

Contents

D.1 CloudAPI - Inclusion/Exclusion.....	2
Inclusion S0 device:	2
Inclusion S2 device:	4
Exclusion:.....	6
D.2 CloudAPI – Device information.....	7
D.3 CloudAPI – Basic operation.....	8
D.4 CloudAPI – Network information	9
D.5 Controllers – Replication	10
D.6 Controllers – Learn Mode	12
D.7 Controllers - Including the DUT	13
D.8 Controllers - Basic Documentation	16
D.9 Terminology	16
D.10 Devices from multiple manufacturers in one network	16
D.11 Documentation for Association CC.....	16
D.12 Documentation related to BASIC commands.....	17
D.13 Documentation related to BASIC commands.....	19
D.14 Documentation for Factory Default Reset	20
D.19 Documentation for S2 Security CC	21
D.21	22
D.21.1	22
D.21.2	22
D.21.3	22

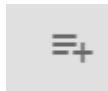
This device is a security enabled Z-Wave Plus™ product that can use encrypted Z-Wave Plus messages to communicate to other security enabled Z-Wave Plus products.

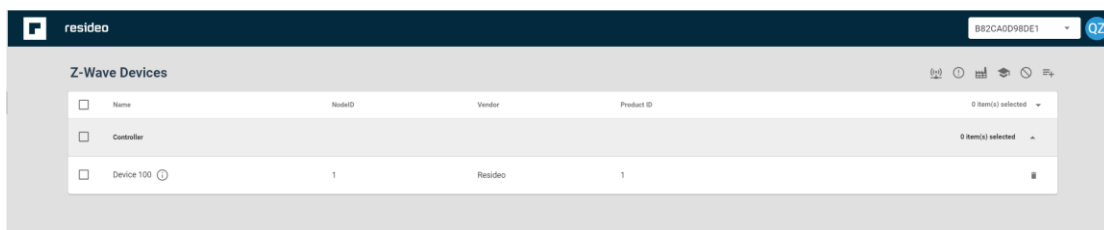
D.1 CloudAPI - Inclusion/Exclusion

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.

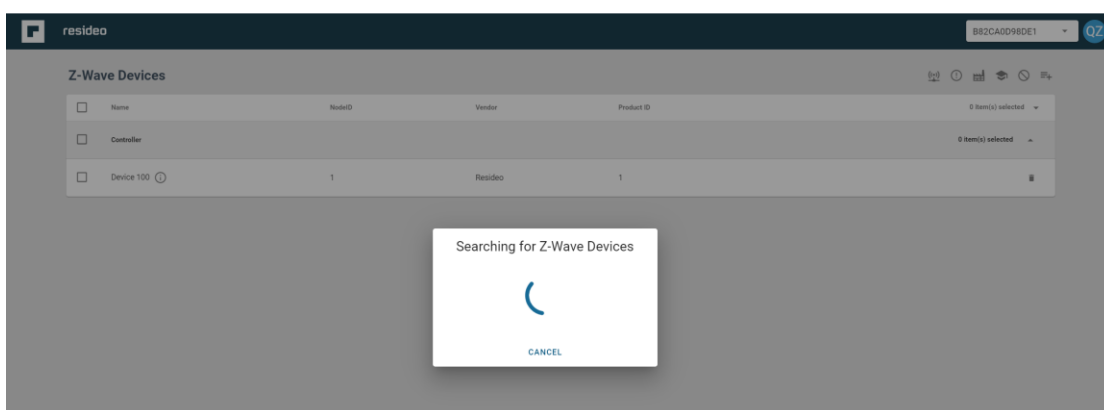
Inclusion S0 device:

For inclusion one Z-Wave device is in add mode and the other one is in learn mode.

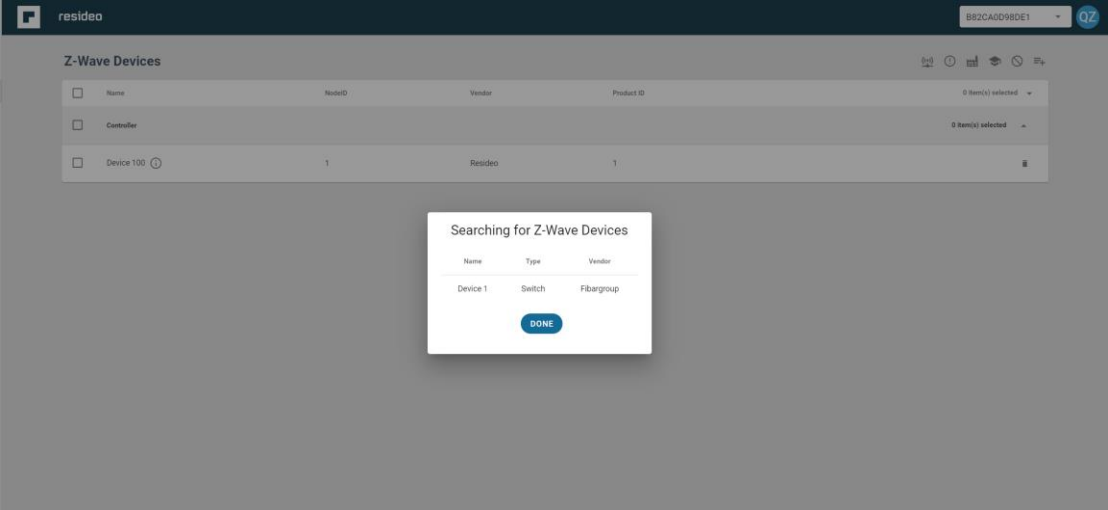
1. Include a Z-Wave device (Door lock, Switch, Dimmer...), click  button



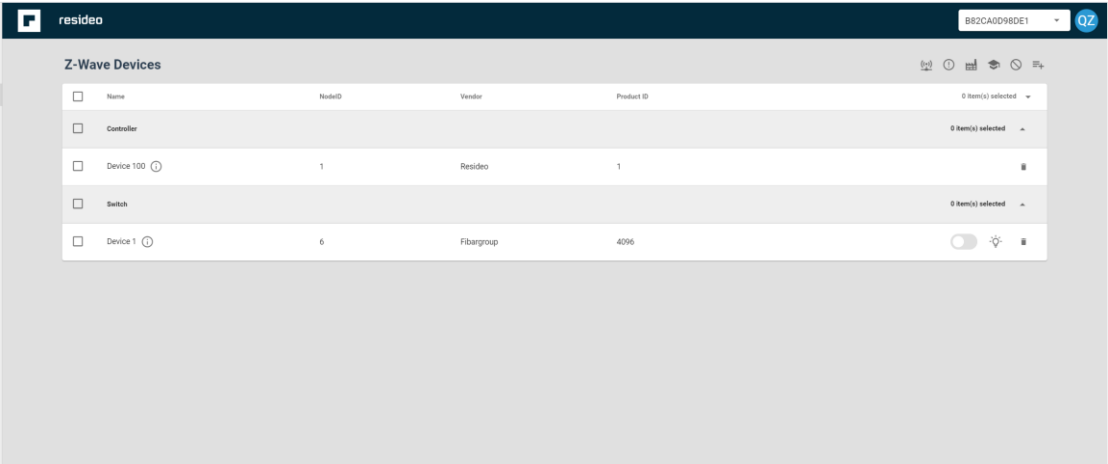
2. Then pop up the inclusion mode window, display searching for Z-Wave Device



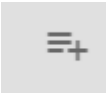
3. Press the button on the device which you want to include, wait for the inclusion to end, display device information, click done

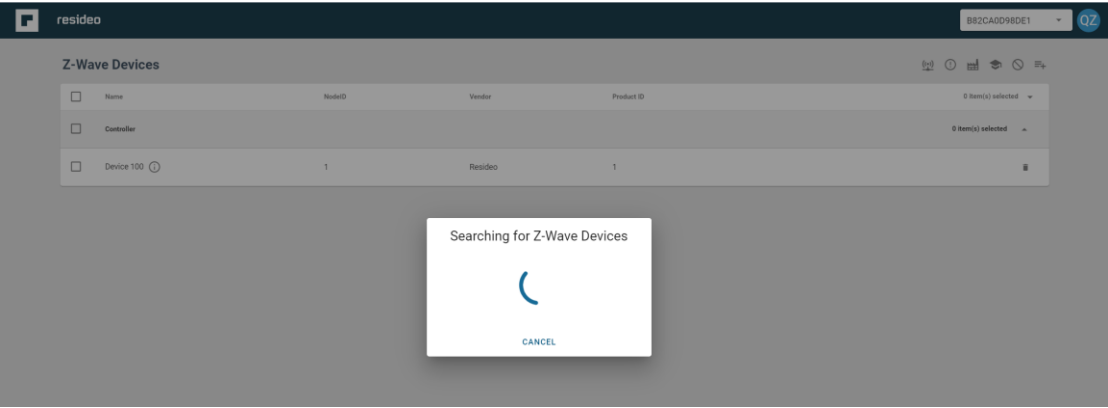


4. View Z-Wave device list, the newly registered device should show

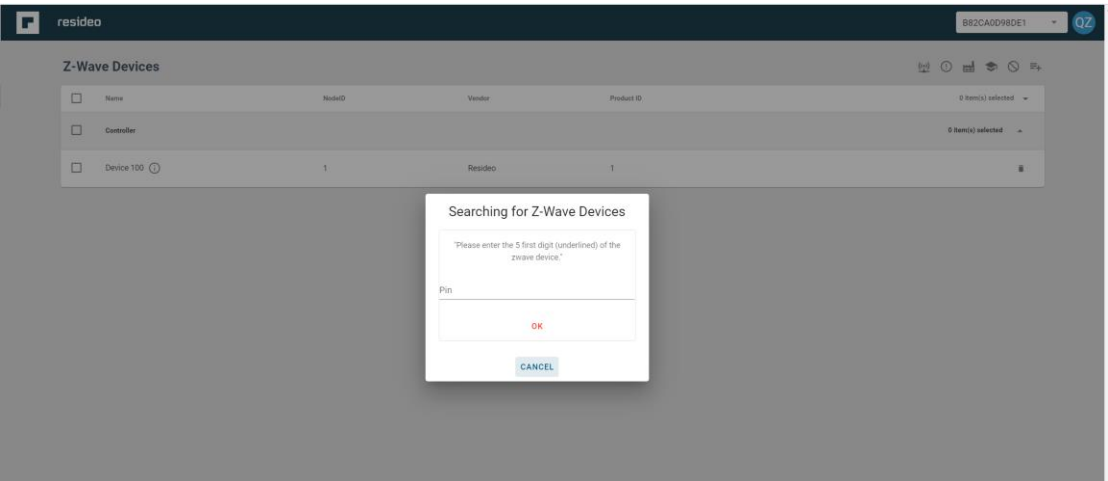


Inclusion S2 device:

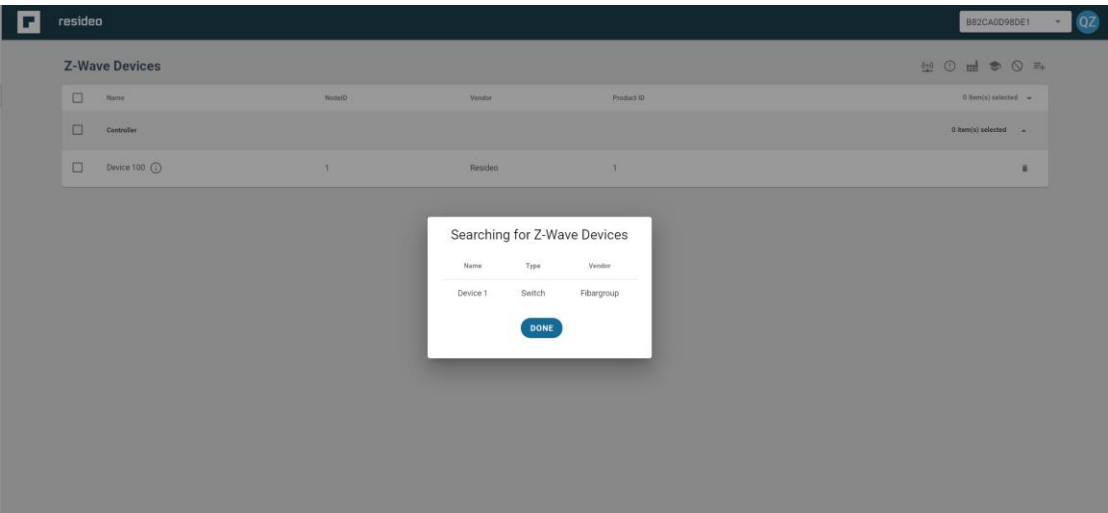
1. Include a Z-Wave S2 device, click  button



2. Press the button on the device which you want to include, wait for a dialog and input first 5 digits DSK, click Ok



3. wait for the inclusion to end, display device information, click done



4. View Z-Wave device list, the newly registered device should show


resideo
BB2CA0D98DE1

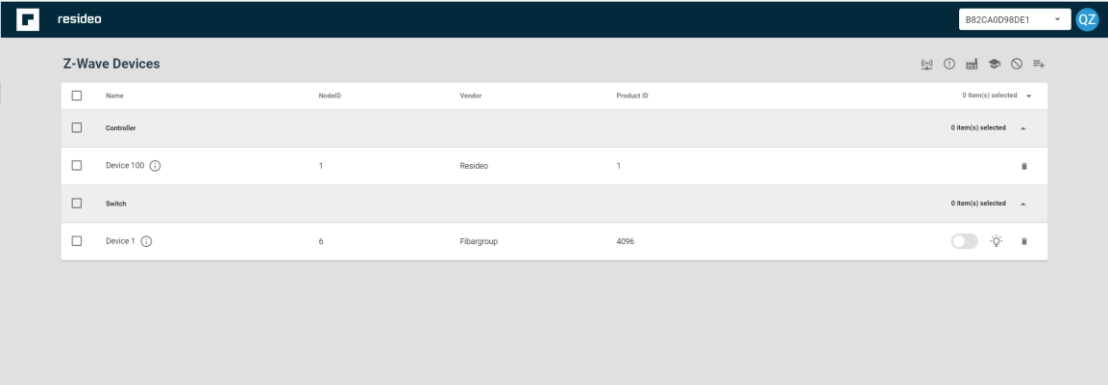
Z-Wave Devices

☐	Name	NodeID	Vendor	Product ID	0 Item(s) selected
☐	Controller				0 Item(s) selected
☐	Device 100 ⓘ	1	Resideo	1	
☐	Switch				0 Item(s) selected
☐	Device 1 ⓘ	6	Fibargroup	4096	☐ ☐ ☒

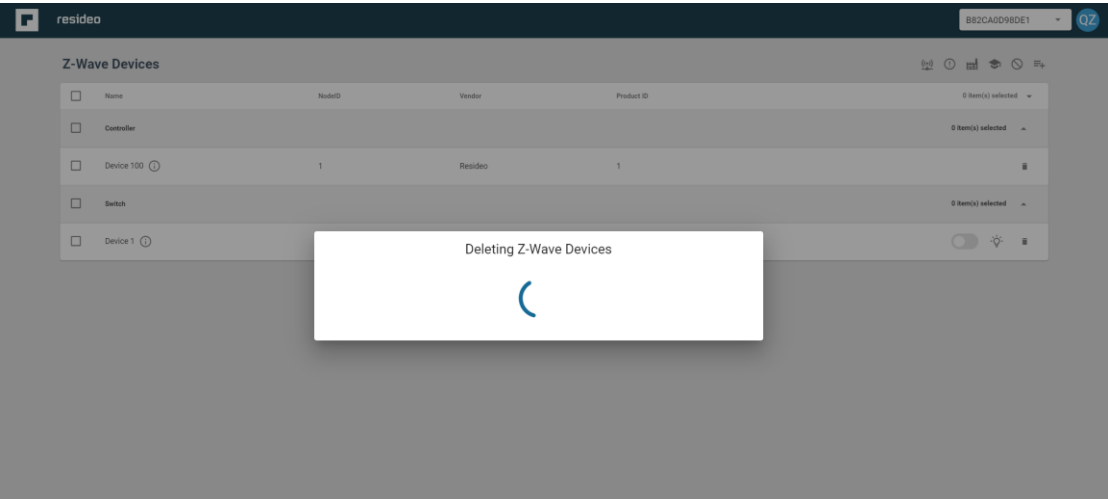
Exclusion:

For exclusion one Z-Wave device is in removing mode and the other one is in learn mode.

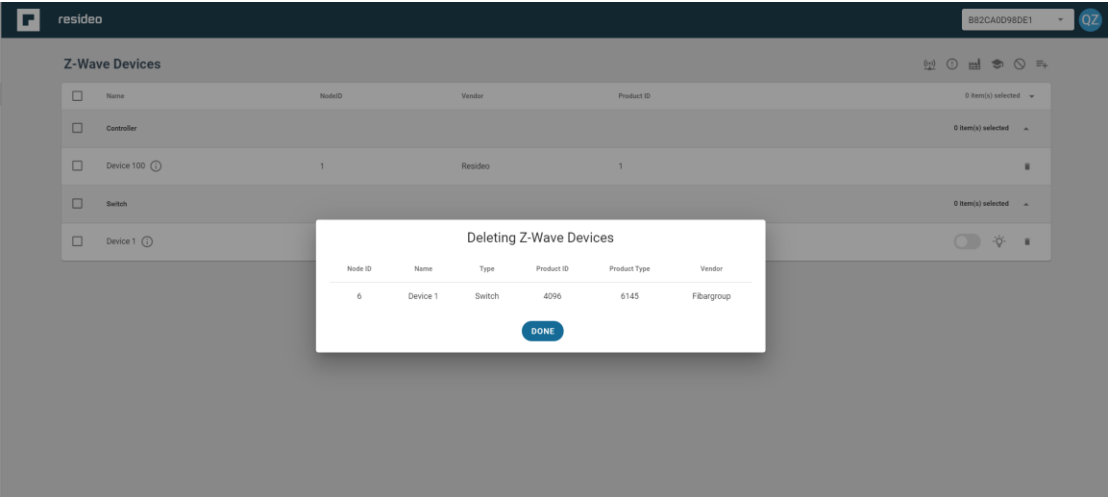
1. Exclude a Z-Wave device (Door lock, Switch, Dimmer...), click  button



2. Then pop up the exclusion mode window, display deleting for Z-Wave Device



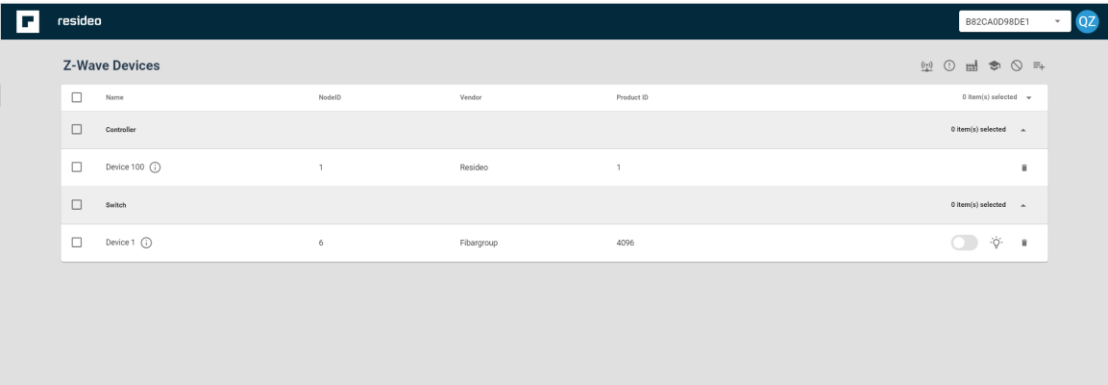
3. Press the button on the device which you want to exclude, wait for the exclusion to end, display device information, click done



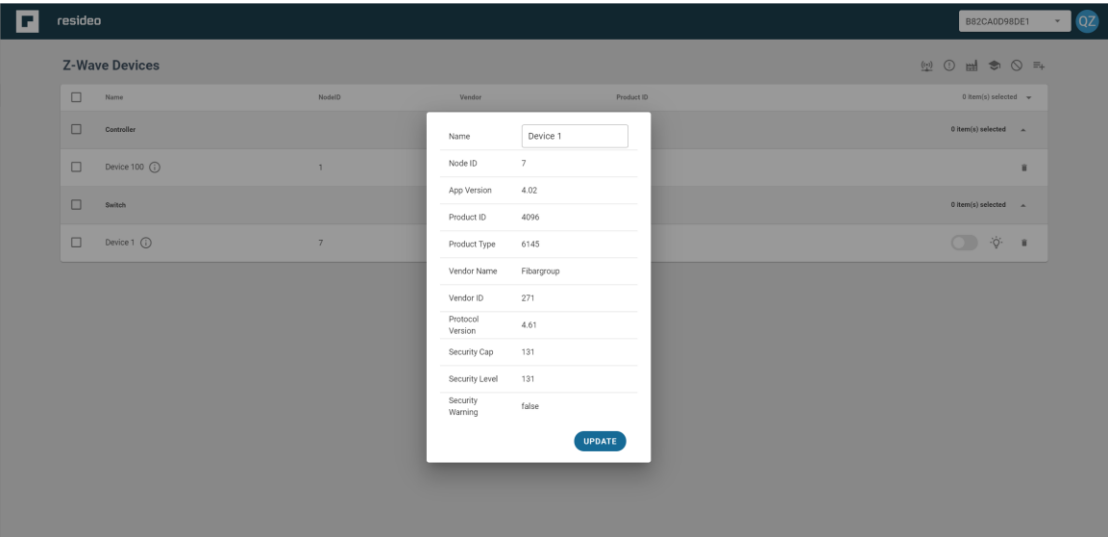
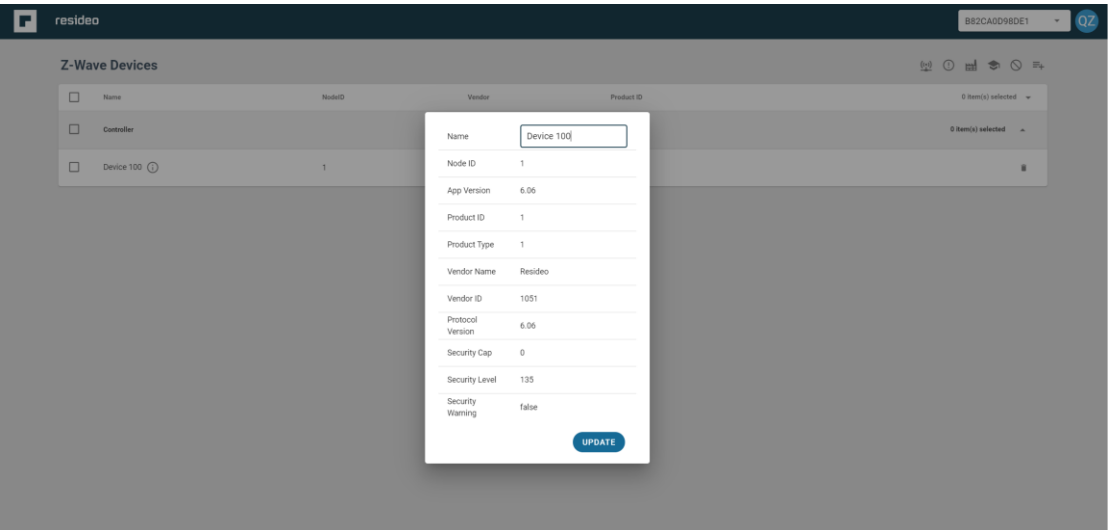
D.2 CloudAPI – Device information

Device information:

- 1. Click  button, Device information should display: Device name / Device Type / Node ID / Product ID / Product Type/ Vendor Name



- 2. Display device information

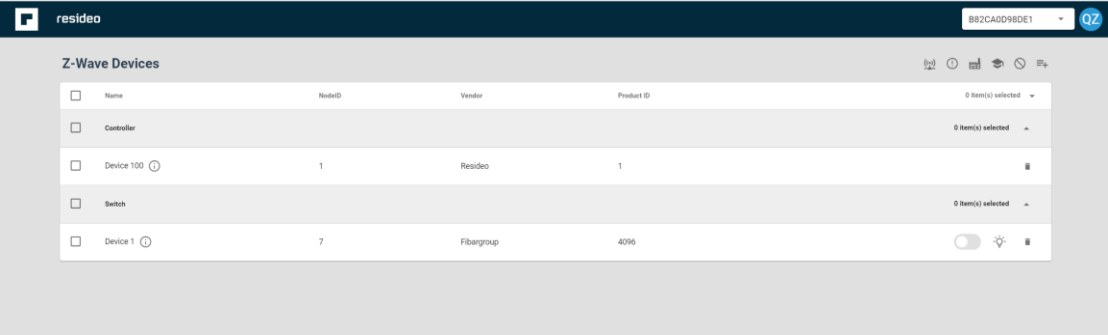


D.3 CloudAPI – Basic operation

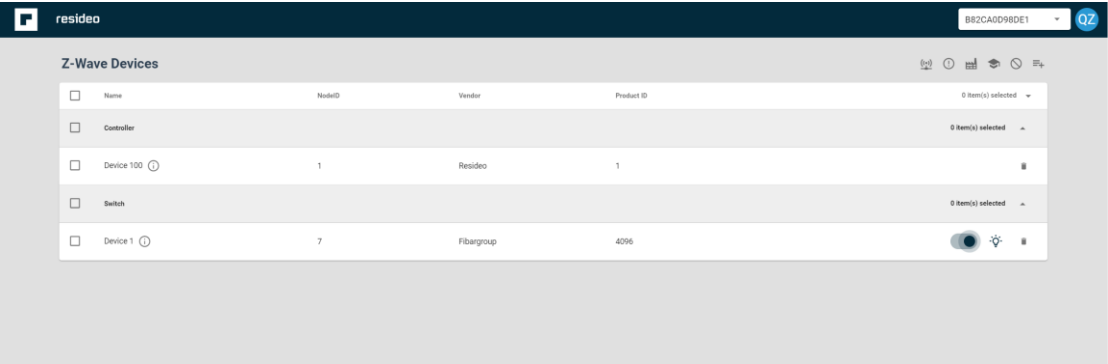
Basic Z-Wave device operation:

Basic operation of Switch on the Cloud API interface

- 1. Device is already registered (Switch as an example)



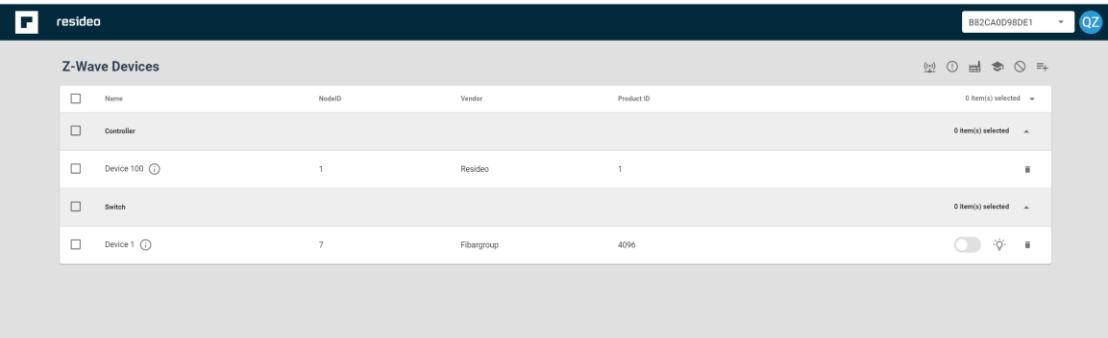
- 2. Click  button, control switch ON/OFF



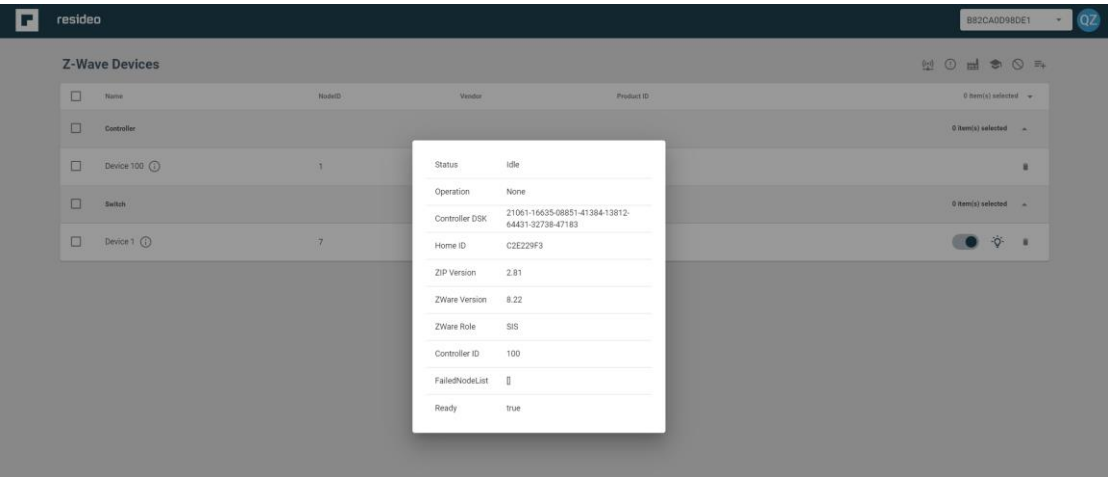
D.4 CloudAPI – Network information

Network information:

- 1. Click  button



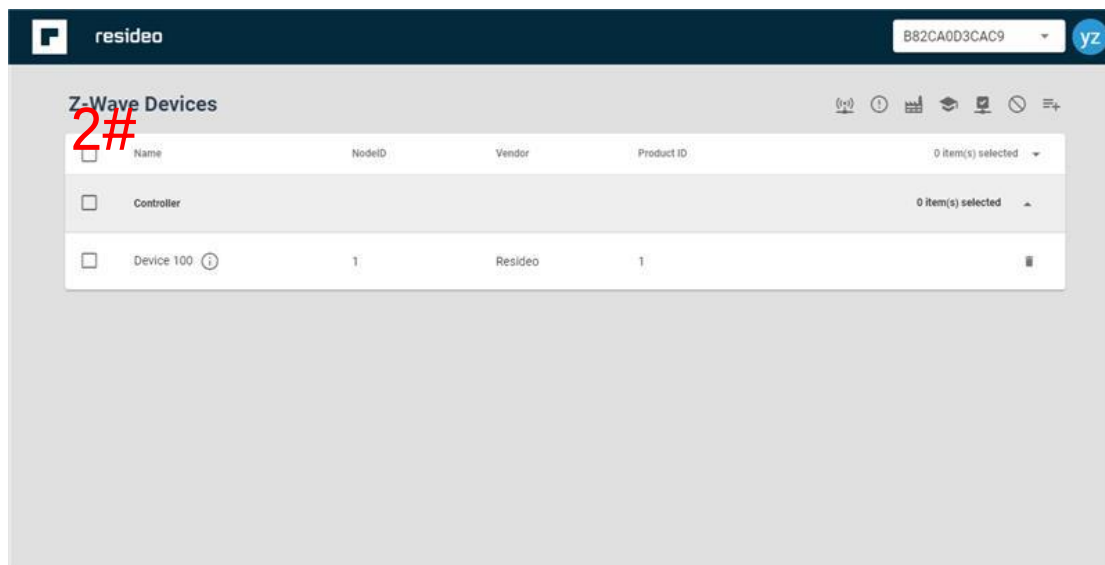
- 2. Display Z-Wave Network information



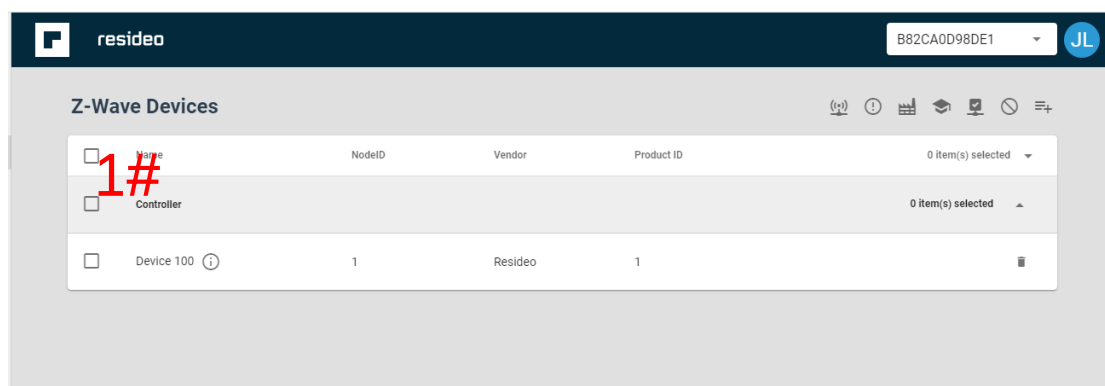
D.5 Controllers – Replication

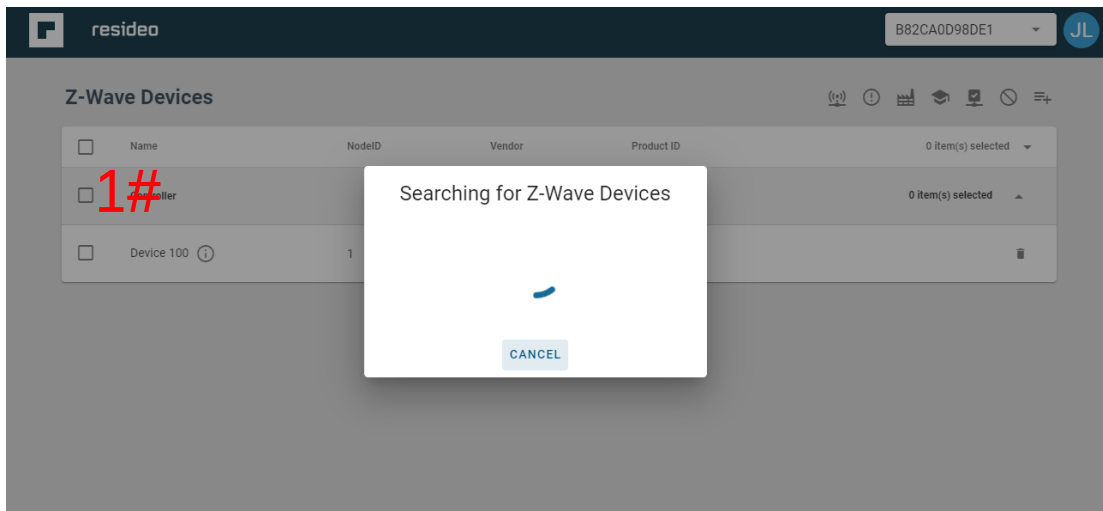
Controller replication (Copy) is achieved through Inclusion and Set Learn Mode. Entering learn mode while in a network will trigger a replication if the primary controller is in add node mode. So, replication and Learn Mode are the same and you just need to do Learn Mode here.

1. Prepare two mains powered Z-Wave DUTs and cloud API web shows as below
#2 DUT do factory reset first,

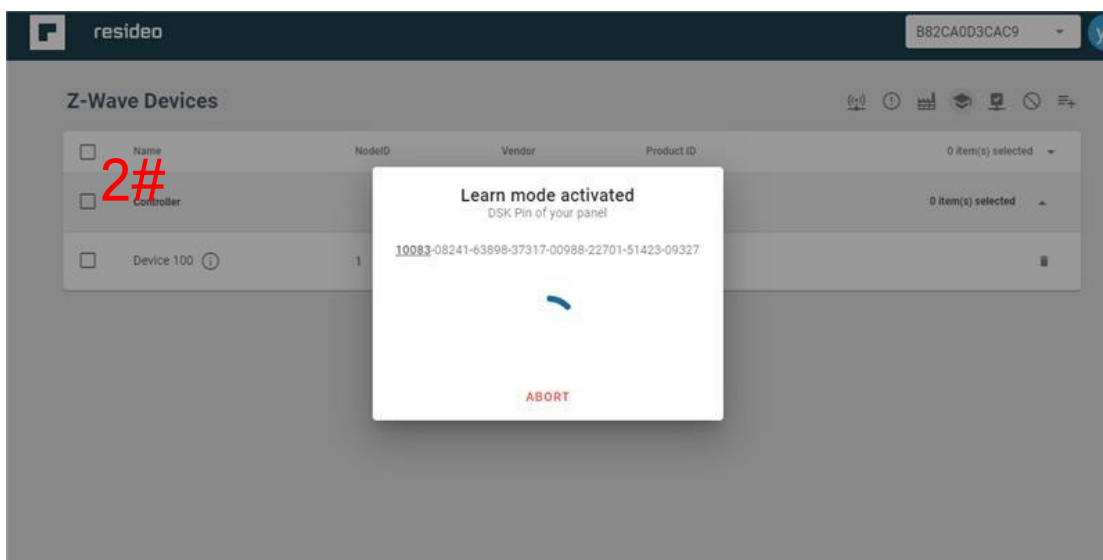
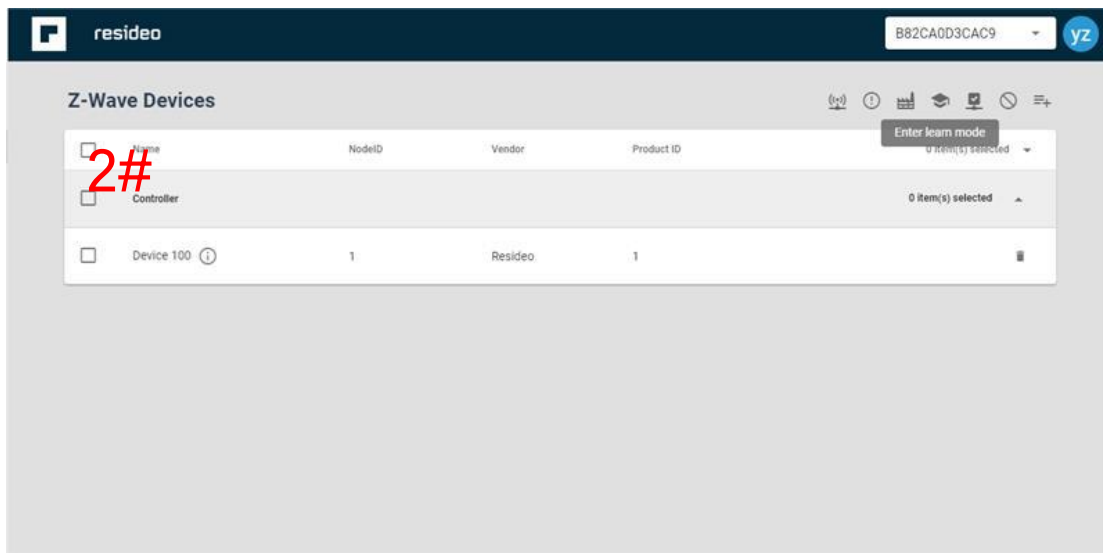


2. Click “Inclusion Mode” on the 1#



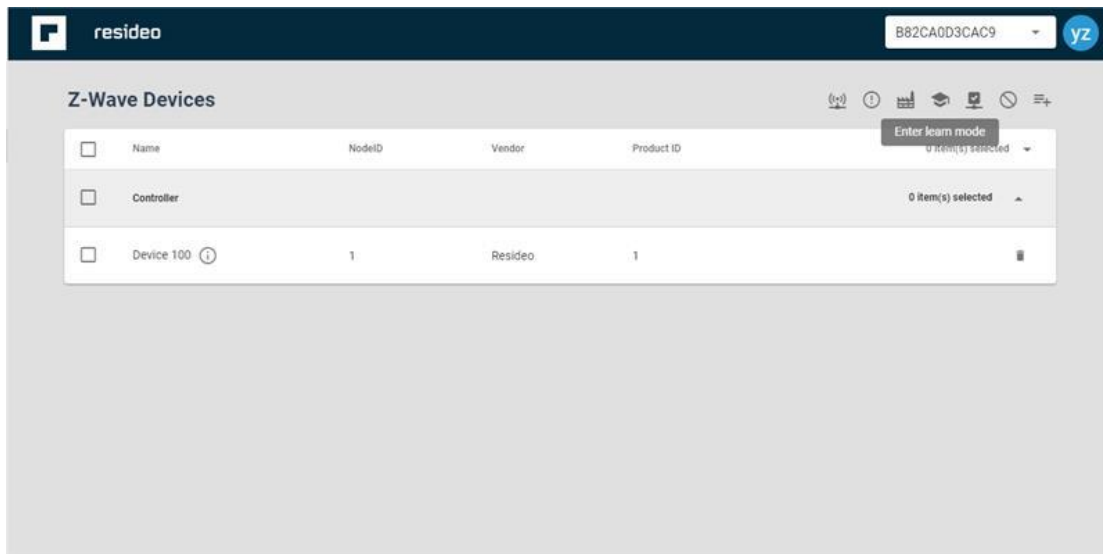


3. Click "Enter Learn Mode" on the 2#

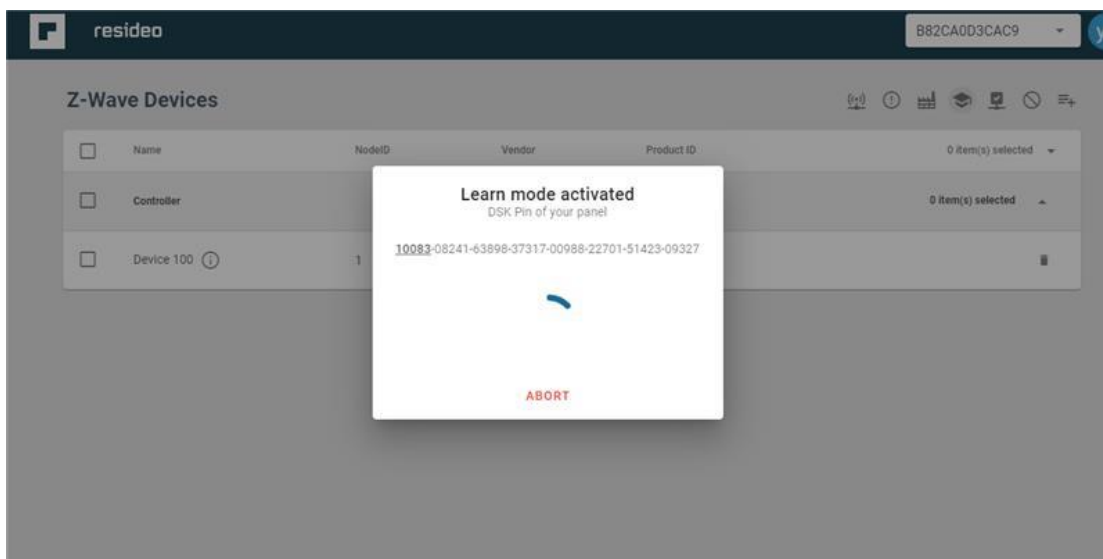


D.6 Controllers – Learn Mode

1. Click “Enter Learn Mode” on the web

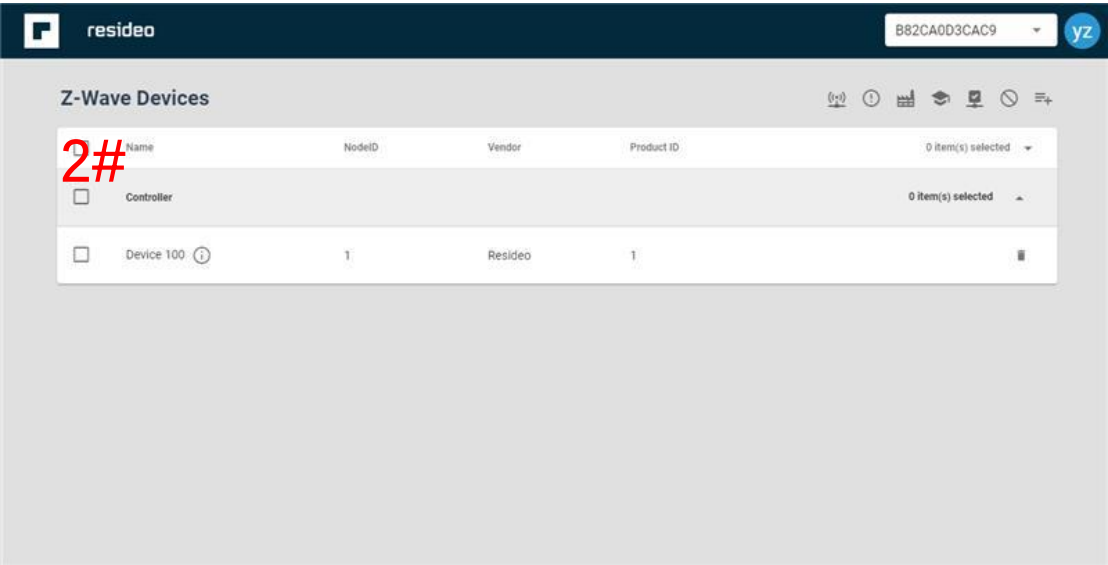


2. Then will show this DSK pin information

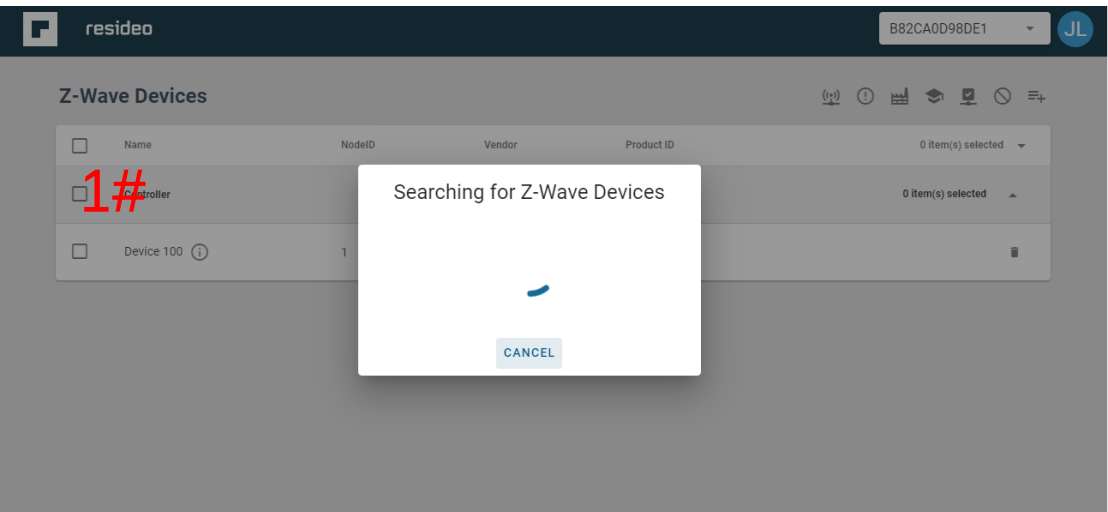
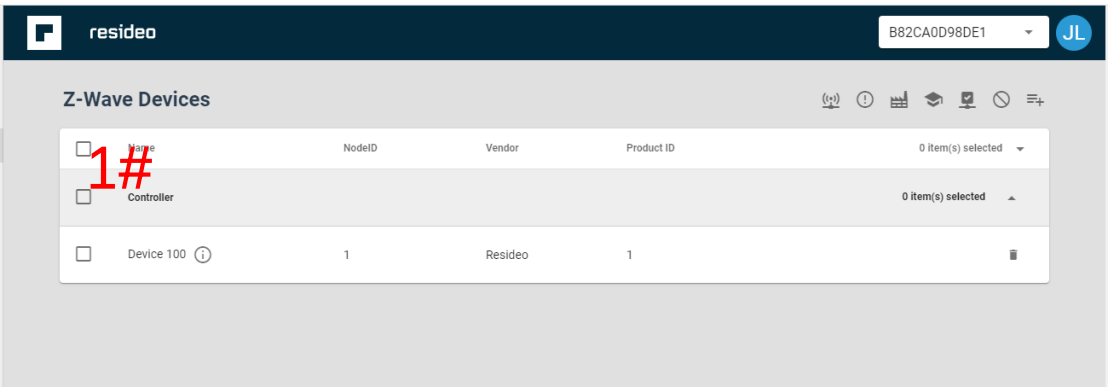


D.7 Controllers - Including the DUT

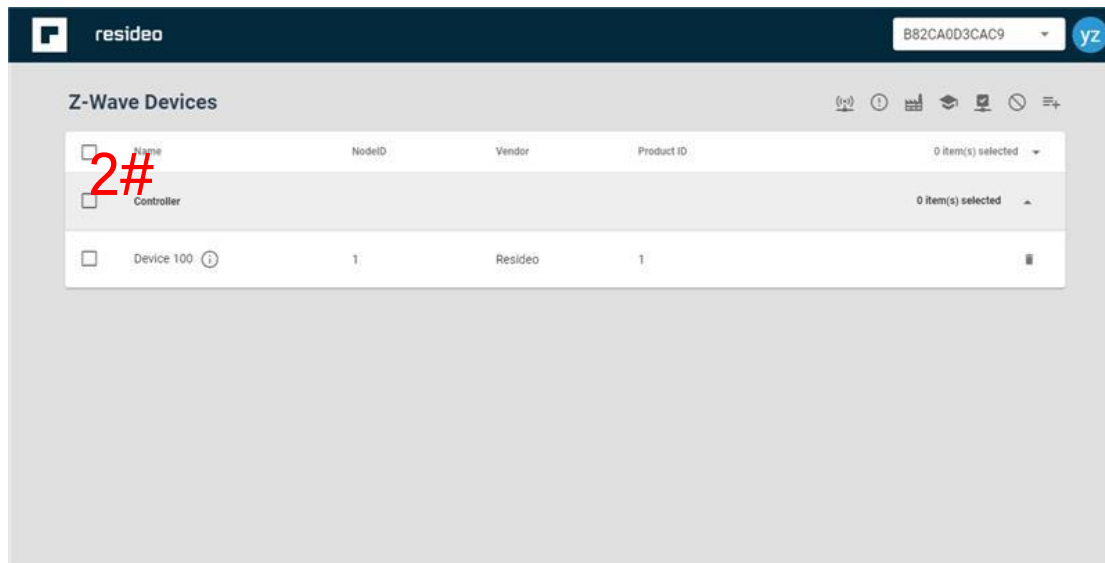
- 1. Prepare two mains powered Z-Wave DUTs, #2 DUT do factory reset first.



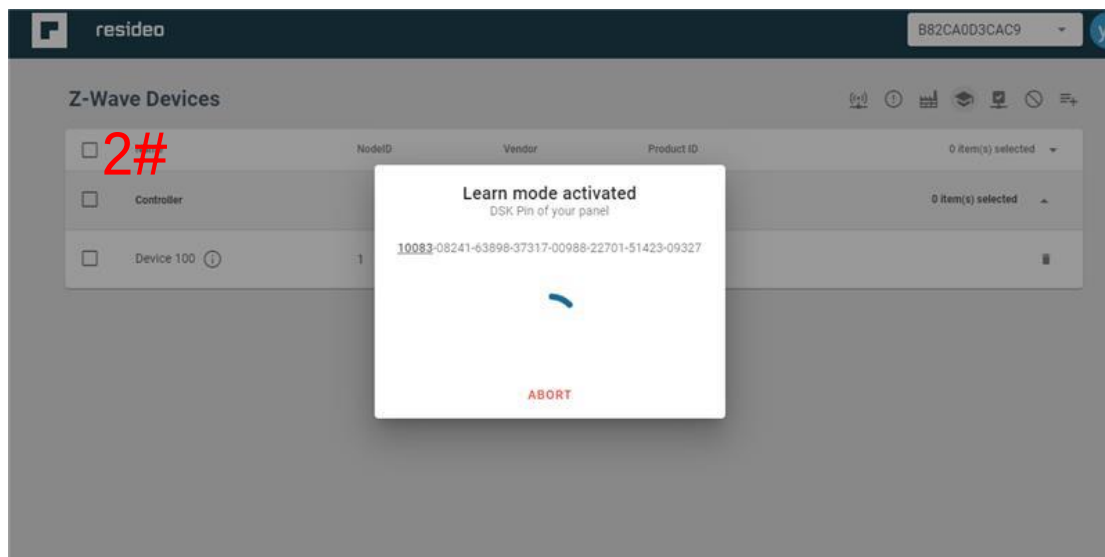
- 2. Click “Inclusion Mode” on the 1#



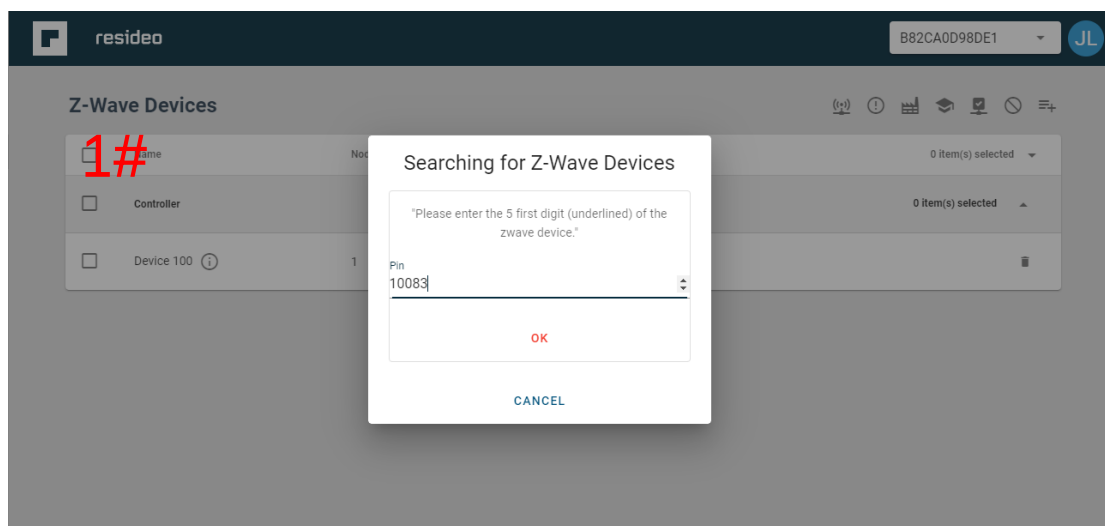
3. Click “Enter Learn Mode” on the 2#



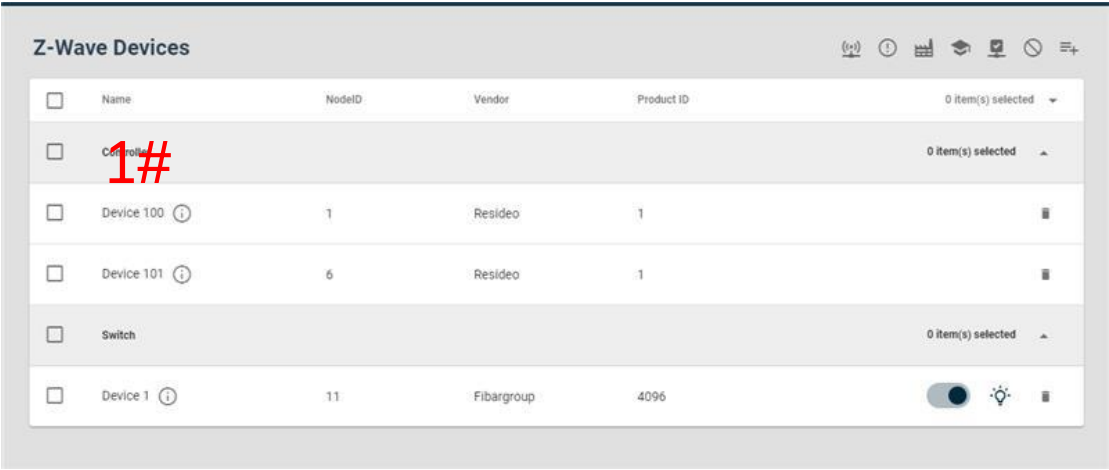
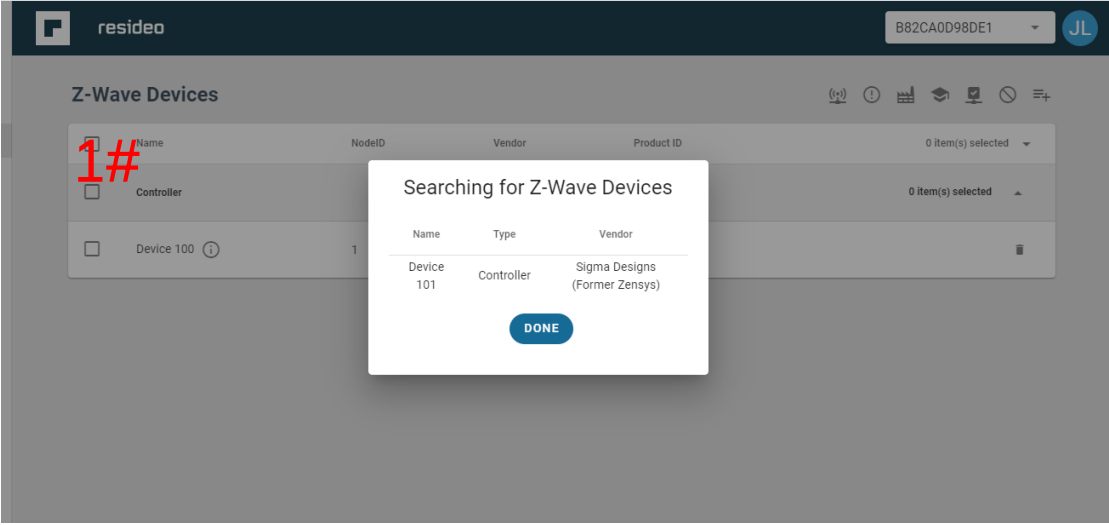
4. Then you will see DSK information below, remember the first five numbers underline.



5. Soon 1# web will pop out the DSK input box, fill the box with the first five numbers shows in 2#, and then click OK button



6. Later will shows the 2#'s information, then click DONE button, refresh the 1# web, in the Z-Wave list, it will show the new included controller info, it means the operation of including the DUT successfully



D.8 Controllers - Basic Documentation

This product supports Basic Command and can give action if received a Basic Command.

D.9 Terminology

Z-Wave functionality	Documentation terminology	Example
Inclusion	Add	The process of adding a node to the Z-Wave network.
Exclusion	Remove	The process of removing a node from the Z-Wave network.
Replication	Copy	The process of copying network information from one controller to another.

D.10 Devices from multiple manufacturers in one network

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.

D.11 Documentation for Association CC

The association group available in our product is described as follows.

Group ID	Maximum Nodes	Description
1	1	Z-Wave Plus Lifeline

D.12 Documentation related to BASIC commands

The Basic Command Class mapping is listed below. Basic set and basic get commands are described separately.

Basic Set Command Mapping	Parameter		Value
KEX Set	Selected KEX Scheme		02
	Selected ECDH Profile		01
	Granted Keys	Unauthenticated	01
		Authenticated	02
		Access	04
		S0	80
Association Set	Grouping Identifier		01
	Node ID		1

Basic Get Command Mapping	Parameter		Value
Z-Wave+ Info Get	None		None
KEX Get	None		None
S2 Network Key Get	Requested Key	Unauthenticated	00
		Authenticated	01
		Access	02
		S0	07
S2 Commands Supported Get	None		None
S2 Nounce Get	Sequence Number		Random
Security Nounce Get	None		None
Security Commands Supported Get	None		None
DSK Get	Seq No		00
	Add Mode		false
PowerLevel Get	None		None
PowerLevel Test Node Get	None		None
Manufacturer Specific Get	None		None
Version Command Class Get	None		None
Version Get	None		None
Version Capabilities Get	None		None
Version Z-Wave Software Get	None		None
Association Get	Grouping Identifier		01
Association Groupings Get	None		None
Association Specific Group Get	None		None
Association Group Name Get	Grouping Identifier		01
Association Group Info Get	List Mode		true
	Refresh Cache		false
	Grouping Identifier		01
Association Group Command List Get	Allow Cache		true
	Grouping Identifier		01
Device Specific Get	None		None

D.13 Documentation related to BASIC commands

The following basic commands are used for our product to control some devices.

Object	Control Command	Value	Behavior of device
Door Lock (Entry Control Keypad)	Basic Set	0xFF	ignore any received basic commands
		0x00	
On/Off Switch	Switch Binary Set	0xFF	Turn on
		0x00	Turn off
Power Strip	Switch Binary Set	0xFF	Turn on
		0x00	Turn off
	Switch Multilevel Set	0xFF	Turn on
		0x00	Turn off
Fan Switch	Switch Multilevel Set	0xFF	Turn on
		0x00	Turn off
Light Dimmer Switch	Switch Multilevel Set	0xFF	Turn on
		0x00	Turn off
Thermostat, HVAC	Thermostat Mode Set	0xFF	Comfort Mode
		0x00	Energy Save Mode

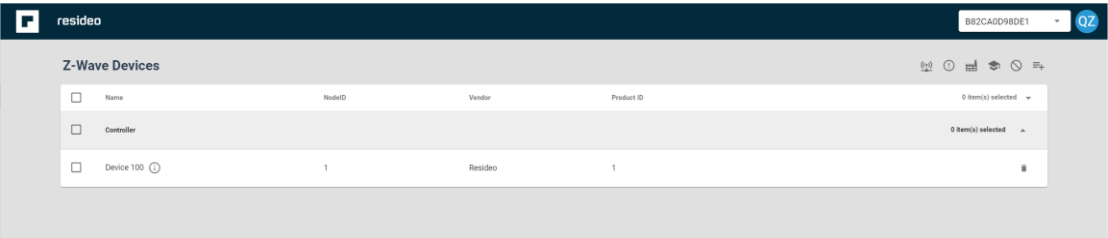
D.14 Documentation for Factory Default Reset

Please use this procedure only when the network primary controller is missing or otherwise inoperable

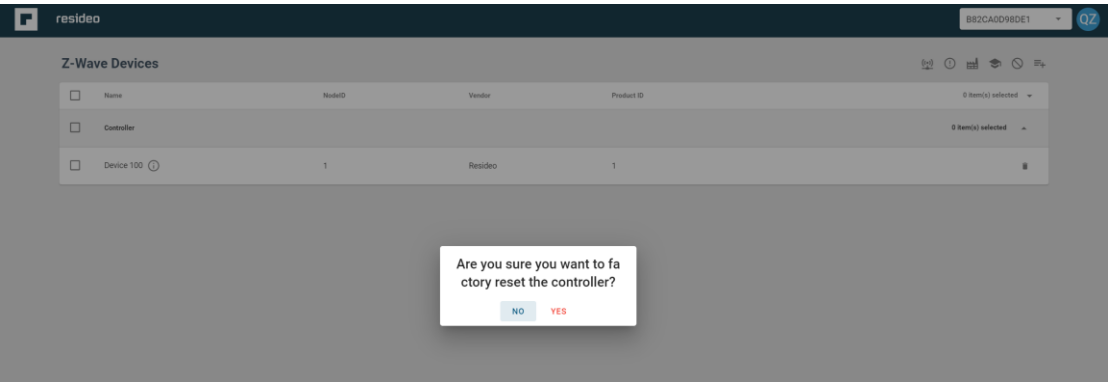
1. Prepare two mains powered Z-Wave DUTs and navigate to system UI as below, click



button



Click “Setting”



D.19 Documentation for S2 Security CC

Command Class	Version	Required Security Class
Z-Wave Plus Info	2	None
Transport Service	2	None
CRC-16 Encapsulation	1	None
Application Status	1	None
Security 2	1	None
Security 0	1	None
Inclusion Controller	1	None
Supervision	1	None
Multi Command	1	None
Network Management inclusion	3	Access Control
Network management basic	2	Access Control
Network Management Proxy	2	Access Control
Association Group Information	3	Access Control
Device Reset Locally	1	Access Control
Network Management Installation Maintenance	2	Access Control
Manufacturer Specific	2	Access Control
Powerlevel	1	Access Control
Node Provisioning	1	Access Control
Firmware Update Meta Data	5	Access Control
Association	2	Access Control
Version	3	Access Control
Basic	2	Access Control

D.21

D.21.1

Documentation about how to activate any functionality available in the device related to Z-Wave behavior is listed below.



800-25178_QIG_T
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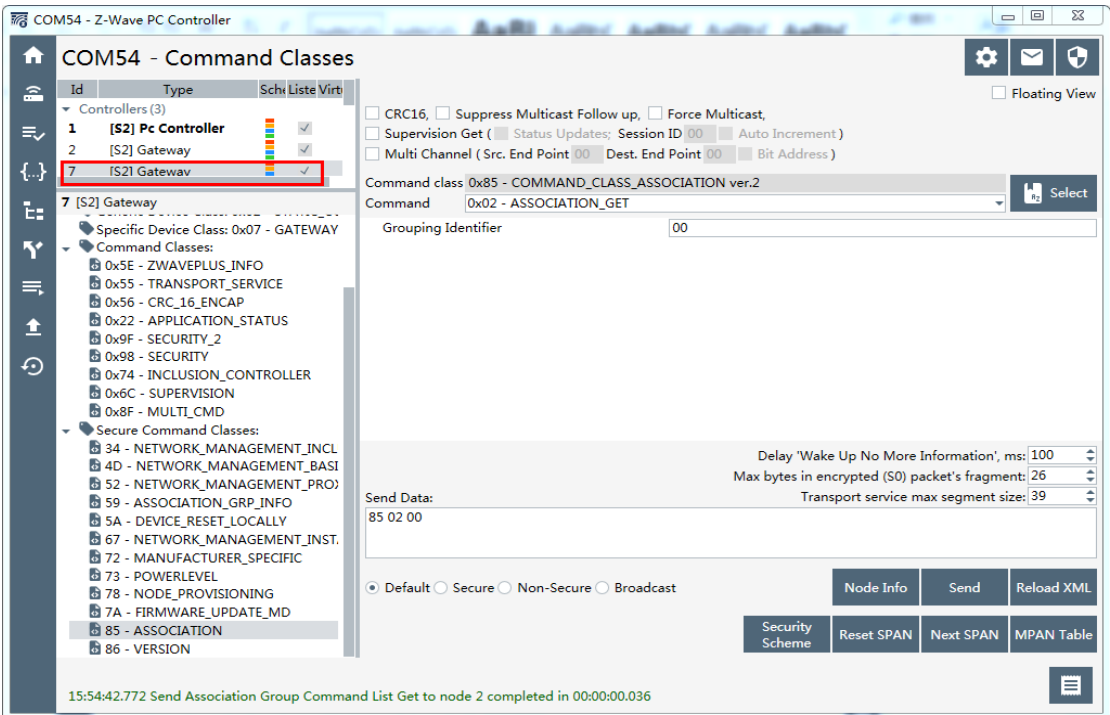
800-25175_QUG_
TUXEDOW_4-26-19

D.21.2

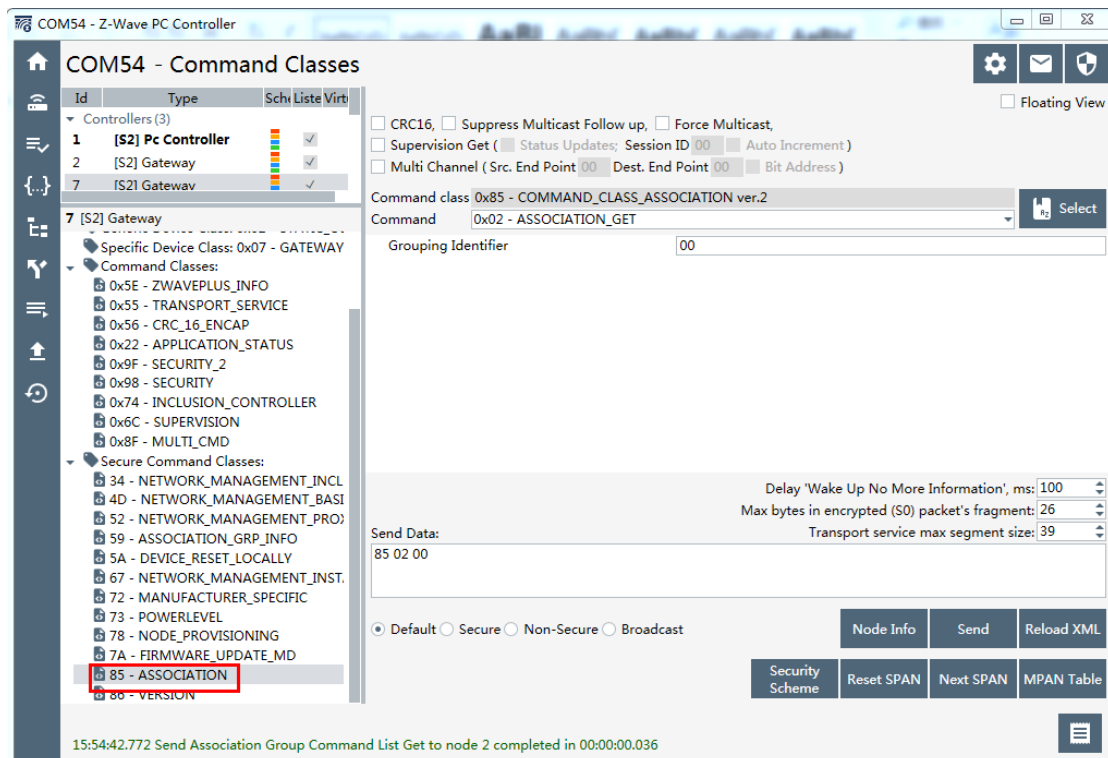
None

D.21.3

- About how to send any controlled command from the controller PC controller tool is preferred.
1. Double click to select the controlled device, you will see the device is in greyed color



2. Double click one command of command classes or secure command classes to choose such as association



3. Choose command in command list and then click send button

