

Technician App

Overview

Technician application is developed for the purpose of installing the Star Automation LodeStar Controller at Customer's location. This will be mainly used by technicians and support staff. Currently application is supporting in Android devices only.

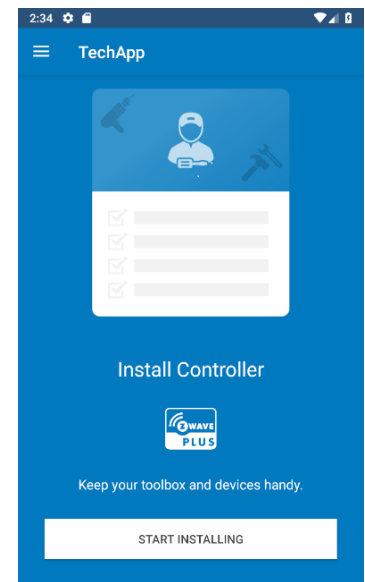
Technicians need to use their login credentials to access the application and follow the stepwise process of installing controller at Customer's location.

Prerequisites

1. Ethernet and WiFi Connection
2. Z-Wave devices
3. SIM for cellular connection (Optional)
4. Star Automation LodeStar Controller

Technician Landing Page

Once the technician has logged into the application, they will always begin an installation from the "Install Controller" landing page. From here the technician will initiate a new installation with a touch of the "START INSTALLING" button at the bottom of this form.



Installation of Controller

Installation of controller is a stepwise process and it includes 7 steps which Technician needs to follow in order to configure Star Automation LodeStar controller with Z-Wave devices at Customer's location. All steps of installation are self-explanatory and user friendly and Technician just needs to follow the instructions to complete installation.

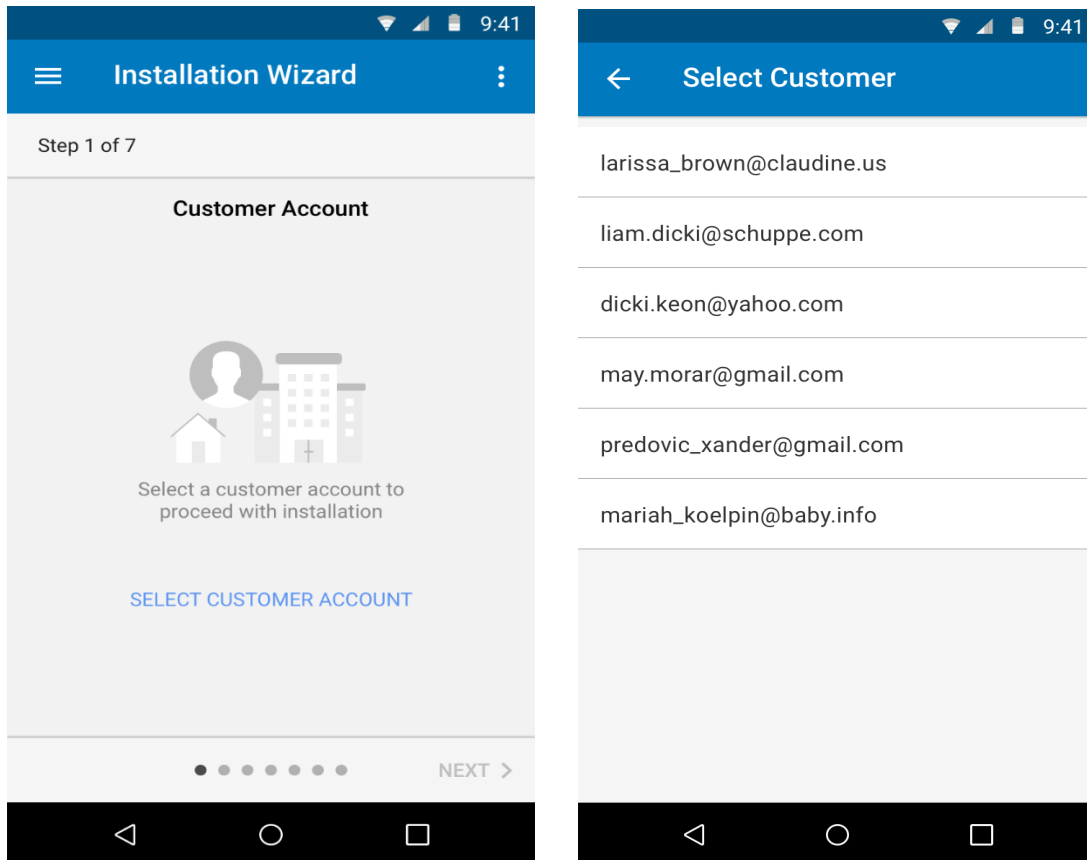
Installation – Step 1

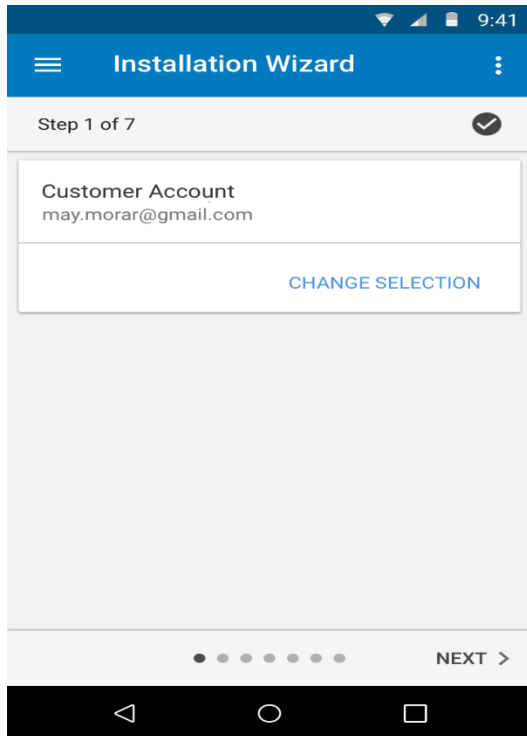
Technician need to select the Customer account from the available list in first step of the installation. If Technician selects incorrect account by mistake then he can change the selection anytime by selecting the option "**Change Selection**".

After selecting customer on first step successfully, click **Next** button to navigate to second step of Installation.

See *figure 1.1* for the snapshot of Step 1 of Installation

figure 1.1 – Various screens of step 1





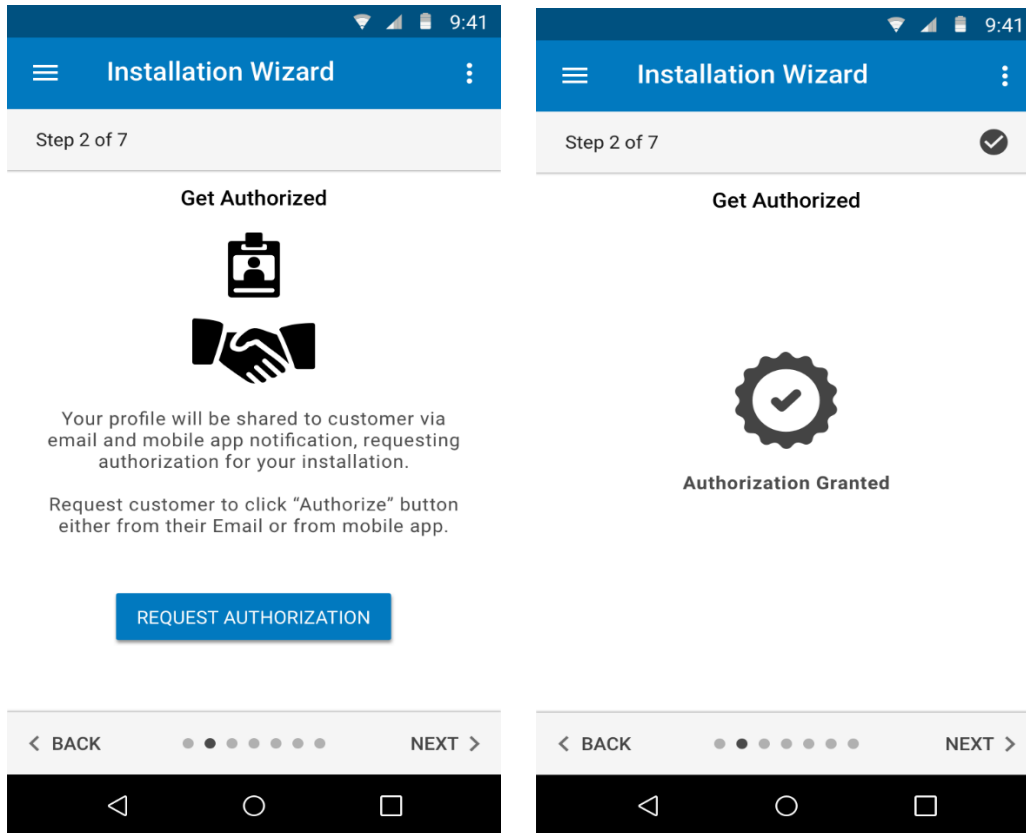
Installation – Step 2

Technician can get authorization from customer with the help of second step of installation and after that technician can connect to Customer's Internet connection. **Request Authorization** button needs to be clicked which will send notification to customer on both mobile app and email. Customer needs to approve the request in order to authorize technician.

Technician needs to click Next button to navigate to Step 3 of installation.

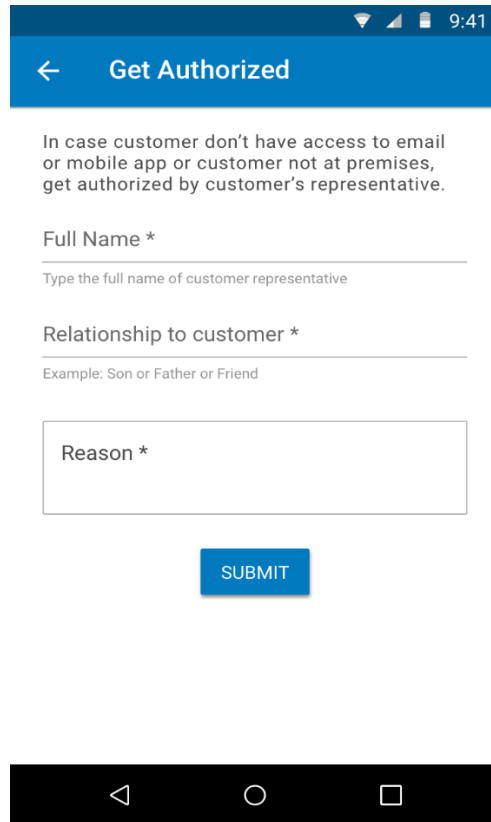
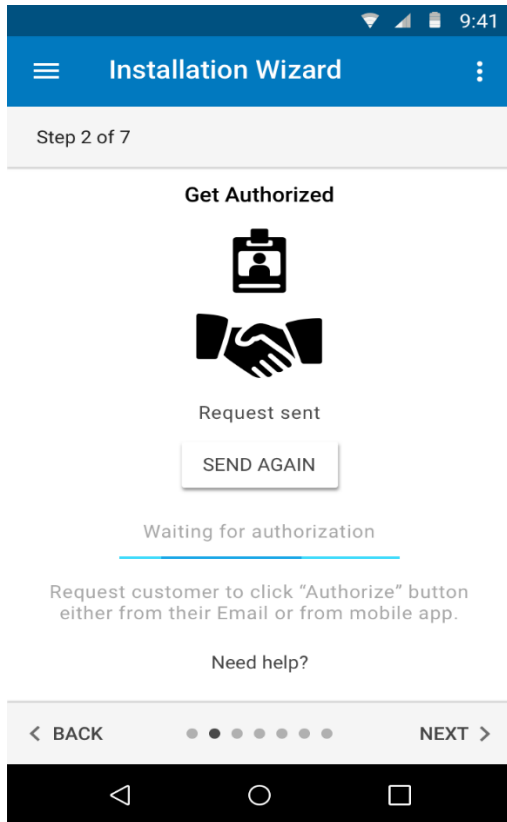
See *figure 2.1* below for the screen of Step 2

figure 2.1 – Main screen of step 2



In case customer is not available at home for authorization then technician can click '**Need help?**' option to get authorization from another person. As you can see in figure 2.2, details of the person are required to be filled who will authorize technician in the absence of Customer.

figure 2.2 – Bypass process of Authorization

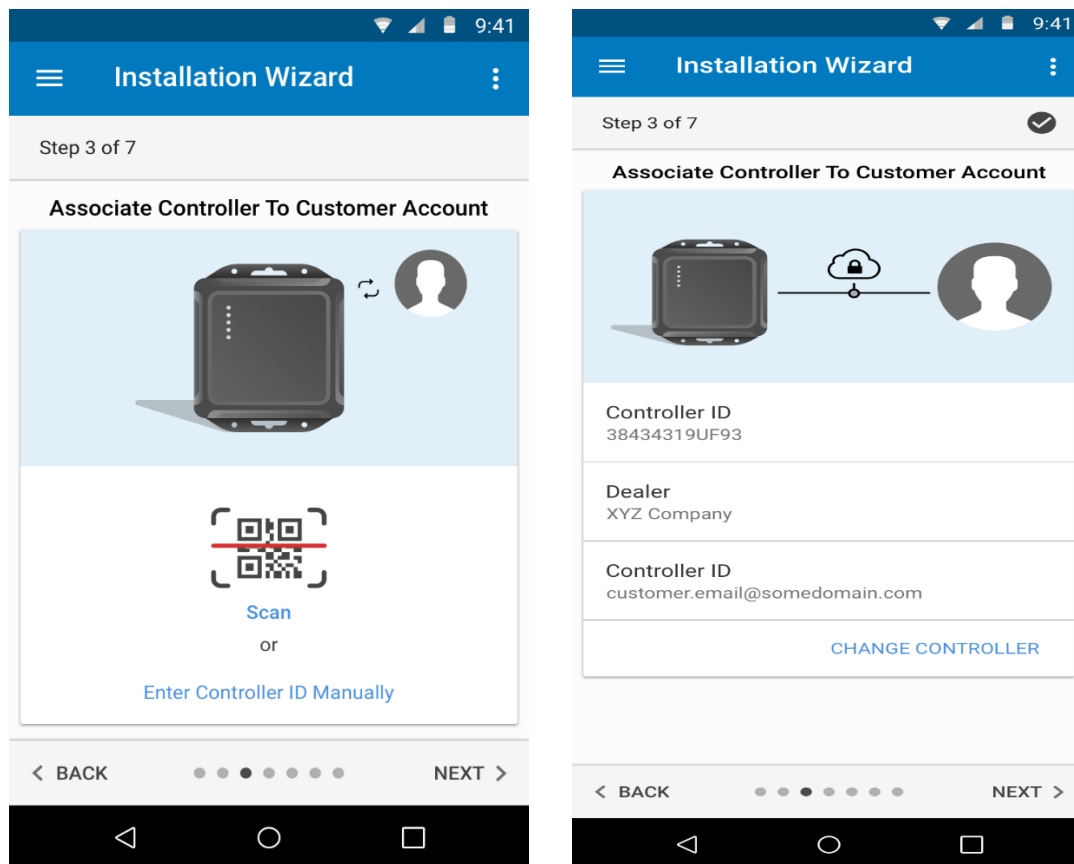


Installation – Step 3

Technician will associate Star Automation LodeStar Controller with Customer account either by scanning controller's barcode or entering controller id manually. Please see *figure 3.1* for Step 3

Technician will click Next button after associating controller successfully with Customer's account

figure 3.1 – Bypass process of Authorization

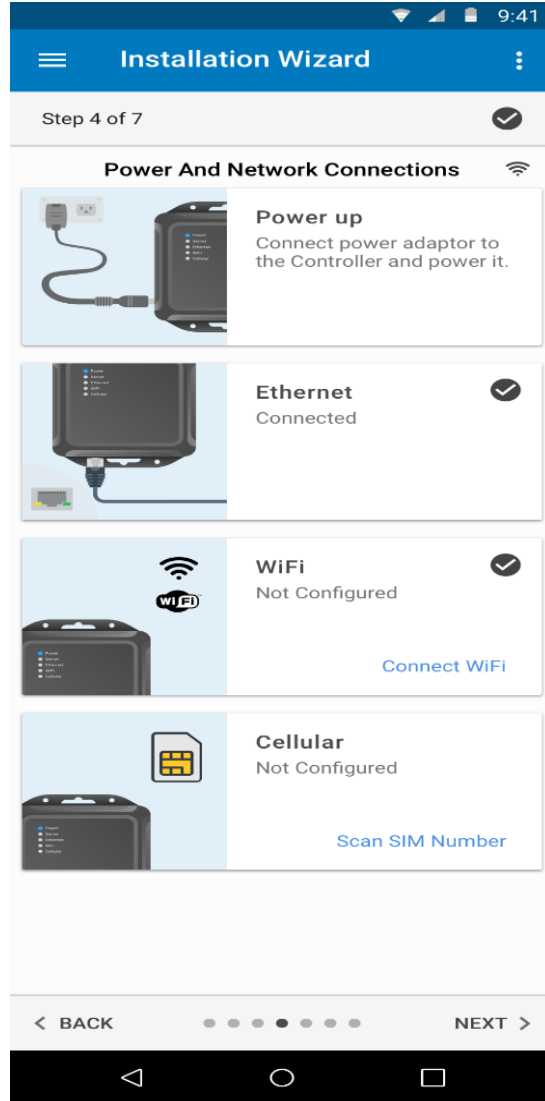
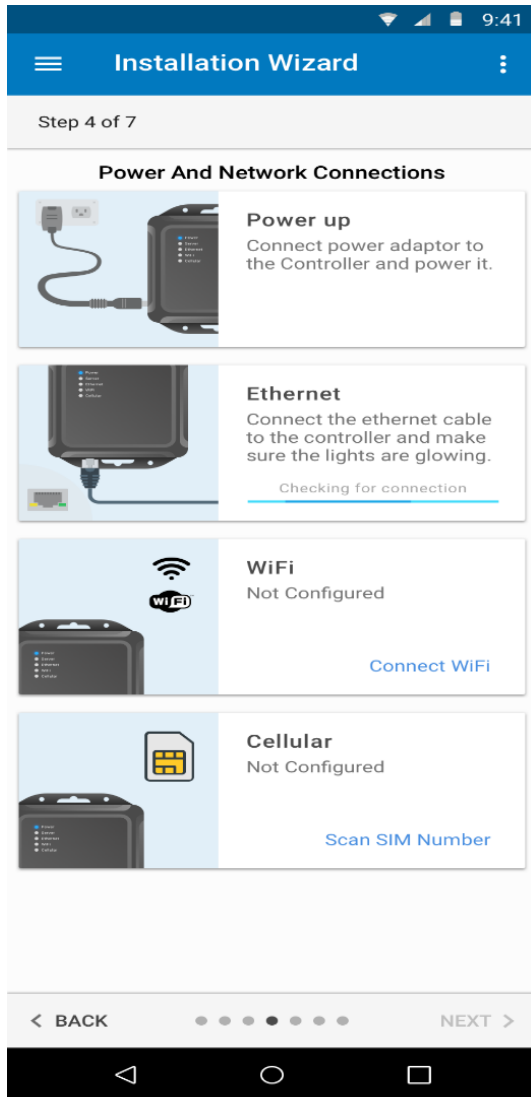


Installation – Step 4

This step of installation ensures that Controller is switched On and it is connected to all communication channels like Ethernet, WiFi and Cellular. Technician needs to establish all the connections first and then will validate them on app.

Ethernet is the main communication channel which should be connected to Controller properly otherwise technician can't navigate to next step. The idea behind to have multiple communication channels is to keep Controller connected to internet even if one channel gets down.

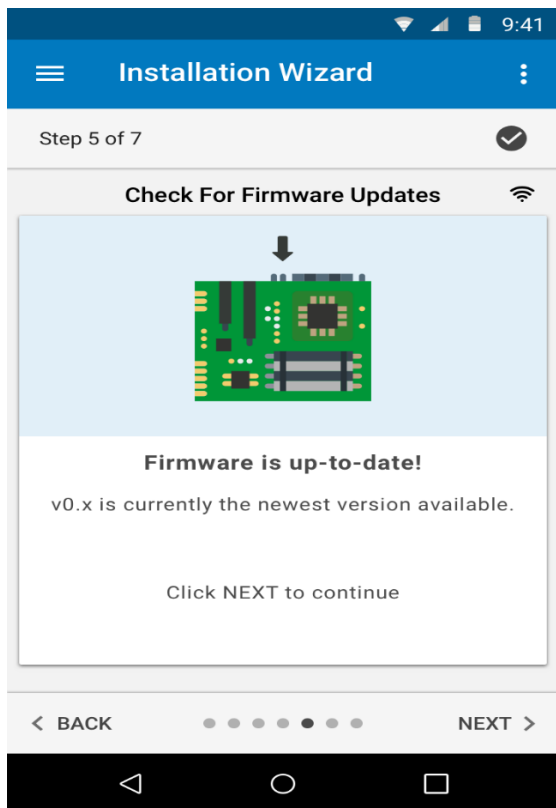
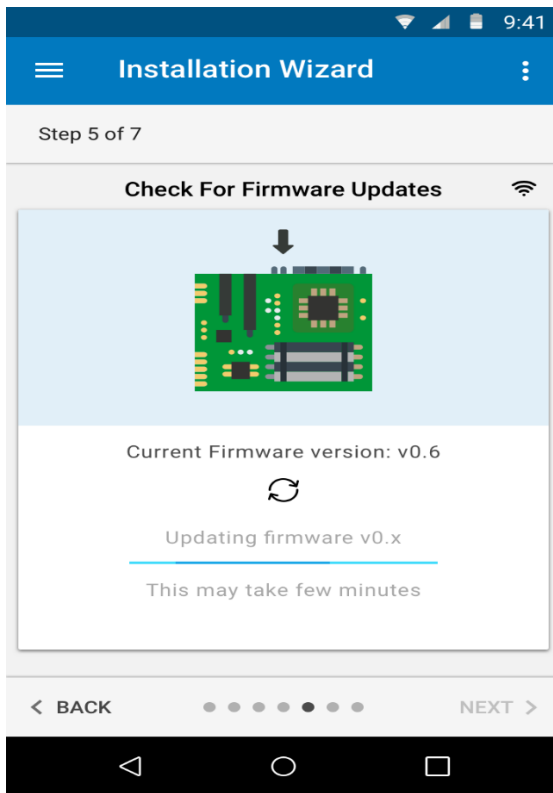
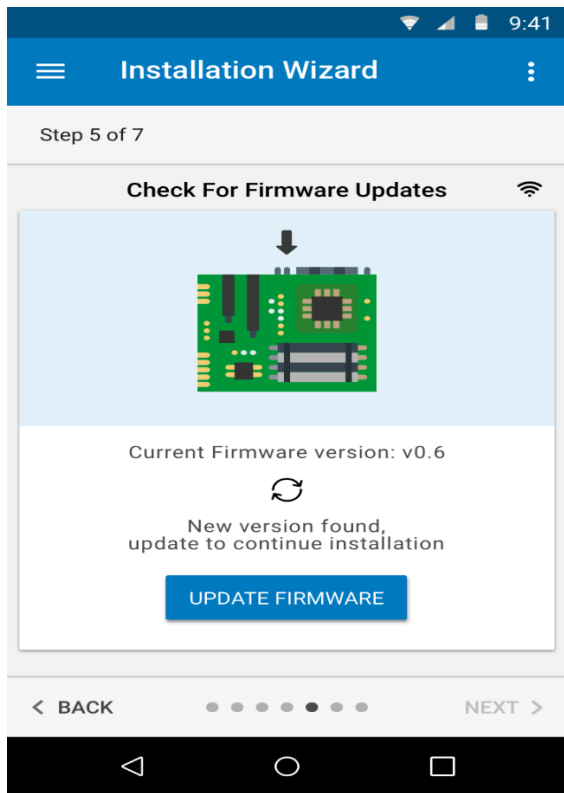
figure 4.1



Installation – Step 5

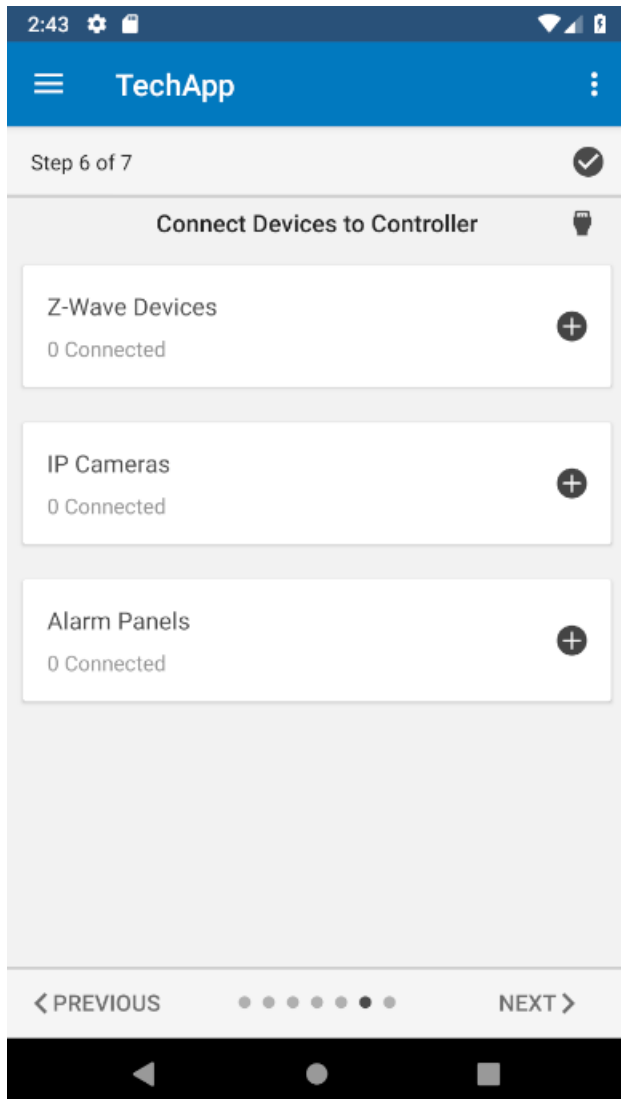
In this step controller validates that its firmware version is up to date and if it is not having the latest version then it starts installing the required version from server. Technician can't navigate to next step until unless Controller has the latest version.

figure 5.1



Installation – Step 6

This step is the most time-consuming step of Installation where technician will add Z-Wave devices, IP Cameras and Alarm panel of the customer's house. See figure below which shows the initial stage of the Step 6



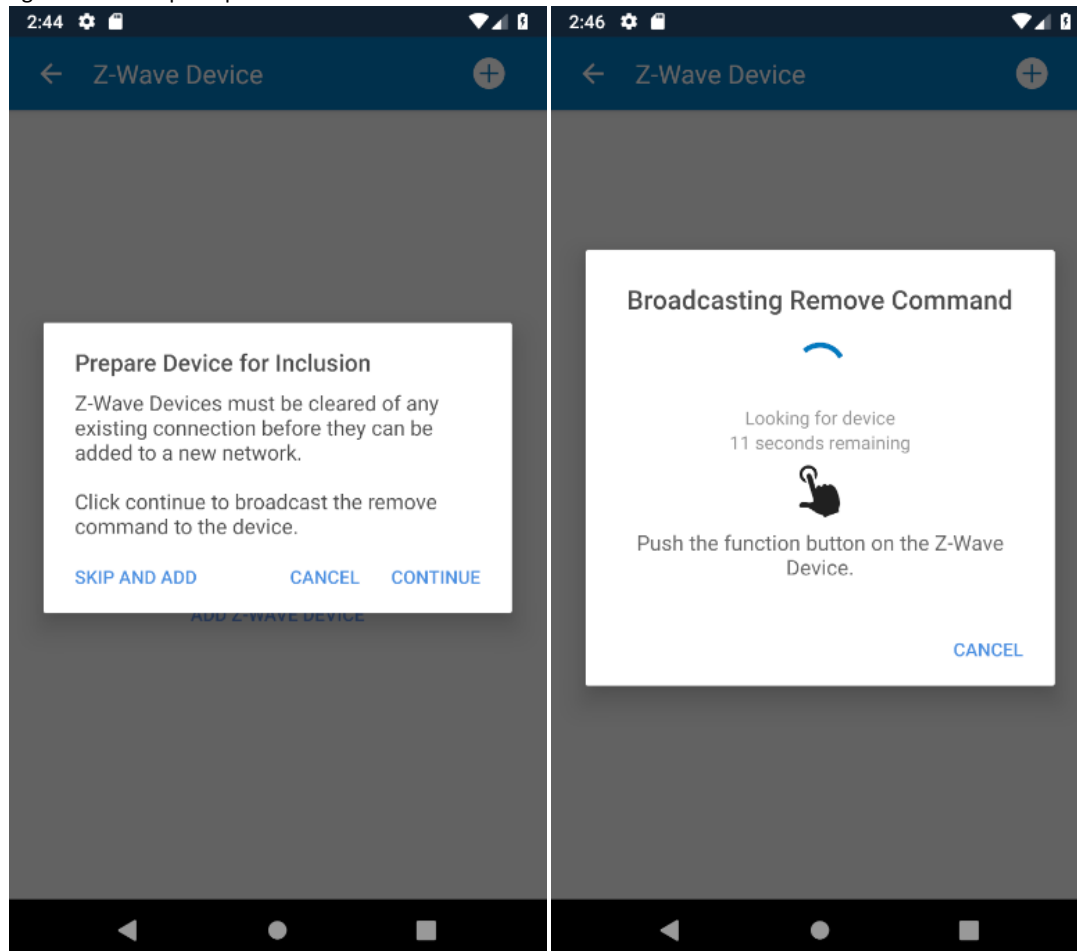
Adding Z-Wave devices

Z-Wave devices like door locks, Dimmers, Lamps can be added from the first section of the screen. Technician can click on the section itself or can click + icon to add Z-Wave devices.

Before adding any device, technician app sends a remove command to ensure that all connections are cleared from the device. Technician needs to push the button from Z-Wave device to make remove command successful. After that device can be added by scanning its barcode or entering its ID manually.

See *figure 6.1* below which explains this process

figure 6.1 – Complete process to add a Z-Wave device



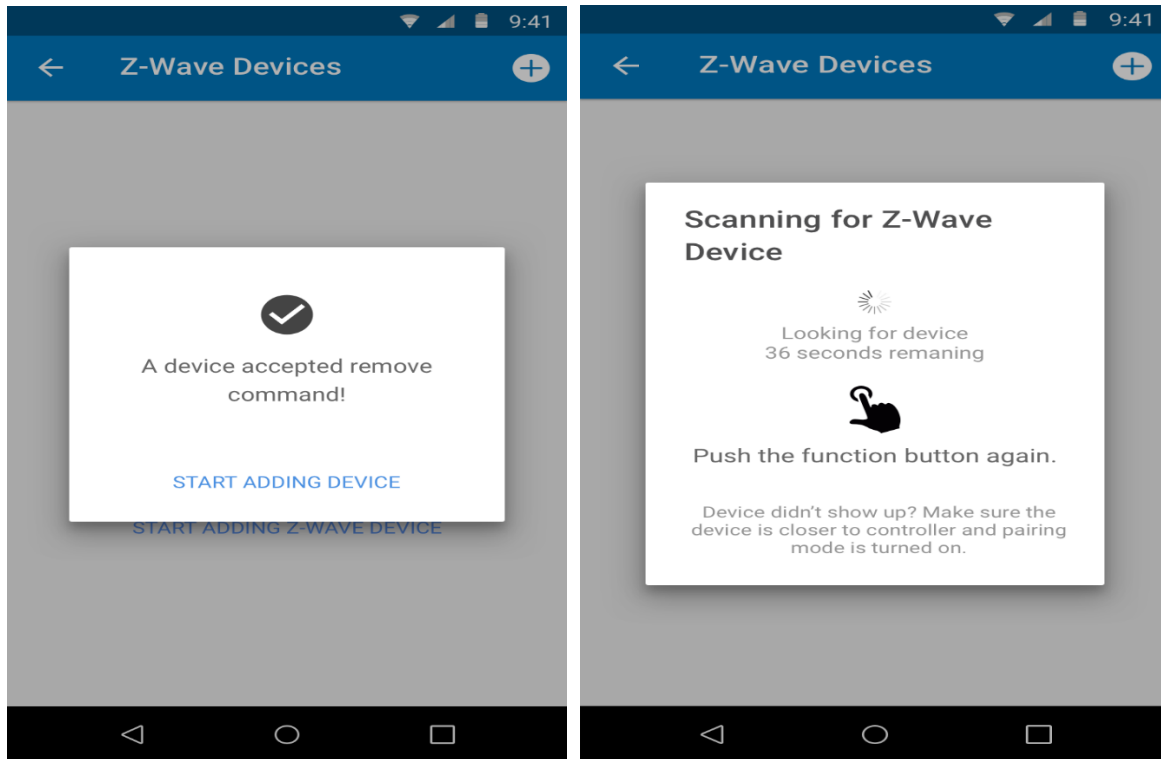
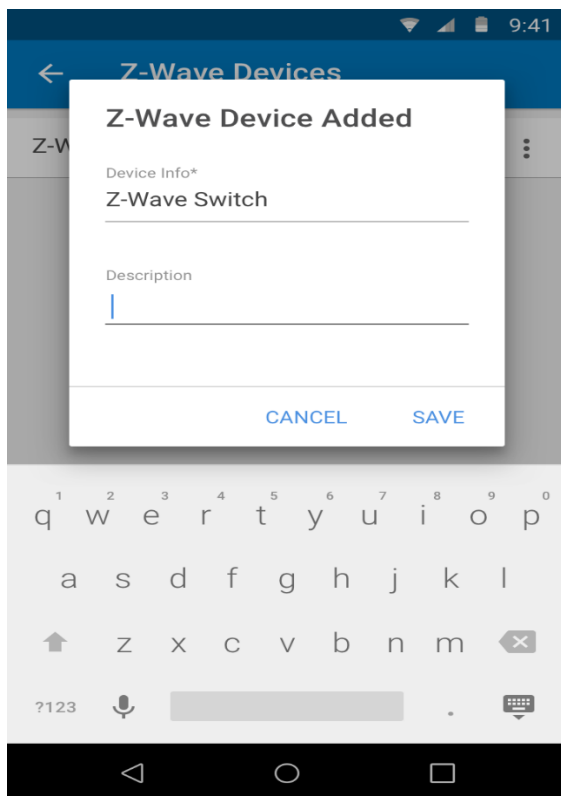


figure 6.1 – Continued

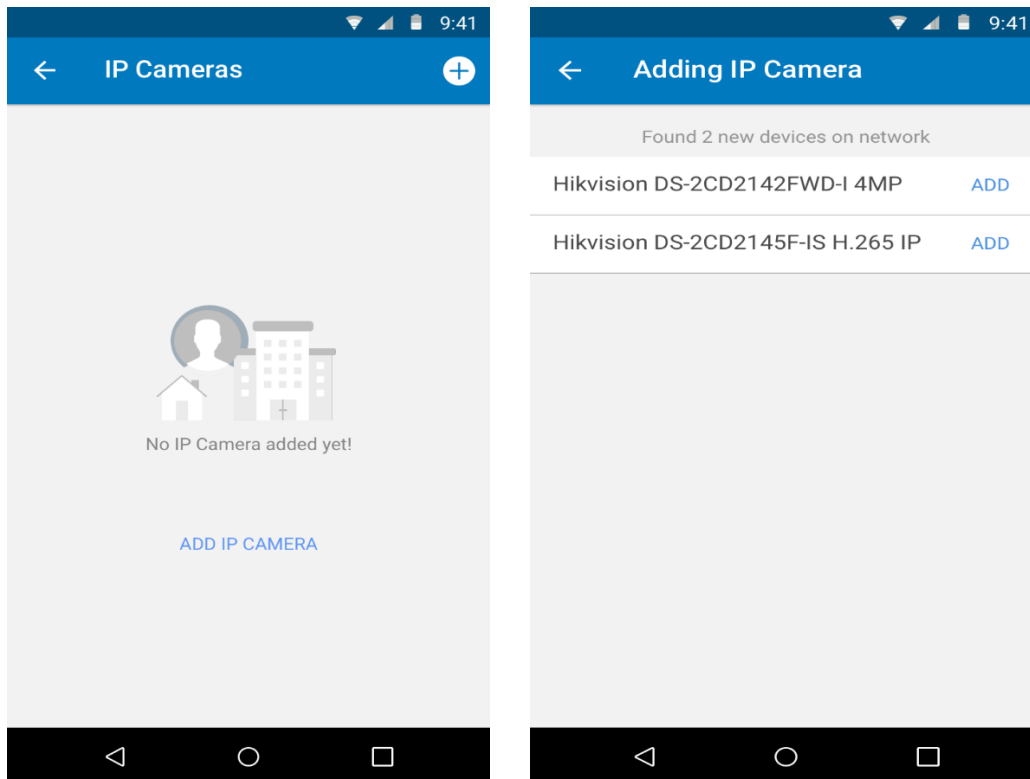


Adding an IP camera

To add an IP camera technician can either click + icon or can use **'Add IP Camera'** option as well. Application will search and will provide the list of all the available cameras. Click 'ADD' option for the required camera and then complete the process either by scanning camera's barcode or entering its ID manually.

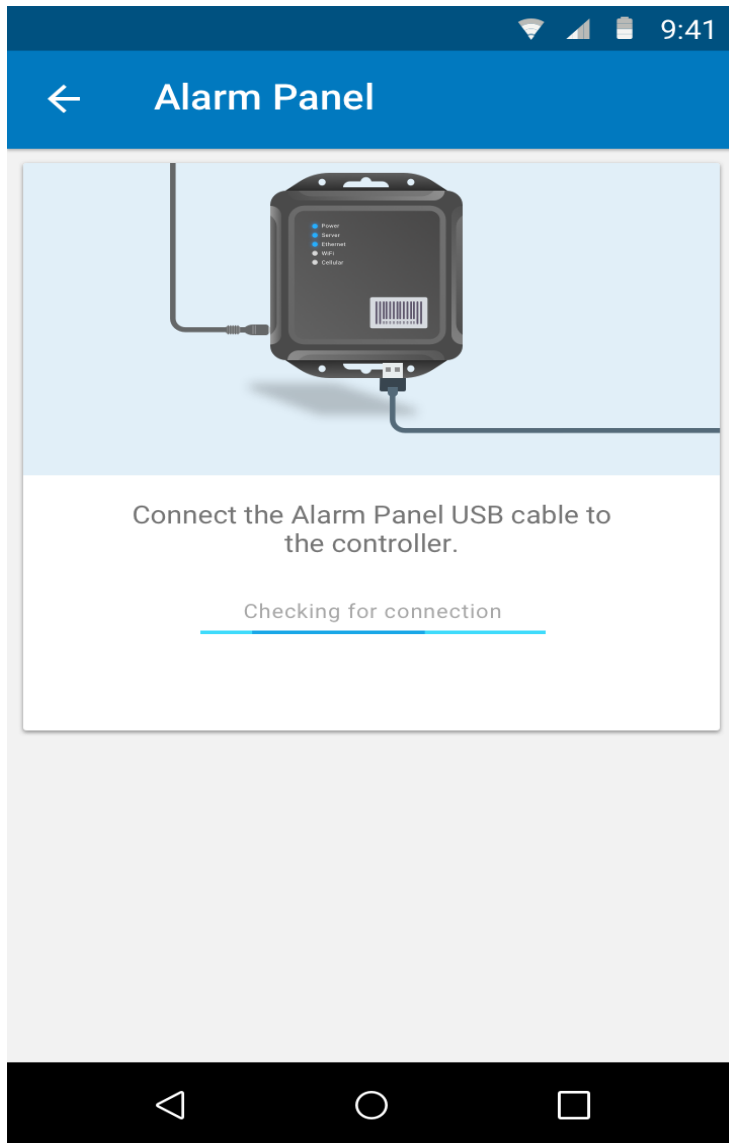
See *figure 6.2* below which explains this process

figure 6.2 – Complete process to add an IP Camera



Adding an Alarm Panel

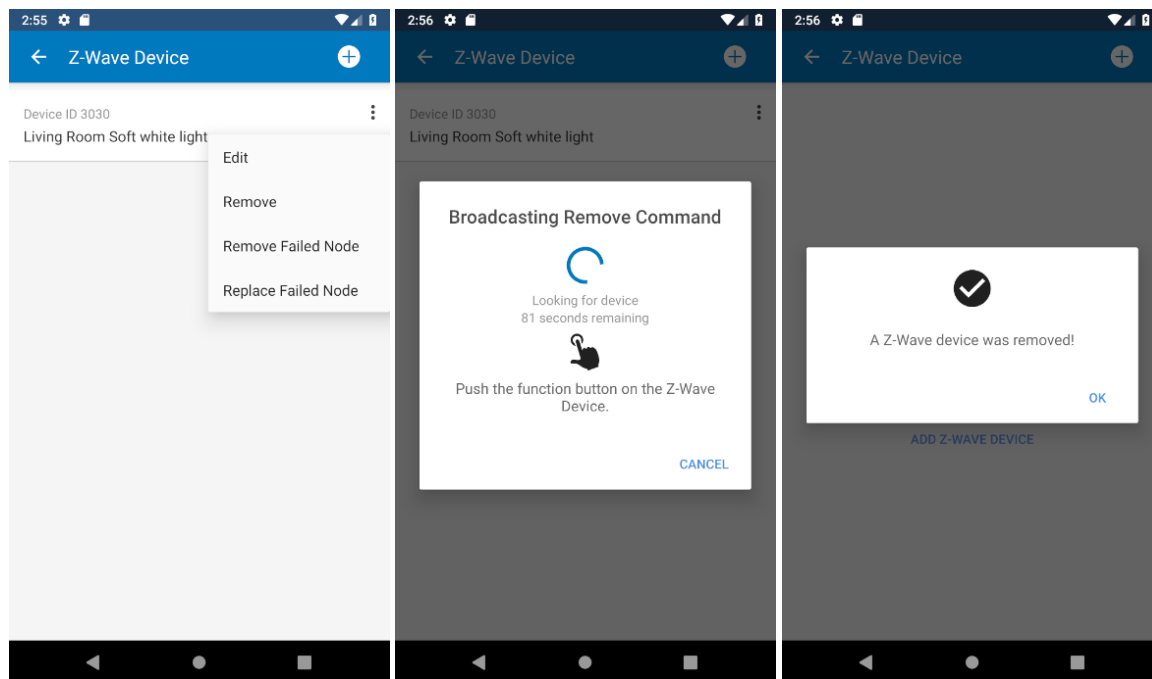
Technician can click + icon to add Alarm panel and then connect alarm panel's USB cable to the controller. See figure 6.3 below for alarm panel connectivity



Removing a device

Technician can remove an added device by selecting Remove menu option from the device list. Remove command will be published by the app and push button need to be pressed from Z-Wave device to complete the Remove command.

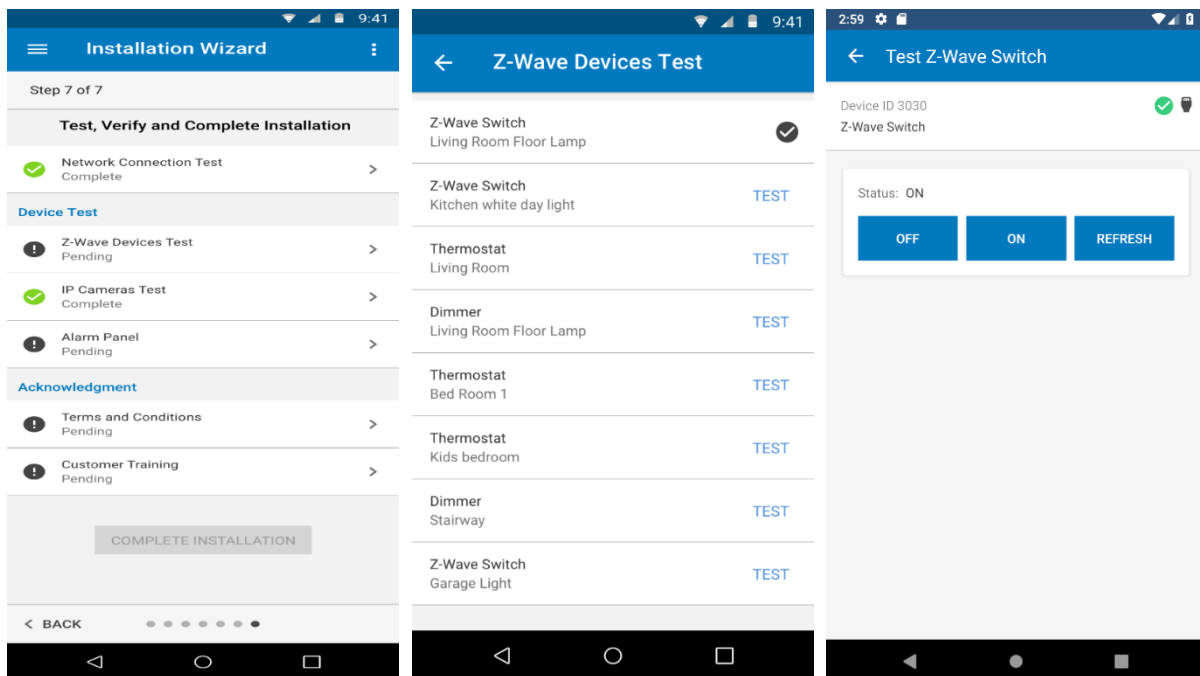
See figure 6.4 below to see the complete process of Remove



Installation – Step 7

In last step of installation, Technician validates whether all the devices are connected properly and able to communicate with controller by using the **Test** command from Tech App. Along with devices, network connection is also tested and acceptance on terms and conditions of the contract is being taken. It has also been ensured in this step that proper training is also given to Customer.

See figure 7.1 to see the complete details of Step7



Z-Wave Security compliance

Star Automation LodeStar controller is a security enabled Z-Wave Plus product that is able to use encrypted Z-Wave Plus messages to communicate with other security enabled Z-Wave Plus products.

Z-Wave compatibility with other products

Star Automation LodeStar controller 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.

Receiving Basic Commands

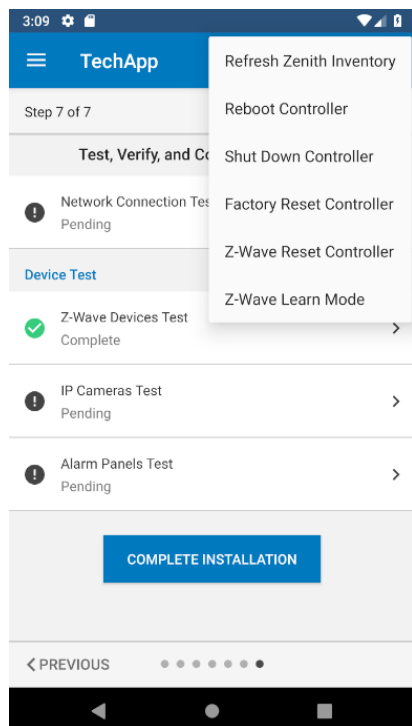
The Star Automation LodeStar Controller ignores if it receives basic commands of CSC or SSC Role type and it doesn't take any action.

Resetting the Star Automation LodeStar controller

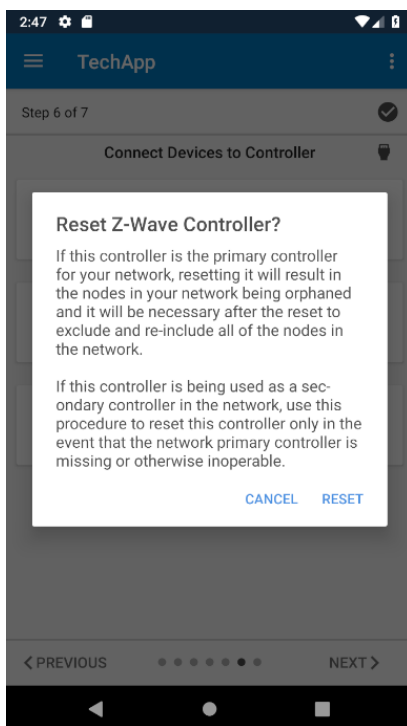
We have an option to reset the Star Automation LodeStar Z-Wave enabled controller in Technician App under Step-7 of the installation. This option will basically help in removing all the Z-Wave devices paired with Star Automation LodeStar controller. Once the Star Automation LodeStar Controller responds back to the Tech App with a SUCCESS message, then tech app will then remove all Z-Wave devices from the inventory **in the cloud**. This is so we can keep the inventory in sync with the Z-Wave devices which are actually paired to the Star Automation LodeStar controller.

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.



Option to Z-Wave Reset Controller

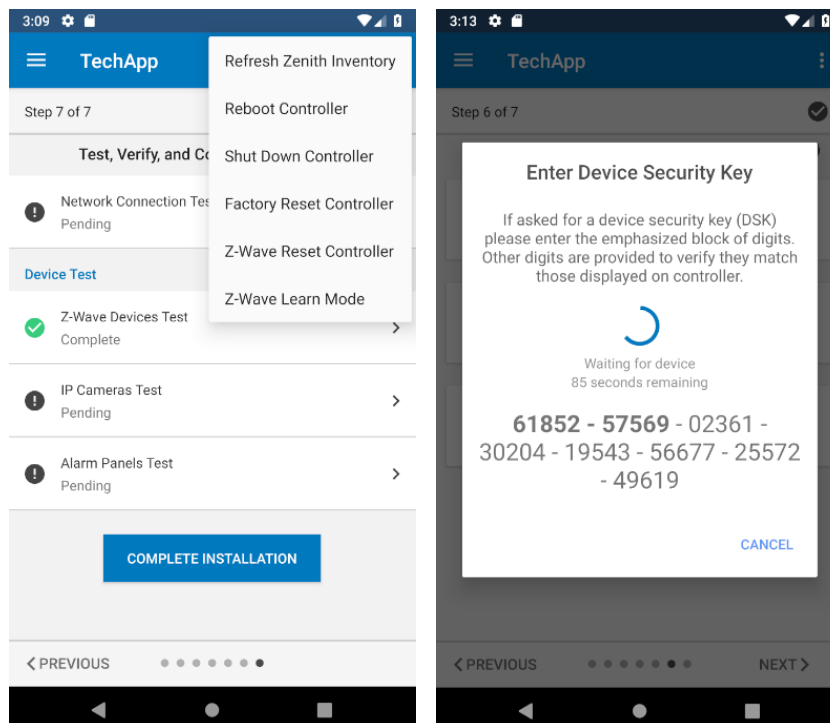


Reset Z-Wave Controller confirmation

Adding other Z-Wave controller

There is a feature provided in Star Automation LodeStar controller with the help of which we can add another Z-Wave controller on the network. Z-Wave Learn mode is the option provided in Technician App under Step-7 of the installation.

Z-Wave Learn Mode option will basically broadcasts a message out to all Z-Wave devices from Star Automation LodeStar controller. After that user needs to tap the function button on a Z-Wave controller and the Z-Wave controller responds back to the Lode Star with a node added event and then the Star Automation LodeStar controller tells the tech app that the Z-Wave controller is added successfully.



Controlling other Z-Wave devices

Any Z-Wave device, regardless of manufacturer and capability, may be added to the network and can be controlled using minimum functionality of basic ON or OFF commands, except where specific device features have already been included into the application.

Z-Wave Supported Command Classes and Security Levels

The LodeStar Controller supports the following command classes with version and secure capability below. All command classes under “Securely Added” and “secure” support all security levels (S0, S2-Auth, S2-Access, and S2 Un-Auth.)

Table 1, Node Information Frame contents

Command Class	Version	Not Added	Non-Secure added	Securely Added		Type	Controlled	LAN NIF	Appended PAN Node NIF
				Non-Secure	Secure				
Security	1	X	X	X		Encapsulation	X	X	
Security 2	1	X	X	X			X	X	
Transport Service	2	X	X	X			X	X	
Multi Channel ¹	4			X			X		
CRC16	1	X	X	X			X	X	
Supervision	1	X	X	X				X	
Network Management Basic	2				X	Network Management		X	
Network Management Inclusion ²	2				X			X	
Network Management Proxy	2				X			X	
Network Management Installation Maintenance	1				X			X	
Inclusion Controller ²	1	X	X	X			X	X	
Node Provisioning	1				X			X	
Wake Up ¹	2			X		Z/IP	X		
Z/IP	3						X	X	X
Z/IP Portal	1							X	
Z/IP Gateway	1							X	
Z/IP Naming	1							X	X
Z/IP ND	1							X	
IP Association	1					Application			X
Firmware Update	5				X			X	
Mailbox	1						X	X	
Application Status	1	X	X	X			X	X	
Power Level	1	X	X		X			X	
ZWavePlus Info	2	X	X	X			X	X	
Manufacturer Specific	2	X	X		X		X	X	
Version	2	X	X		X		X	X	
Association ¹	2						X		
Multi Channel Association ¹	3						X		

Z-Wave Association Capabilities

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