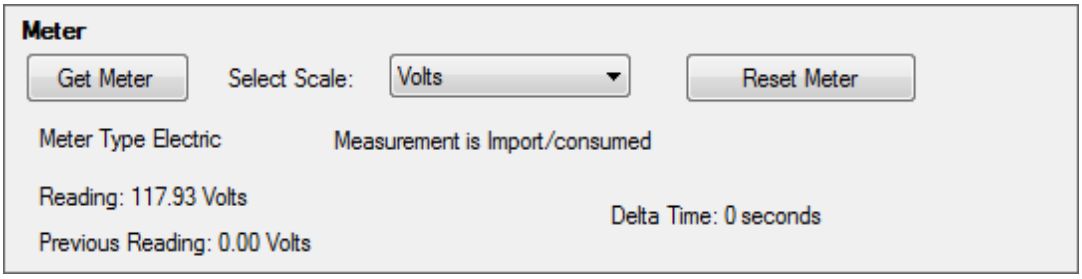


If the device supports Version 2 the following will be displayed:



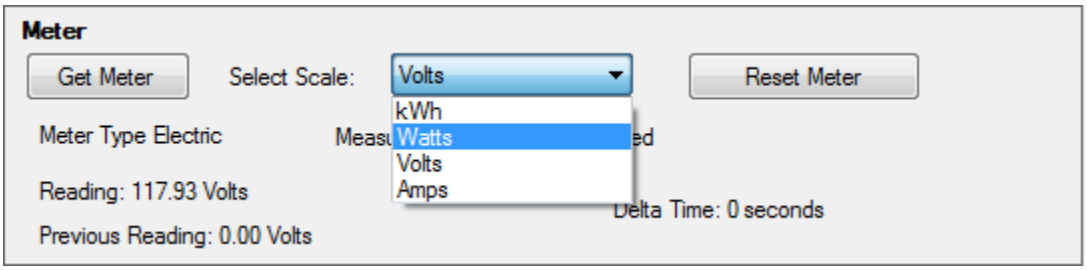
See the device's product manual for details about the Notifications the device supports and how they are used.

Meter Properties



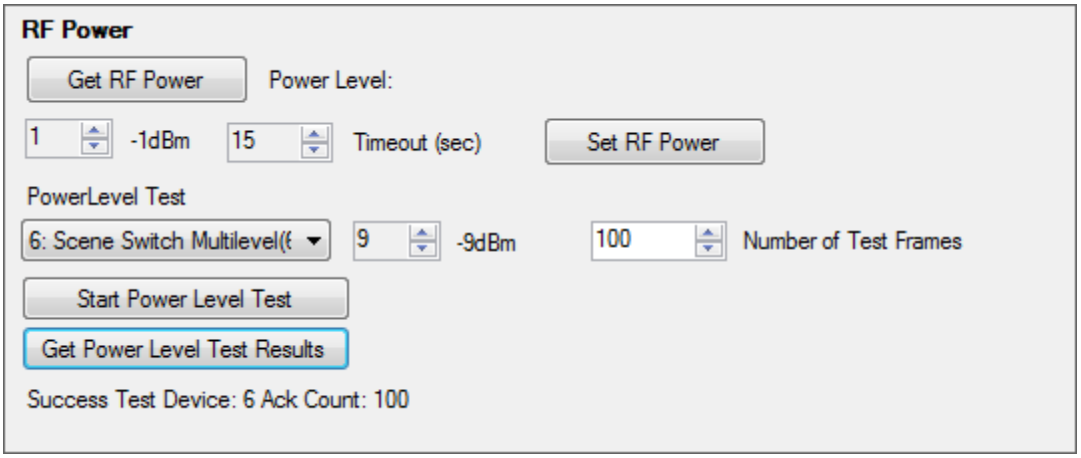
A device that supports the COMMAND_CLASS_METER will contain:

- "Get Meter" button to retrieve the current meter reading in the device.
- "Reading:" label where the current reading is displayed
- "Select Scale" label with a drop down list for selecting a specific scale reading to retrieve.
- "Reset Meter" button to reset the meter reading in the device.
  If the devices does not support the Reset Meter, the button will not be displayed.



RF Power Properties

The RF Power Properties is where you can perform some testing of the RF Power level of devices that support the Command Class COMMAND_CLASS_POWERLEVEL.



The Power Level Test is used to perform an actual power level test between the ZW-9 device and one of the devices in the Z-Wave network. In the dropdown list select the device to test with. Only the devices that support the COMMAND_CLASS_POWERLEVEL command class (found in the device properties dialog) will be available. Select the desired power level and select the number of test frames to be sent.

The button “Get RF Power” will retrieve the current Power level setting in the ZW-9 and how long it will be before it times out and returns to the normal power level setting.

Select a Power level of 0 for normal or -1 to -9 dBm.

Select the timeout value of up to 255 seconds.

Then select the “Set RF Power” button to apply the settings.

After applying the settings you can click the “Get RF Power” button to retrieve the settings to see what power level the device is currently at and the remaining time in seconds before the device returns to normal power level. If you select a low power level (i.e. -9 dBm) you may not get a result if the ZW-9 cannot communicate with the selected device at the power level selected.

Start the test by clicking the “Start Power Level Test” button. Select the “Get Po
wer Level Test Results” button to see the test results. If the test is not completed yet you will see the results as: “Test In Progress! Test Device: 2 Ack Count: 56”

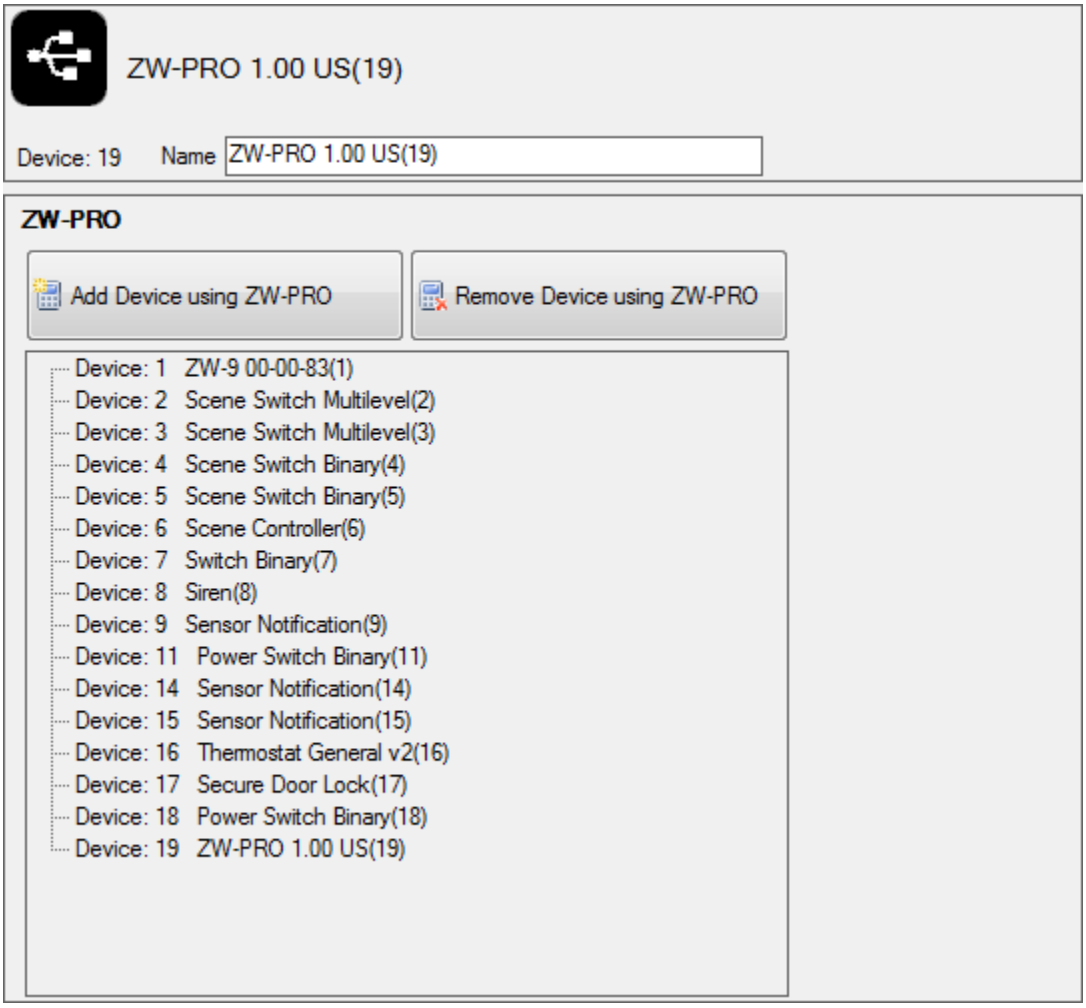
When the test is completed you will see the results as:

“Success Test Device: 2 Ack Count: 100” or “Success Test Device: 2 Ack Count: 97”

Or

“Failed! Test Device 2 Ack Count: 0”

ZW-PRO Properties



The ZW-PRO properties relate to the ZW-PRO USB adapter device.

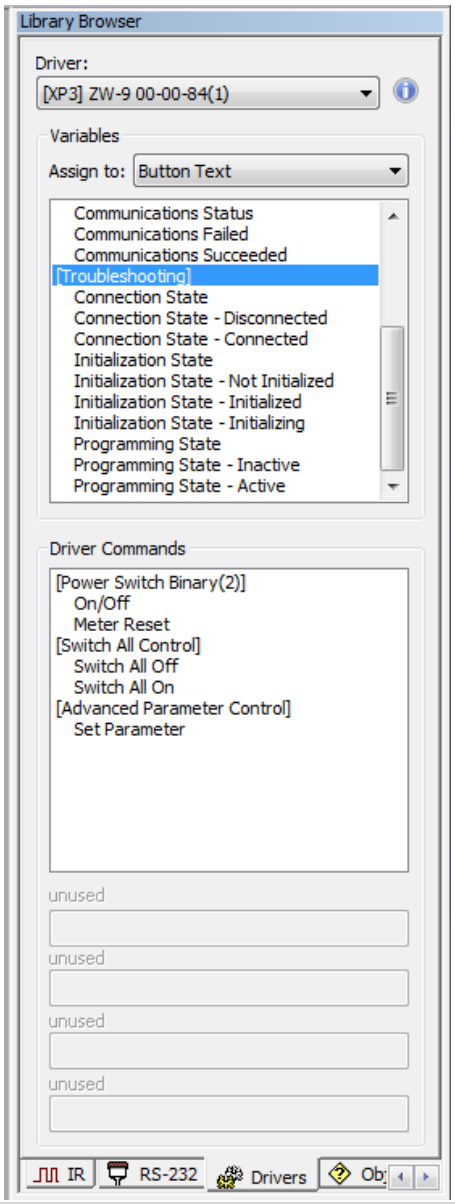
For details on using the ZW-PRO refer to COMMUNICATIONS – ZW-PRO Sub-Menu.

Notes

When ZWaveMgr is open and connected to the ZW-9 Controller for configuration, there will be no Control to the Z-Wave Device through the XP Processor Control system. ZWaveMgr puts the XP Processor "Driver" into and Update Mode that will only relay communications throughout ZWaveMgr software in Integration Designer and the ZW-9 Controller.

After closing ZWaveMgr and resending the System File to the XP Processor, the "Driver" will then connect to the ZW-9 and initialize the system.

There are feedback variables added to the Z-Wave Driver that allow for feedback of the current status of the ZW-9 device, that can be added to a control product to display the ZW-9's current status. (These can be used during Trouble shooting).



If the Driver appears to communicate with the ZW-9 after the initialization is complete the issue may be with the XP Processor reaching the ZW-9 over the LAN.

First disconnect the ZW-9 from its current location and connect it to the same Ethernet switch that the XP Processor is connected to. If this solves the issue than there is a problem with the initializing the uPnP over the network, meaning there are too many switches between the two components or if applicable the ZW-9 needs to be powered by the PSU and not PoE.

Symbols. ICON TYPES

The following Icons are used to identify the Devices.


UNASSIGNED


GENERIC_REMOTE_CONTROL_MULTI_PURPOSE
GENERIC_REMOTE_CONTROL_AV


GENERIC_SENSOR_NOTIFICATION


SPECIFIC_SENSOR_NOTIFICATION_EMERGENCY_ALARM


SPECIFIC_SENSOR_NOTIFICATION_SMOKE_ALARM


SPECIFIC_SENSOR_NOTIFICATION_CO_ALARM
SPECIFIC_SENSOR_NOTIFICATION_CO2_ALARM

SPECIFIC_SENSOR_NOTIFICATION_WATER_ALARM


SPECIFIC_SENSOR_NOTIFICATION_ACCESS_CONTROL


SPECIFIC_SENSOR_NOTIFICATION_MULTIDEVICE

GENERIC_SENSOR_MULTILEVEL


SPECIFIC_SENSOR_MULTILEVEL_GENERAL_PURPOSE_VALUE


SPECIFIC_SENSOR_MULTILEVEL_TIDE_LEVEL


SPECIFIC_SENSOR_MULTILEVEL_LUMINANCE

SPECIFIC_SENSOR_MULTILEVEL_POWER

SPECIFIC_SENSOR_MULTILEVEL_HUMIDITY

SPECIFIC_SENSOR_MULTILEVEL_CO2_LEVEL

SPECIFIC_SENSOR_MULTILEVEL_AIR_FLOW

SPECIFIC_SENSOR_MULTILEVEL_TANK_CAPACITY

SPECIFIC_SENSOR_MULTILEVEL_AIR_TEMPERATURE
SPECIFIC_SENSOR_MULTILEVEL_WATER_TEMPERATURE
SPECIFIC_SENSOR_MULTILEVEL_SOIL_TEMPERATURE


SPECIFIC_SENSOR_MULTILEVEL_MULTIDEVICE


GENERIC_SET_TOP_BOX


GENERIC_SIREN


GENERIC_WINDOW_COVERING_POSITION_ENDPOINT_AWARE
GENERIC_WINDOW_COVERING_NO_POSITION_ENDPOINT
GENERIC_WINDOW_COVERING_ENDPOINT_AWARE


GENERIC_REPEATER


GENERIC_DIMMER_WALL_SWITCH
SPECIFIC_DIMMER_WALL_SWITCH_ONE_BUTTON
SPECIFIC_DIMMER_WALL_SWITCH_TWO_BUTTONS
SPECIFIC_DIMMER_WALL_SWITCH_THREE_BUTTONS
SPECIFIC_DIMMER_WALL_SWITCH_FOUR_BUTTONS
SPECIFIC_DIMMER_WALL_SWITCH_ONE_ROTARY
GENERIC_ON_OFF_WALL_SWITCH
SPECIFIC_ON_OFF_WALL_SWITCH_ONE_BUTTON
SPECIFIC_ON_OFF_WALL_SWITCH_TWO_BUTTONS
SPECIFIC_ON_OFF_WALL_SWITCH_THREE_BUTTONS
SPECIFIC_ON_OFF_WALL_SWITCH_FOUR_BUTTONS
SPECIFIC_ON_OFF_WALL_SWITCH_ONE_ROTARY
GENERIC_ON_OFF_POWER_SWITCH


SPECIFIC_POWER_STRIP_INDIVIDUAL_OUTLET
SPECIFIC_LIGHT_DIMMER_SWITCH_PLUGIN
SPECIFIC_LIGHT_DIMMER_WALL_OUTLET
SPECIFIC_ON_OFF_POWER_SWITCH_PLUGIN
SPECIFIC_ON_OFF_POWER_SWITCH_WALL_OUTLET
GENERIC_POWER_STRIP


GENERIC_CENTRAL_CONTROLLER
GENERIC_GATEWAY

GENERIC_DISPLAY_SIMPLE

GENERIC_DOOR_LOCK_KEYPAD

GENERIC_FAN_SWITCH

GENERIC_LIGHT_DIMMER_SWITCH
SPECIFIC_LIGHT_DIMMER_SWITCH_CEILING_OUTLET
SPECIFIC_LIGHT_DIMMER_SWITCH_WALL_LAMP
SPECIFIC_LIGHT_DIMMER_SWITCH_LAMP_POST_HIGH
SPECIFIC_LIGHT_DIMMER_SWITCH_LAMP_POST_LOW
SPECIFIC_ON_OFF_POWER_SWITCH_CEILING_OUTLET

GENERIC_THERMOSTAT
SPECIFIC_THERMOSTAT_LINE_VOLTAGE
SPECIFIC_THERMOSTAT_SETBACK

GENERIC_SUB_ENERGY_METER
GENERIC_WHOLE_HOME_METER_SIMPLE

GENERIC_TV

GENERIC_VALVE_OPEN_CLOSE

GENERIC_WALL_CONTROLLER

USB CONTROLLER

Icon used by the Z-Wave Manager Program