

Nokia Smart Home
7368 GPON ONT - G-240WZ-A
User Manual



Table of Contents

1.0	Introduction	4
2.0	ONT Software Installation/Upgrade.....	5
2.1	Procedure to upgrade RG image	5
2.2	Procedure to upgrade IOT image	5
3.0	Nokia Smart Home Mobile App	6
3.1	Login to Mobile App	6
3.2	Dashboard	6
3.3	Non-preferred Devices.....	7
3.4	Unknown Devices	7
3.5	Managing Rooms	8
3.6	Managing Devices.....	8
4.0	Managing your Z-Wave Devices:	9
4.1	Adding Z-Wave devices:	9
4.2	Removing a Z-Wave devices:.....	9
5.0	Controlling Z-Wave Devices:	10
5.1	Controlling On/Off Plug:	10
5.2	Controlling Dimmer:	10
5.3	Controlling Lamp Mount:	10
5.4	Controlling Door Lock:.....	10
5.5	Controlling Siren:.....	11
5.6	Smoke Detector:	11
5.7	Motion Detector:	11
5.8	Thermostat set point.....	11
5.9	Multi-Sensor value	11
5.10	Door Sensor	12
5.11	Plug Meter	12
5.12	Fan Switch	12

5.13	Power Strip	12
5.14	Irrigation Controller.....	13
6.0	Device Automation.....	14
6.1	Managing Rules	14
6.2	Managing Schedules.....	14
7.0	Troubleshooting Guidelines:.....	15
7.1	Factory Default.....	15
Appendix – A: Preferred device list.....		16
NOKIA SMART HOME ONT G-240WZ-A Supported Z-Wave EU Frequency Devices.....		17
NOKIA SMART HOME ONT G-240WZ-A Supported Z-Wave US Frequency Devices.....		18
Appendix – B: Technical Specification.....		19
Z-Wave Technical information		19
Implemented Z-Wave device class		19
Supported Command Class.....		19
Controlled Command Class		21
Association Group Info		22
Z-Wave Technical and Manufacturer details		22
GLOSSARY		24

1.0 Introduction

This manual provides information about managing IOT features in Nokia 7368 Smart Home Product Line ONT G-240WZ-A.

The Nokia 7368 Smart Home Product Line ONT G-240WZ-A is a **security enabled Z-Wave plus** product that can use encrypted message to communicate with other security-enabled Z-Wave product, such as the Z-Wave door lock.

The Nokia 7368 Smart Home Product Line ONT G-240WZ-A is designed to primarily used as a Central Static Controller (CSC) in a Z-Wave network.

The Nokia Smart Home controller allows the management of Z-Wave network and Z-Wave devices in the network and additionally provides high level Home Automation functionality.

The Nokia Smart Home controller functionality can be accessed via the WebGUI, which can be opened in a browser on a PC, or via Android/iOS Mobile Application

Instructions for downloading and installing the Nokia Smart Home App are mentioned in **Chapter 3**.

For a list of supported smart devices (Z-Wave), see the **Appendix - A**.

2.0 ONT Software Installation/Upgrade

The Nokia 7368 Smart Home Product Line ONT G-240WZ-A installation/upgrade involves a twostep process. The first step is to perform a RG (Residential Gateway) upgrade and then second step is to perform an IOT upgrade. Procedure is identical for first time installation and further software upgrades.

2.1 Procedure to upgrade RG image

1. Connect Ethernet port of Laptop/PC to LAN/Ethernet port 1 of ONT (LAN port located on the rear side of ONT)
2. Open any web browser e.g., Firefox, chrome or Internet explorer in the laptop and connect to web interface of the gateway
3. Enter username and password provided by the operator in the login window.
4. Under “Maintenance” tab select firmware upgrade option.
5. Click browse button and select the RG SW file 3FE54890xxxxxx
6. Click upgrade button.
7. Click OK button for all pop-up.
8. After RG upgrade is completed, open the RG WebGUI as indicated in steps 1 to 3
9. Click the status tab and check whether running SW version is changed to latest one.

2.2 Procedure to upgrade IOT image

1. Connect Ethernet port of Laptop/PC to LAN/Ethernet port 1 of ONT (LAN port located on the rear side of ONT)
2. Open any web browser e.g., Firefox, chrome or Internet explorer in the laptop and connect to web interface of the gateway
3. Enter username and password provided by the operator in the login window.
4. Make sure that IOT SW status is **Active** and Z-Wave and ZigBee interface status as **online**, as shown in the below screen
5. Under “SmartHome” tab select Maintenance >Firmware Upgrade option.
6. Click **Browse** button and select the RG SW file 3FE546043xxxxxx
7. Click **Upgrade** button.
8. Click “**OK**” button for all pop-up windows
9. Once IOT upgrade is completed, repeat steps 1 to 3 to connect to RG web GUI
10. Check Latest S/W version under “**SmartHome>Status** page
11. Under **SmartHome>Status** page **IOT SW status** should be **Active**, **Z-Wave & ZigBee** interface should be online once upgrade is done.

3.0 Nokia Smart Home Mobile App

Nokia smart home solution offers Nokia **Smart Home Mobile App** (Android and iOS) to manage the smart devices remotely, will be available in **Google Play Store & Apple Store**

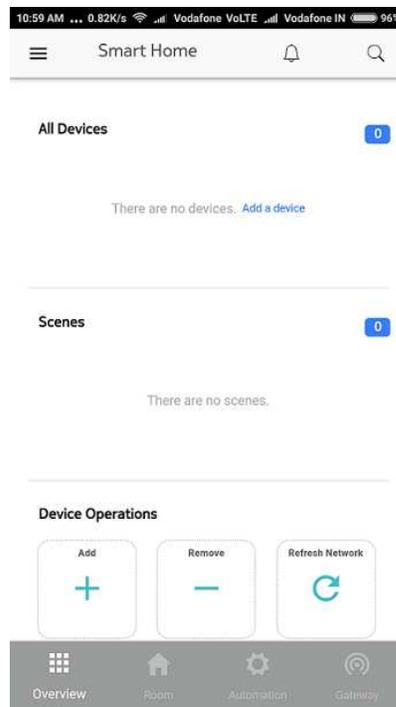
3.1 Login to Mobile App

To login into mobile App follow below process:

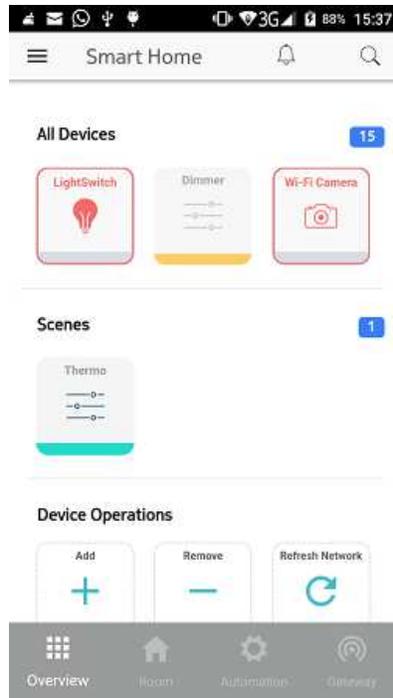
1. Connect your smartphone to the Wi-Fi interface of the ONT.
2. Open the Nokia Smart Home App.
3. Enter username and password provided by the operator in the login window.

3.2 Dashboard

When user logged in to the app, the Dashboard screen appears. On first time logging, dashboard screen will be empty as shown below. (As no devices are paired)



When user starts pairing the preferred devices (**Appendix - A**), it gets listed in the “All devices” section of the dashboard as shown below.



3.3 Non-preferred Devices

In case of non-preferred devices, it will be listed in the “All Devices” section, but with unsupported text in the displayed icon. Non-preferred device will support minimal control functionality only as specified in the Z-Wave specification document. Non-preferred devices cannot be added to any rooms and cannot be part of automation. An alert also will be pop-up in the mobile App when a non-preferred device is paired to the Z-Wave network.

3.4 Unknown Devices

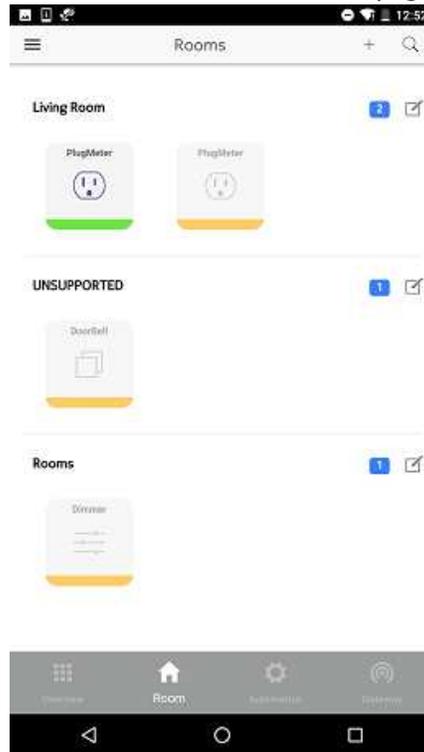
In case of unknown devices, it will be listed under “Unknown” sections (separate unsupported room will be created automatically and unknown device gets populated in that room). Unknown device will support basic functionality only. Unknown devices cannot be added to any rooms and cannot be part of automation.

3.5 Managing Rooms

From the Smart Home screen, user can add rooms and organize smart devices by assigning them to the rooms they are located in. Unsupported devices will be listed under unsupported room by default.

Adding a Room

1. To add a room, click on the Room icon at the bottom of the page.



2. Click on + icon at the top of the screen to add a new room. Please enter the room name under “Enter Room Name” section. Under **Choose device** label - user can choose device which he wants to assign to different rooms, more devices can be selected by scrolling left.
3. New room will be listed on the Rooms Management screen. User can delete a room by clicking on the **Trash Can** icon.

3.6 Managing Devices

Once a device is paired (refer to the Pairing section below), it is automatically categorized as an Unassigned or Unsupported device and is displayed on the Smart Home screen.

Unassigned Devices

Devices supported by the Nokia Smart Home Solution (See the **Appendix - A** for a list of supported devices) are listed under this category and can be assigned to any one the created rooms.

Unknown Devices

Devices not recommended by Nokia Smart Home Solution will be listed under this category, Devices may or may not work normally and cannot be assigned to any of the created rooms. They will be automatically reflected under **Unknown Room** after pairing.

Clicking on any device will pop up a Device Information Screen providing its **Name, Hardware Vendor, Hardware Version and the Room** where it is operating. You can edit the **Name** of a device, assign it to a different room or **delete/un-pair** it.

4.0 Managing your Z-Wave Devices:

4.1 Adding Z-Wave devices:

1. Device Operation Menu has 3 options - **Add, Remove and Refresh Network.**
2. To pair a Z-Wave device with the ONT, click on the **Add device** icon under the **Device Operations** menu.
3. The ONT goes into the **pairing mode** and below screen will pop up.
4. Start the **inclusion mode** in the slave device (Refer individual device documentation, on how to put the smart slave device into inclusion mode)
5. After successfully pairing the smart device a Done message will be displayed.
6. If the paired device is a preferred device, it will be shown under **“All Devices”** menu in **Overview Tab** with correct icon type.
7. If the paired device is a non-preferred device, it will be shown under **“All Devices”** menu in **Overview Tab** with correct icon type and with unsupported text inside icon.
8. If the paired device is an unknown device type, it will be shown under **“Unknown” Rooms** in Rooms tab, with unknown icon type.

4.2 Removing a Z-Wave devices:

1. To un-pair a Z-Wave device from the ONT, click on the **Remove** icon in the device operations menu.
2. The ONT goes into the unpairing mode. ONT will now wait for the device to be excluded.
3. Start the **Exclusion mode** of the slave device (Please refer the individual device documentation on how to put the smart device into exclusion mode)
4. After successfully **Unpairing** the smart device a Done message will be displayed.
5. Device is automatically removed from assigned Rooms and automation rules/scenarios/schedules.
6. All **preferred, non-preferred and unknown paired** devices can be unpaired using the above methods.

5.0 Controlling Z-Wave Devices:

User can control the paired Z-Wave devices using Nokia Smart Home App, like dim home lighting to 50 %, Turn on/off smart plug, etc., based on the device capabilities

*Paired repeater will not be displayed in mobile App, as user can't do any action on repeater.

5.1 Controlling On/Off Plug:

Paired ON/OFF plug can be either in ON or OFF status. Plug can be turned ON/OFF from mobile App

Tap on the icon  to turn the bulb ON

Tap on the icon  to turn the bulb OFF

When an on/Off switch with metering capability device is paired to ONT, mobile App will show On/Off icon and metering icon. Metering icon will display total power consumption in Kwh

5.2 Controlling Dimmer:

Paired dimmer can be either ON/OFF/dimmed to a value using Nokia Smart Home Mobile App.

Tap on the icon  to open a pop-up window and change the dimming value, by sliding and click OK button

5.3 Controlling Lamp Mount:

Tap on the icon  to turn Lamp Mount ON

Tap on the icon  to turn the Lamp Mount OFF

5.4 Controlling Door Lock:

Tap on the icon  to close/arm the Door lock

Tap on the icon  to Open/dis-arm the Door lock

5.5 Controlling Siren:

Tap on the icon  to switch ON the siren

Tap on the icon  to switch OFF the siren

5.6 Smoke Detector:

Icon color  of Smoke Detector reflect smoke detected event.

Icon color  of Smoke detector reflects smoke not detected event.

5.7 Motion Detector:

Icon color  of Motion Detector, reflects motion detected event.

Icon color  of Motion detector, reflects motion not detected event.

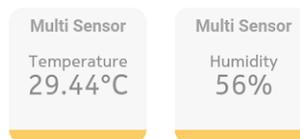
5.8 Thermostat set point

On pairing a thermostat, Mobile App will show 4 icons, namely Heating set-points, cooling set point, current Temperature and climate control. Set-points icon to set the desired temperature, current temperature icon shows temperature in centigrade, climate control mode to set the mode.



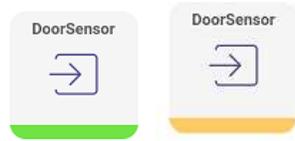
5.9 Multi-Sensor value

Paired Multi-sensor will show current temperature and humidity in mobile App as shown below.



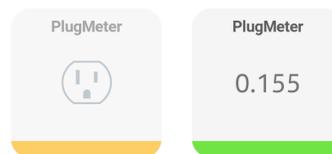
5.10 Door Sensor

Paired door sensor will be shown in the mobile App, as shown below. Door Open and close status is updated as,



5.11 Plug Meter

Paired Plug meter will be shown in the mobile App, as shown below. There will be two icons displayed, one for ON/OFF functionality, like ON/OFF plug mentioned above and the other icon is related to power consumption metering. Value displayed in the power metering icon is total power consumption in Kwh



5.12 Fan Switch

Fan Switch will be shown in the mobile App, as shown below. On clicking this Fan switch icon open a pop-up window with slider and user can change the speed of the fan by sliding and click OK button



5.13 Power Strip

Power Strip will be shown in the mobile App, as shown below. Based on the number of end points supported by the connected power strip, mobile App will display power end points in the “All Devices” section of dashboard. Individual end points can be controlled from the mobile App and it employs on/Off capability like switch/Plug. If the power strip supports metering capability, then a separate icon showing the total power consumption in Kwh for each end points which supports metering

measurement capability. If any of the end points supports, multi-level then corresponding end points in the mobile App will be shown as Dimmer.



5.14 Irrigation Controller

Irrigation Controller will be shown in the mobile App, as shown below. If the irrigation controller supports multiple end points, then mobile App will show that many end points as supported in the irrigation controller device. If the irrigation controller supports metering, then a separate end showing total power consumption in Kwh



6.0 Device Automation

The Nokia Smart Home App allows user to create scenes, rules and schedules, once user have logged into the Smart Home App. Press the Automation icon at the bottom of the screen to go into the Automation screen



6.1 Managing Rules

From the automation screen, user can add rules triggering **ON/OFF** smart devices. To create a rule, click on the + icon at the right side of the screen under the rules menu of the automation screen. Enter the rule name.

User can select more than one device as a part of rule. If more than one device is selected, all device conditions must be met for triggering the rule.

6.2 Managing Schedules

From the automation screen, user can create schedules for Smart Home devices

Under the Schedules menu of the automation screen, click on the + icon at the right side of the screen to create a schedule and give a name as per need

7.0 Troubleshooting Guidelines:

7.1 Factory Default

Using IOT factory reset option all Z-Wave configurations can be removed and Nokia Smart Home ONT G-240WZ-A can be brought into factory default state by following below process:

1. Open any web browser e.g. Firefox, chrome or Internet explorer in the laptop
2. Enter the following URL (<http://192.168.1.254/>) in the address bar of the web browser to RG WebGUI
3. Enter username and password in the log-in window (*Credentials printed on the backside of ONT*)
4. Under **SmartHome>Maintenance** page click “Factory Default”
5. Click “OK” button (pop-up message)
6. Now ONT will do factory default setting of IOT Gateway. It will erase all Z-Wave configuration and restart Nokia Smart Home Gateway.
7. After 7 to 9 minutes, IOT SW status should reach Active, online, online as described previously in section 2.2



Note:

Reset option should be used only when the primary controller is missing or inoperable. Also, if the missing or inoperable 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 the nodes in the network. If this controller is being used as a secondary controller in the network, use this procedure to reset this controller only if the network primary controller is missing or otherwise inoperable.

Appendix - A: Preferred device list

Nokia Smart Home ONT G-240WZ-A is designed to work with certified Z-Wave devices. Multiple devices from different manufacture can be included into ONT Z-Wave network. Nokia Smart Home ONT supports the following device types and home control groups:

- 1) HC1 - Door Lock - Keypad/Lock box
- 2) HC4 - Notification Sensor
 - a. Smoke
 - b. Door/Window
 - c. Motion
- 3) HC6 - Multi-level Sensors
 - a. Air Temperature
 - b. Humidity
- 4) HC8 - On/Off Switch - Power Strip
- 5) HC9 - Light Dimmer Switch
- 6) HC11 - Thermostat, HVAC
- 7) HC13 - Siren

Note: All powered device act as a repeater regardless of the manufacturer.

NOKIA SMART HOME ONT G-240WZ-A Supported Z-Wave EU Frequency Devices

Sl. No	Vendor	Model Number	Device Type
1	Everspring	HSM02-1	Door/Window Sensor
2	Everspring	SP103-2	Motion Sensor
3	Everspring	ST814	Multi Sensor
4	TKBHome	TZ68G	Plug
5	Everspring	AN158-2	Plug with Meter
6	Fibaro	FGSS -001	Smoke Detector
7	Vision	ZM1601	Siren
8	TKBHome	TZ67G	Switch (Dimmer)
9	Danfoss	Living Connect 014G0013	Wall Thermostat
108	Merten	MEG5018- 0000AN158-2	Range Extender ¹
11	Everspring	AN145-2	Lamp Mount
12	Vision	ZM-1702	Door Lock

¹ The Range Extender is not visible in the Nokia Smart Home mobile app and Nokia Smart Home web interface.

NOKIA SMART HOME ONT G-240WZ-A Supported Z-Wave US Frequency Devices

Sl. No	Vendor	Model number	Device Type
1	Everspring	HSM02	Door Sensor / Window Sensor
2	Everspring	HSP02	Motion Sensor
3	Everspring	ST814-2	Multi Sensor
4	Aeon Lab	Aeotec Z-Wave smart switch 6, Gen 5	Plug
5	Everspring	AN163-1	Plug with meter
6	Everspring	EVS-SF813-2-US	Smoke Detector
7	Everspring	EVS-SE812-US	Siren
8	Everspring	AD126	Switch (Dimmer)
9	Radio Thermostat Company of America (RTC)	CT-30	Thermostat
10	Aeon Labs	DSD37-ZWUS	Range Extender ²
11	Everspring	AN145-1	Lamp Mount
12	Yale	YRD 210-ZW-619-US	Door Lock

² The Range Extender is not visible in the Nokia Smart Home mobile app and Nokia Smart Home web interface.

Appendix - B: Technical Specification

Z-Wave Technical information

Implemented Z-Wave device class

Z-Wave Device class	Implemented Device class
Basic Device Class	BASIC_TYPE_STATIC_CONTROLLER (02)
Generic Device Class	GENERIC_TYPE_STATIC_CONTROLLER (02)
Specific Device Class	SPECIFIC_TYPE_PC_CONTROLLER (01)

Supported Command Class

Nokia Smart Home ONT G-240WZ-A is designed to work as SIS central static controller to control slave devices. Below is the list of supported command class:

Class id	Version	Name
5E	2	Z-Wave+ Info
56	1	CRC16 Encap
59	1	Association Group Info
5A	1	Device Reset Locally
22	1	Application Status
72	2	Manufacturer Specific
73	1	Powerlevel
85	2	Association
86	2	Version
98	1	Security

Z-Wave+ Info command class (0x5E, V2)

This command class will report the information about Role type and Node type information along with type of the icon used for installer and user

Z-Wave Plus Info	Report
Node Type	NODE_TYPE_ZWAVEPLUS_NODE=00
Role Type	CONTROLLER_CENTRAL_STATIC
Installer Icon Type	01 00
User Icon Type	01 00

CRC16 En-cap command class (0x56, V1)

This command class will report the information CRC16 encapsulation supported by Nokia Smart Home ONT

Association Group Info command class (0x56, V1)

This command class will report the information about life line association group supported by Nokia Smart Home ONT

Device reset locally command class (0x5A, V1)

This command class will report the group member of life line association that, device is reset to factory default.

Application status command class (0x22, V1)

This command class will report the information CRC16 encapsulation supported by Nokia ONT

Manufacturer specific command class (0x72, V2)

Manufacturer specific command class is used to identify the manufacturer and device type of a device.

Power Level command class (0x73, V1)

Power level command class is used to check the connection quality between two Z-Wave devices

Association command class (0x85, V2)

Association command class is used to configure end smart device to send notification/alarm/event to gateway (ONT)

Version command class (0x86, V2)

Version command class will be used to obtain the Z-Wave and firmware version of a device

Security command class (0x98, V1)

This command class will report the security command class supported by Nokia Smart Home ONT. This will inform the pairing device to understand that ONT is a security enabled device or not?

Basic command class (0x20, V1)

For Unknown devices, a minimal control operation is guaranteed using basic commands. Nokia Smart Home ONT sends Basic SET and GET command to control unknown devices from mobile App.

Basic GET command class ----- to get the status of the smart device

Basic SET command class ----- to write a value into smart device

Nokia Smart Home ONT operates as a central static controller, any Basic SET and GET command received by the ONT from smart device will be ignored by the controller.

Controlled Command Class

Below are command classes controlled by ONT:

Name	Version
Z-Wave+ Info	2
CRC16 Encap	1
Association Group Info	1
Device Reset Locally	1
Manufacturer Specific	2
Association	2
Version	2
Security	1
Basic	1
Firmware Update	2
Configuration	2
Battery	1
Wakeup	2
Multi-channel	4
Sensor Multi level	5
Multi-Channel Association	3
Alarm	1
Switch Binary	1
Switch Multi-level	1
Meter	4
Switch Color	1
Protection	2
Thermostat Fan mode	1
Thermostat operating mode	1

Thermostat setback	1
Thermostat Set point	1
Door Lock	1
User code	1
Hail	1
Notification	4
Central Scene	1
Barrier Operator	1

Association Group Info

Nokia Smart Home ONT G-240WZ-A uses only one association group (Group identifier: 01), called life line association group. Association will be triggered when devices are added into the network.

Association Info	Value
Association Group	1
Association Group Name	Lifeline
Association Group Info	Profile General Lifeline
Association Group Command List	5A 01
Association Group Max.No of node	1

Z-Wave Technical and Manufacturer details

Z-Wave	Value
Z-Wave Frequency	908.42 MHz (US)
	868.42 MHz (EU)
Manufacturer ID	02 7E
Product Type ID	00 02 (US)
	00 01 (EU)
Product ID	00 01

Z-Wave	Value
FLiRS	FALSE
Beam Sensor	TRUE
Listening Flag	TRUE
Routing Node	TRUE
Optional Flag	FALSE
Secure Node	TRUE
Z-Wave Plus Node	TRUE
Association Group	1
Association Group Name	Life Line
Z-Wave Library	ControllerStaticLib
Protocol Version	Z-Wave version ZDK 4.5x and ZDK 6.0x
Z-Wave Device Chip	ZW0500
Protocol Version	4.33
Application Version	4.33

GLOSSARY

Add Mode (Inclusion)

Node inclusion, also known as **Add Mode**, refers to the process of adding a node to an existing Z-Wave network.

Remove Mode (Exclusion)

Node exclusion, also known as **Remove Mode**, refers to the process of removing a node to from existing Z-Wave network.

Replication

Replication refers to the process of copying the network information from one controller to another; replication is used during Learn Mode to copy the primary controller's Z-Wave network information to the secondary controller's routing table.

Learn Mode

Learn Mode is the state in which a slave or controller device can be added to an already existing Z-Wave network.

Lifeline

Lifeline is used in conjunction with both the Association Command Class and the Association Group Information (AGI) Command Class. All associated devices added to the ONT gateway will automatically create a Lifeline (Group 1) through the AGI and the Association Command Classes.