



ELAN Z-Wave™ Integration Note

Manufacturer:	ELAN
Model Number(s):	ELAN Z-Wave™
Core Module Version:	ELAN Control 8.6
Document Revision Date:	11/5/2020

INTEGRATION NOTES ARE INTENDED FOR ELAN-CERTIFIED INSTALLERS ONLY

OVERVIEW AND SUPPORTED FEATURES

ELAN Z-Wave™ integration for the ELAN SC-100 and ELAN SC-300 controllers when coupled with EL-SC-ZW antenna, bringing full management of a Z-Wave network and ease of installation and configuration of Z-Wave devices in the ELAN environment.

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

Z-Wave information: Device Type is Gateway Controller. Z-Wave chip is 700 series. Z-Wave Protocol version supported is Z-Wave Plus™ V2. Region & Frequency of operations supported are US/Canada/Mexico, CEPT (Europe), Australia/New Zealand. Electronic display of DSK (in learn mode) is supported only & Not printed on product / documentations / labels / stickers. DSK is displayed with DSK string format with PIN highlighted but No QR code displayed. Security supported: S2 Access Control, S2 Authenticated, S2 Unauthenticated, S0.

ELAN Z-WAVE INTEGRATION SUPPORTS THE FOLLOWING FEATURES:

Network Management: Include and Exclude devices on Z-Wave Network; Learn mode to support ELAN as a secondary controller on Z-Wave Network; Node Identify, Replace, Force Remove and Firmware Update.

Network Associations: An association is pairing Z-Wave devices and functionality together so that they can work without any intervention from a Z-Wave controller.

Network Provisioning: Management of SmartStart provisioning list. Entry of Device Specific Keys (DSK) used in the Z-Wave S2 security scheme for provisioning at any time prior to the inclusion of the new device. As the new device announces itself on power-ON, the protocol will provide notifications, and the gateway can initiate the inclusion process in the background, without the need for user interaction or any interruption of normal operation.

Discover Devices: Single-click installation of ELAN-compatible devices included on the Z-Wave network into ELAN.

Association Groups: ELAN controller supports Lifeline, Group 1 with maximum nodes of 1 as a device added onto another Z-Wave network. Device Reset Locally supported.

ELAN Z-WAVE INTEGRATION DOES NOT SUPPORT THE FOLLOWING FEATURES:

SmartStart QR Code: Device Specific Keys (DSK) can be manually entered in Configurator on the Network Provisioning page but camera capture of QR Code to provision a device is not supported at this time.

Replication: Replication of network information from the controller to another controller is not supported.

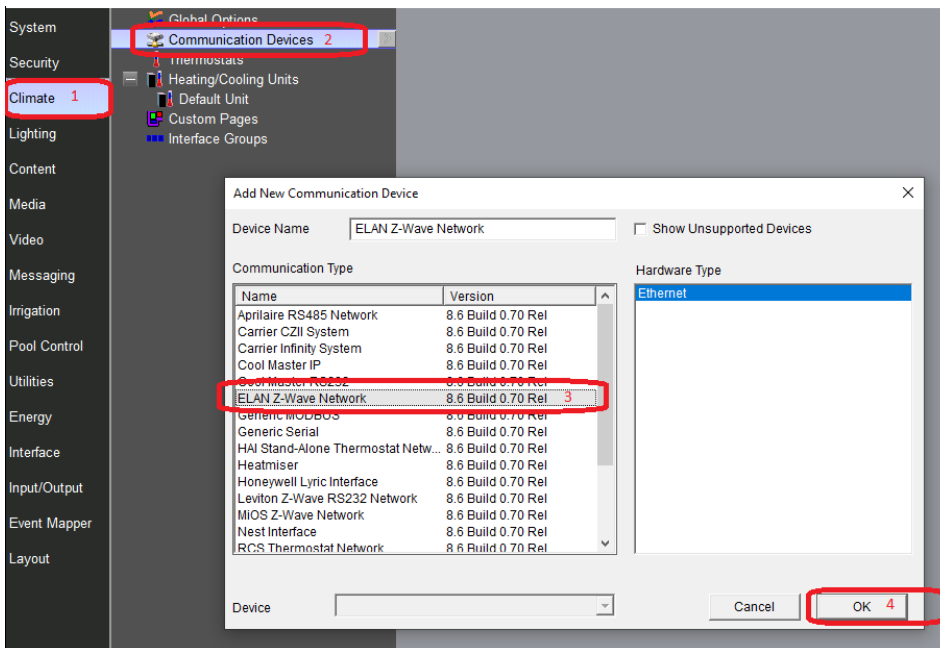
Any feature not specifically noted as “supported” is not supported.

CONFIGURATION

CONFIGURING THE Z-WAVE ANTENNA

The following steps will configure the Z-Wave USB antenna (EL-SC-ZW) to allow the controller to communicate to the Z-Wave network. Be sure the USB Z-Wave Antenna dongle is connected to the controller.

- Select the Climate tab (1) from the left tab on the configurator
- Right-click Communication Devices (2) from the node list
- Select Add New Communication Device
- Select ELAN Z-Wave Network (3)
- Click OK (4)



UPDATING Z-WAVE ANTENNA FIRMWARE

- Select the ELAN Z-Wave Controller in the Z-Wave Device list.
- In the Node Actions dropdown, select Update Firmware.
- Click Execute.
- In the Z-Wave Firmware Installer dialog, select Endpoint 0 – Target: 0.
- Locate the ELAN Z-Wave Controller firmware update file on your local filesystem, (e.g. ZW_SerialAPI_Controller_7.13.6_327_EFR32ZG14_REGION_US.gbl.)
- Press 'OK'
- Watch the dialog for Firmware Update status... it should take a few minutes to complete

COMMUNICATION DEVICE: ELAN Z-WAVE NETWORK

- This page includes the majority of the Z-Wave network and node actions, and configurations. This same page will be accessible on each of the following Configurator main tabs:
 - Security
 - Climate
 - Lighting
 - Input/Output

Global Options
Communication Devices
ELAN Z-Wave Network
Thermostats
Heating/Cooling Units
Default Unit
Custom Pages
Interface Groups

System # 1850
Device Type Ethernet / ELAN Z-Wave Network
Installed 7/17/2020 10:20
Firmware
Z-Wave Home ID (Role) cc9e0efa (SIS)
Management View Network Management
Network Action Include Execute
Node Action Identify Execute

Devices

Node ID	Vendor	Device Type	Component Name	Component Status	Firmware Version
1	Nortek Security & Control LL...	StaticController	ELAN Z-Wave Controller	Installed	7.13

Endpoints

Endpoint ID	Type	Wakeup Interval
0	StaticController	n/a

Apply Discover Devices

Z-WAVE NETWORK MANAGEMENT OVERVIEW

Network Management will allow you to configure and manage the Z-Wave network, below are references for the fields and actions available on this page.

- The Z-Wave RF region field (1) provides a list of supported RF regions to select from.
- The Management View selection can be changed using the drop-down menu next to the Management View field (2). This selection changes the functionality of the page to the following options:
 - Network Management – This is for basic Z-Wave network and node configuration and setup
 - Network Associations – This page is for setting up Z-Wave device associations
 - Network Provisioning – This page is for creating and managing a SmartStart provisioning list.

System

Security

Climate

Lighting

Content

Media

Video

Messaging

Irrigation

Pool Control

Utilities

Energy

Interface

Input/Output

Event Mapper

Layout

Communication Devices

ELAN Z-Wave Network

Security Panels

Door Locks

Virtual Door Lock

Lock Groups

Door Controls

Custom Pages

New Page

Interface Groups

Communication Device: ELAN Z-Wave Network

Name

ELAN Z-Wave Network

System #

3857

Device Type

Ethernet / ELAN Z-Wave Network

Installed

7/24/2020 17:43

Firmware

7.13

Z-Wave RF Region 1

US

Z-Wave Home ID (Role)

fd91e676 (SIS)

Management View 2

Network Management

Network Action 3

Include

Execute

Node Action 4

Identify

Execute

OWAVE PLUS

Devices

Node ID	Vendor	Device Type	Component Name	Component Status	Firmware Version
1	Nortek Security & Contr...	StaticController	ELAN Z-Wave Controller	installed	7.13

OWAVE PLUS

Endpoints

Endpoint ID	Type	Wakeup Interval
0	StaticController	n/a

Apply

Discover Devices

NETWORK MANAGEMENT

Network Management is used to manage the Z-Wave network, refer to the network and node actions below for the functionality on this page.

Network Action (3) - To perform a network action, select the desired action from the network action drop-down box and click Execute.

- Add/Include - Puts the ELAN controller into Add mode and will detect Z-Wave devices that are in Learn mode. See the device's manual for how to enter Learn mode. This may require an S2 passcode.
- Remove/Exclude - Puts the controller into Remove mode and will remove any devices that are in Remove mode. See the device's manual for how to enter Remove mode.
- Network Check - Checks the network status of all (awake) nodes on the Z-Wave Network. The status result can be “Good”, “Ok”, “Bad”, or “Critical”. The status is based on jitter, the number of repeating neighbors, packet error rate, and RF communication link margin.
- Network Rediscovery (Network update) – Optimizes the network paths & update the network.
- Learn - Puts the controller into Learn mode to be added as a secondary device on another Z-Wave controller
- Reset - Resets the Z-Wave dongle's network. This is separate from the ELAN controller's network and will require Discover Devices to be performed to update that network. Any devices removed will need to be excluded before being re-added.

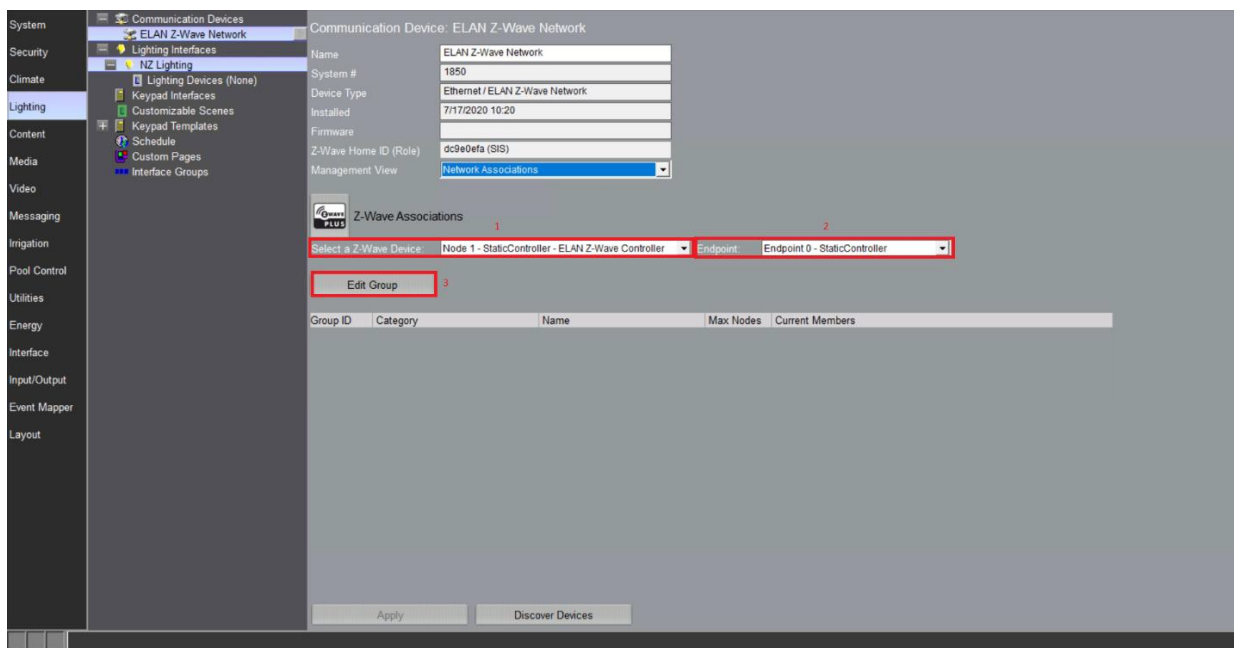
Node Action (4) - To perform a node action, select the desired action from the network action drop-down box and click Execute.

- Identify - Sends an Identify command to the selected device
- Force Remove / Remove Failed - Removes the selected device if the device is not responding. If the device is responding, this command will not remove the device from the network & in that case using normal method of Remove/Exclude is required to remove the device.
- Update Firmware - Brings up a file directory. Navigate to the location of the firmware files.
- Replace - Replace node is a function intended for replacing a Z-Wave device that has failed with an identical device, preserving the node id.
- Request Info - The Request Info action requests that a node retransmit it's Node Information Frame (NIF) to the Z-Wave controller. The NIF is part of the Z-Wave protocol and describes specific details about the included node, like the node's device-type and capabilities. Request Info is provided as a troubleshooting tool that may resolve issues caused by node interview disruptions (e.g. network errors) during the inclusion process.

NETWORK ASSOCIATIONS

An association is pairing Z-Wave devices and functionality together so that they can work without any intervention from a Z-Wave controller.

- Select a Z-Wave Device (1) – Drop-down menu for selecting a device
- Endpoint (2) – Drop-down menu with the available nodes of the selected Z-Wave device
- Edit Group (3) - Available nodes for grouping



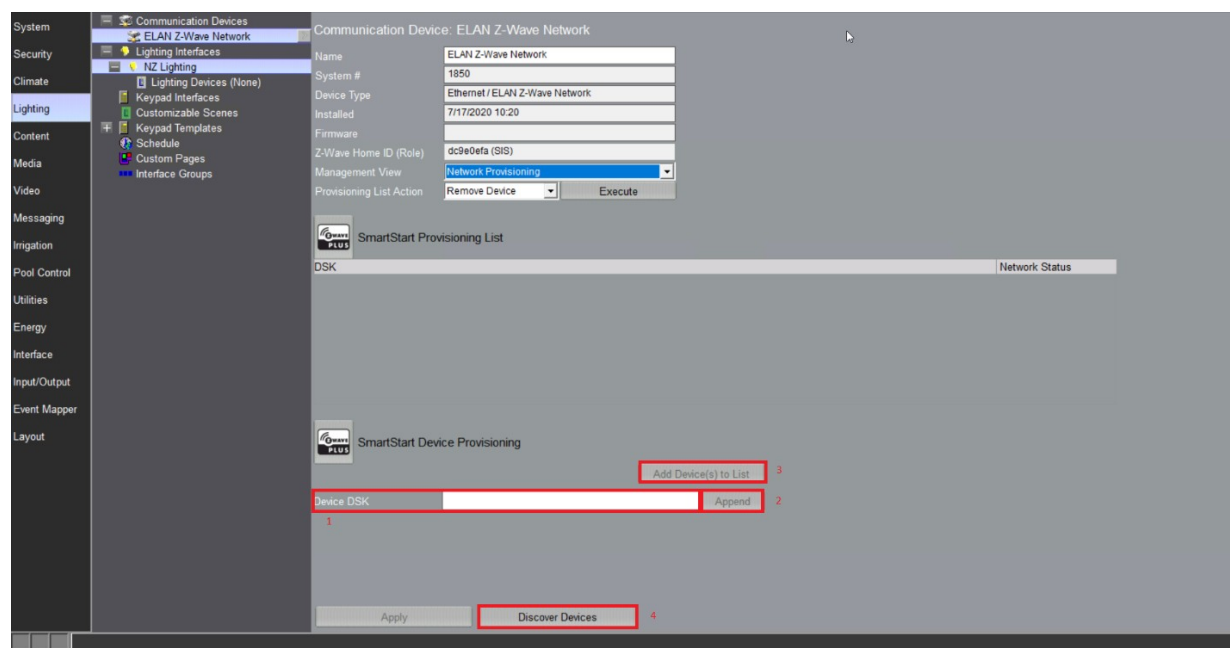
NETWORK PROVISIONING (SMART START)

This page is used to add Z-Wave devices to the network using the devices' DSK

Provisioning List Action

- Remove device - Removes the selected S2 device from the provisioning list
- Clear List - Clears the entire list of S2 device from the provisioning list. ()
- Device DSK (1) - For entering the DSK of an S2 device
- Append (2) - Adds the DSK of the entered S2 device to the addable device list
- Add Device(s) to List (3) - Adds the appended DSKs to the Z-Wave network
- Discover Devices (4) - Installs ELAN system components for known (“Available”) Z-Wave

nodes that have been included into the Z-Wave Network. Only ELAN control platform supported devices can be installed. However, several additional Z-Wave device types are monitored without an installed component.



Z-WAVE DEVICE STATUS AND NOTIFICATIONS

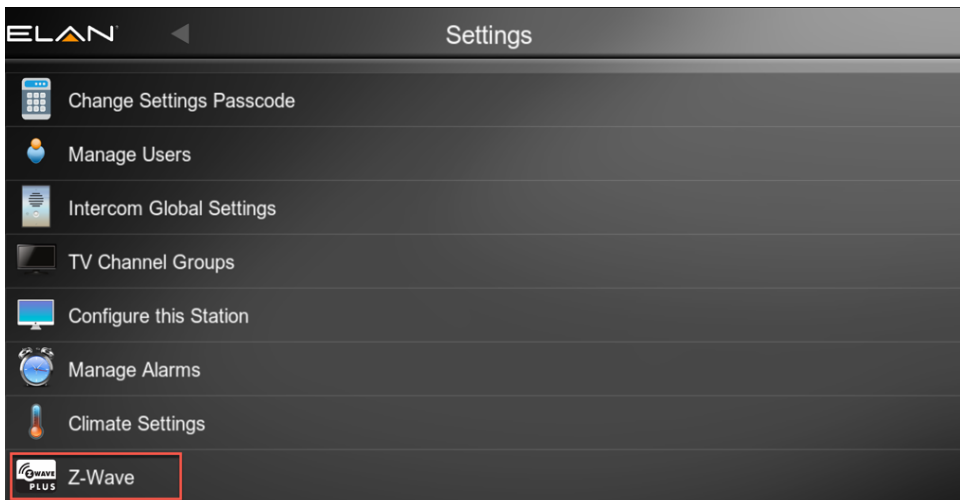
Information about installed Z-Wave devices can be accessed in the End User interface:

Device Details & Status:

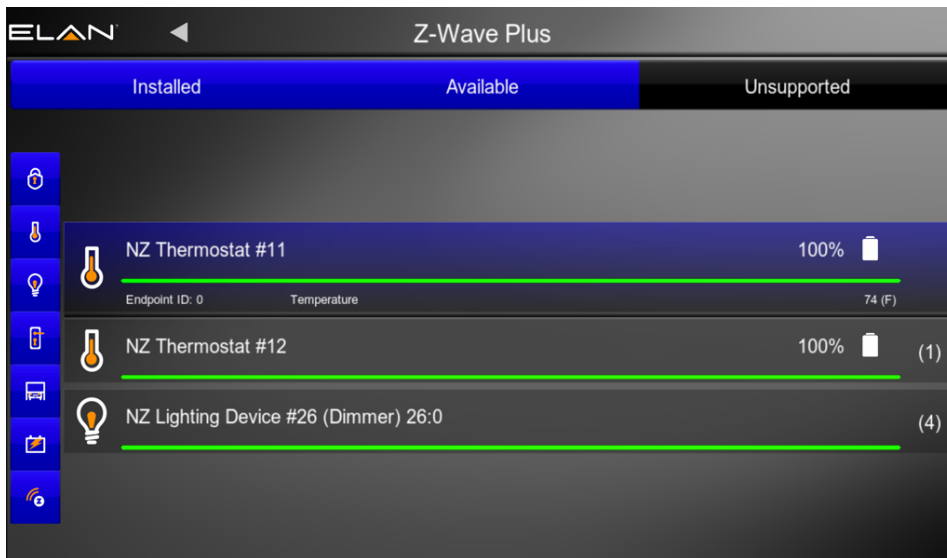
- Enter the setting menu by clicking the cog wheel as shown below. Passcode 1234



- Click and drag the scroll bar until you see the Z-Wave menu as shown below:



- Devices can be filters by device category (left Column) and installation status.

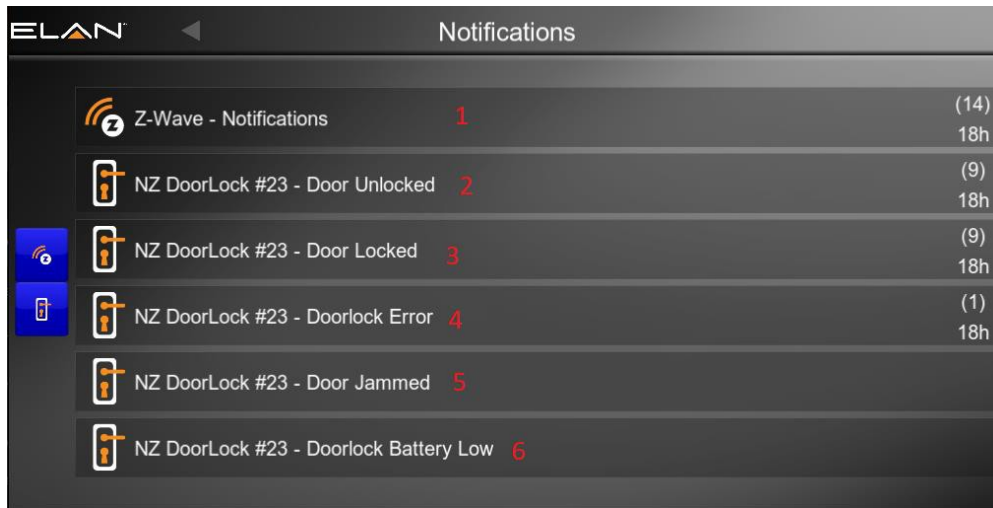


Z-Wave Device Notifications

- From the Viewer main screen, tap on the Bell icon



- Click on Notification for details, notification options.



How To:

HOW TO INCLUDE & EXCLUDE A NODE (CLASSIC INCLUSION)

Add/Include

1. Navigation to the *Communication Device: ELAN Z-Wave Network* page under Security, Climate, Lighting or Input/Output Tabs in Configurator
2. Set Management View: Network Management
3. Set Network Action: Include
4. Put device in Inclusion/Learn mode per manufacturer instruction
5. Execute (button to right of Network action)

Remove/Exclude

1. Navigation to the *Communication Device: ELAN Z-Wave Network* page under Security, Climate, Lighting or Input/Output Tabs in Configurator
2. Management View: Network Management
3. Network Action: Exclude
4. Put device in Exclusion/Learn mode per manufacturer instruction
5. Execute (button to right of Network action)

HOW TO PUT THE CONTROLLER INTO LEARN MODE TO RECEIVE NETWORK INFORMATION FROM ANOTHER CONTROLLER.

1. Navigation to the *Communication Device: ELAN Z-Wave Network* page under Security, Climate, Lighting or Input/Output Tabs in Configurator
2. Management View: Network Management
3. Network Action: Learn
4. Put other controller in Add/Include mode per manufacturer instruction
5. Execute (button to right of Network action)

HOW TO PERFORM A CAPABILITY REDISCOVERY OF A CHOSEN NODE.

1. Navigation to the *Communication Device: ELAN Z-Wave Network* page under Security, Climate, Lighting or Input/Output Tabs in Configurator
2. Management View: Network Management
3. Node Action: Request Info
4. Select desired Node ID in the Devices list
5. Execute (button to right of Node action)

HOW TO PERFORM A RESET TO FACTORY DEFAULT OPERATION.

1. Navigation to the *Communication Device: ELAN Z-Wave Network* page under Security, Climate, Lighting or Input/Output Tabs in Configurator
2. Management View: Network Management
3. Network Action: Reset
4. Execute (button to right of Network action)

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

HOW TO PERFORM A REQUEST INFO OPERATION.

1. Navigation to the *Communication Device: ELAN Z-Wave Network* page under Security, Climate, Lighting or Input/Output Tabs in Configurator
2. Management View: Network Management
3. Node Action: Request Info
4. Select desired Node ID in the Devices list
5. Execute (button to right of Node action)

HOW TO PERFORM A REPLACE OPERATION.

1. Navigation to the *Communication Device: ELAN Z-Wave Network* page under Security, Climate, Lighting or Input/Output Tabs in Configurator
2. Management View: Network Management
3. Node Action: Replace
4. Select desired Node ID in the Devices list that is to be replaced
5. Put the new device in Inclusion/Learn mode per manufacturer instruction. Device must match the device type being replaced.
6. Execute (button to right of Node action)

Z-WAVE COMMAND CLASSES

Control command classes list	version
Barrier Operator Command Class	v1
Basic Command Class	v2
Binary Switch Command Class	v2
Central Scene Command Class	v3
Configuration Command Class	v4
Door Lock Command Class	v4
Meter Command Class	v5
Multilevel Sensor Command Class	V11
Multilevel Switch Command Class	v4
Notification Command Class	v8
Thermostat Mode Command Class	V3
Thermostat Setpoint Command Class	v1
User Code Command Class	v1
Clock Command Class	V1
Thermostat operating state command class	v2
Thermostat Fan State Command Class	v2
Thermostat Fan Mode Command Class	v4
Association Command Class	v3
Association Group Information (AGI) Command Class	v3
Battery Command Class	v1
Firmware Update Meta Data Command Class	v5
Indicator Command Class	v3
Multi Channel Association Command Class	v4
Version Command Class	v3
Wake-Up Command Class	v2
Application Status Command Class	v1
Manufacturer Specific Command Class	v2
Z-Wave Plus™ Info Command Class	v2
CRC-16 Encapsulation Command Class	v1
Multi Channel Command Class	v4
Security 0 Command Class	v1
Security 2 Command Class	v1
Supervision Command Class	v1
No Operation Command Class	v1

Supported command classes list	version
Association Command Class	v3
Association Group Information (AGI) Command Class	v3
Device Reset Locally Command Class	v1
Firmware Update Meta Data Command Class	v5
Indicator Command Class	V3
Multi Channel Association Command Class	v4
Version Command Class	v3
Application Status Command Class	v1
Manufacturer Specific Command Class	v2
Z-Wave Plus Info Command Class	v2
Time Command Class	v1
CRC-16 Encapsulation Command Class	v1
Security 0 Command Class	v1
Security 2 Command Class	v1
Supervision Command Class	v1
Multi Command Command Class	v1
Transport Service Command Class	v2
Inclusion Controller Command Class	v1
Network Management Proxy Command Class,	v2
Network Management Basic Node Command Class	v2
Network Management Inclusion Command Class,	v3
Network Management Installation and Maintenance Command Class	v2
Node Provisioning Command Class	v1
Powerlevel Command Class	v1
Z/IP Command Class	v4
Z/IP Gateway Command Class	v1
Z/IP-ND Command Class	v1
Z/IP Portal Command Class	v1

HOW TO PERFORM A SMART START OPERATION.

1. Navigation to the *Communication Device: ELAN Z-Wave Network* page under Security, Climate, Lighting or Input/output Tabs in Configurator
2. Management View: Network Provisioning.
3. Refer device documentation / manufacturer instruction for Z- Wave DSK of the device (like light bulb / thermostat etc.).
4. Put device full DSK string in Device DSK text box & click “Append” button.
5. Click on “Add device to List” button.
6. Click on “Discover Devices button” at the bottom.
7. Power on the end device or any other mechanism to start smart start in the device (like light bulb / thermostat etc.) to be added into SC100 network. Refer manufacturer instruction.

HOW TO ACCESS / EDIT THE SMART START PROVISIONING LIST:

1. Navigation to the *Communication Device: ELAN Z-Wave Network* page under Security, Climate, Lighting or Input/output Tabs in Configurator
2. Management View: Network Provisioning.
3. Network Action: Remove Device – This action removes the device only form the provisioning list & not from Z- Wave network.
4. Network Action: Clear List – This action removes all the devices only form the provisioning list & not from Z-Wave network.

WHAT IS Z-WAVE SMARTSTART?

Z-Wave SmartStart aims to shift the tasks related to inclusion of an end device into a Z-Wave network away from the end device itself, and towards the more user-friendly interface of the gateway. Z-Wave SmartStart removes the need for initiating the end device to start inclusion. Inclusion is initiated automatically on power-ON, and repeated at dynamic intervals for as long as the device is not included into a Z-Wave network. As the new device announces itself on power-ON, the protocol will provide notifications, and the gateway can initiate the inclusion process in the background, without the need for user interaction or any interruption of normal operation. This improvement also removes the possibility of other devices being included, as the SmartStart inclusion process only includes authenticated devices.

COMMON MISTAKES:

1. **Multiple devices with the same or similar Name:** All smart home device names must be unique.