

1 Beanbag Gateway

Beanbag gateway is S2 security enabled Z-Wave Plus, mains powered system controller, designed for smart heating control that is able to use encrypted Z-Wave Plus messages to communicate to other security enabled Z-Wave Plus products. Gateway communicates with sensors & control devices over Z-Wave and with mobile App over home Wi-Fi. This product can be operated in any Z-Wave network with other Z-Wave certified devices from preferred and other manufacturers



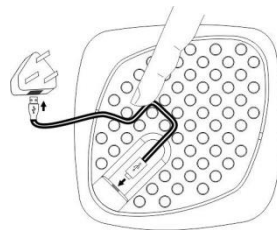
1.1 Technical Specification

Mechanical			
Dimensions (HxWxD) (in mm)	155 x 155 x 27	Mounting	Table top
Weight	278 grams aprox	Case material	Polycarbonate, Aluminum
Environmental			
Storage temperature	-20°C to 70°C	Operating temperature	0°C to 40°C
Environmental humidity range	0 to 95%	Atmospheric range	980 to 1035 hPa above mean sea level
Pollution degree	2	Ingress protection	IP30

Electrical			
Adaptor input supply	100 VAC – 240 VAC	Frequency	47 Hz – 63 Hz
Insulation Category	CAT II	Adaptor output	5 VDC, 1A
Radio			
Operating frequency	868 MHz for Z-Wave and 2.4 GHz for Wi-Fi	No. Of channels	3 for Z-Wave and 13 channels of Wi-Fi
Transmitted Power	Max 4dBm for Z-Wave and 14 dBm for Wi-Fi	RF range	50 m for Wi-Fi and 100m for Z-Wave line of sight in open air

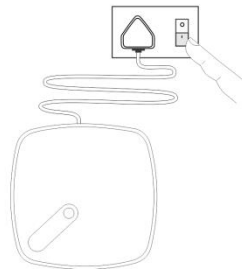
1.2 Installation & Fitting

Connect the micro B end of the supplied USB cable into the receptacle on the rear panel of the Gateway and the Type A end into the socket on the mains adapter.



You can tidy up the cable by routing it around the posts on the base of the unit.

1. Fit the mains adapter into a mains socket. Switch on the power.



2. Once powered up, the LED will glow solid red to indicate that the unit is booting up. If after commissioning gateway is not able to connect with back office then a solid amber light will be displayed on the gateway.

2 General Z-Wave Information

Z-Wave Device Classes	Implemented Device Class	
Generic	STATIC_CONTROLLER	
Specific	GATEWAY	
Basic	STATIC_CONTROLLER	
Command Classes Supported	Description	Security Levels (When included securely)
Z-Wave Plus Info (v2)	Role Type - ROLE_TYPE_CONTROLLER_CENTRAL_STATIC	Non Secure
	Node Type - NODE_TYPE_ZWAVEPLUS_NODE	
	Installer Icon- ICON_TYPE_GENERIC_GATEWAY	

	User Icon - ICON_TYPE_GENERIC_GATEWAY				
Manufacturer Specific (v2)	Secure Meters (UK) Ltd. Manufacturer ID, Device serial number				All S2 security Levels
Version (v2)	Provides Z-Wave firmware version.				All S2 security Levels
Device Reset Locally (v1)	Used to inform lifeline node that the device has been factory reset, and is leaving the network.				All S2 security Levels
Power Level (v1)	For network maintenance functionality.				All S2 security Levels
Application Status (v1)	For optimal Z-Wave functionality				All S2 security Levels
Association (v2)	Group 1		Lifeline		All S2 security Levels
Association Group Info(v1)	Group	No of Nodes	AGI Group Name	AGI Profile Name	All S2 security Levels
	Group 1	1	Lifeline	Profile MSB - AGI_PROFILE_GENERAL Profile LSB - AGI_GENERAL_LIFELINE	
CRC 16 Encapsulation (v1)	For CRC 16 encapsulation.				Non Secure
Time (v1)	For date and time				Non Secure
Security (v1)	For S0 security				Non Secure
Security 2 (v1)	For S2 security				Non Secure
Supervision (v1)	For application level delivery confirmation				All S2 security Levels
Transport Service (v2)	For transporting fragmented Z-Wave datagrams				Non Secure
Inclusion Controller (v1)	Used after a node's network inclusion between the SIS and an inclusion controller to inform each other of the remaining setup required for the included node.				Non Secure

3 Interaction with Gateway through App

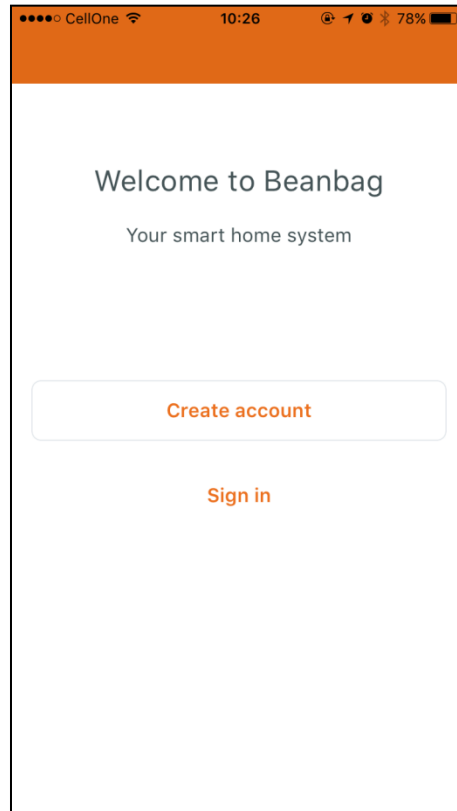
3.1 Pre-Requisites

Following are the pre-requisites for interaction with the gateway: -

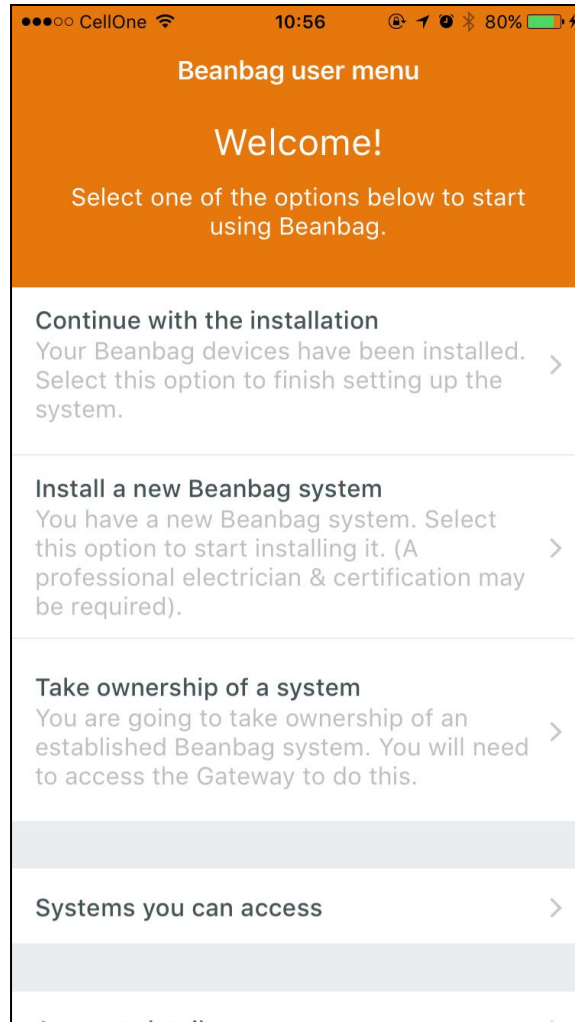
1. Beanbag Gateway
2. iPhone 5 or above having iOS 8 or above for iOS or Android phone having Android 4.4 or above
3. Wi-Fi Router with valid Internet connection
4. Beanbag App installed on iPhone / Android phone or user can install it from App Store or Google Play Store.
5. Valid Beanbag user account, if not user can create it using App itself.

A dedicated iOS/Android App must be used for interaction with the gateway. For that user must have a dedicated Beanbag account which he/she can create through the App itself. Following are the screenshots for this: -

After installing the App from the proper App store following screen will be showing to the user which prompts the user for creating a valid Beanbag account. If user is having valid Beanbag account then he/she can directly click on **Sign In**.



User will login using with proper user credentials and App will show following dashboard to user: -



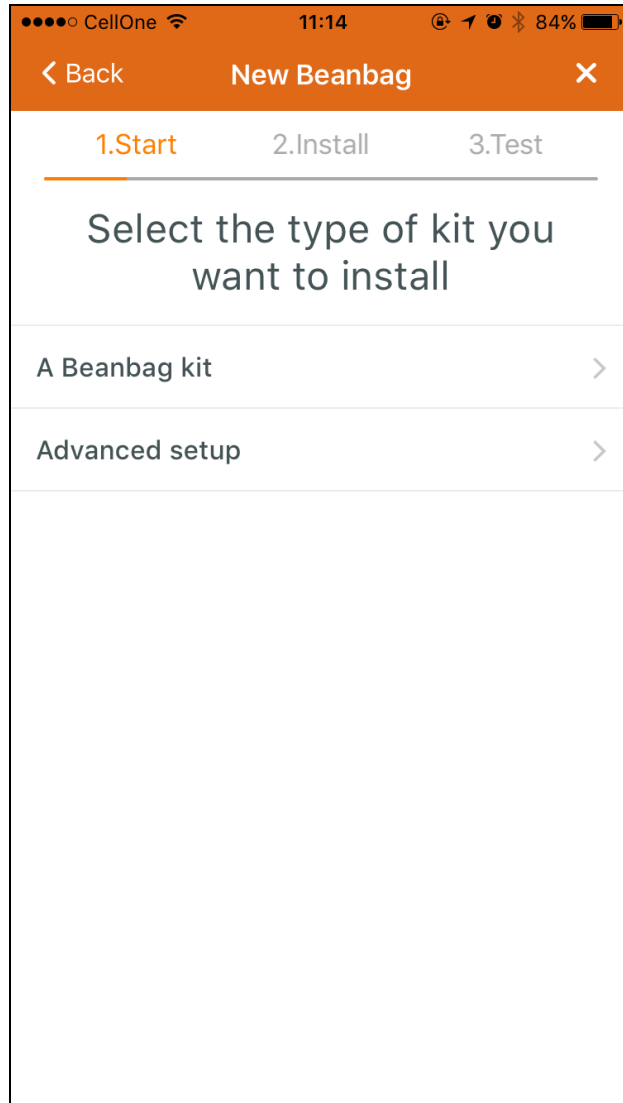
4 Preferred Devices Flow

Following are the two devices are Beanbag gateway preferred devices: -

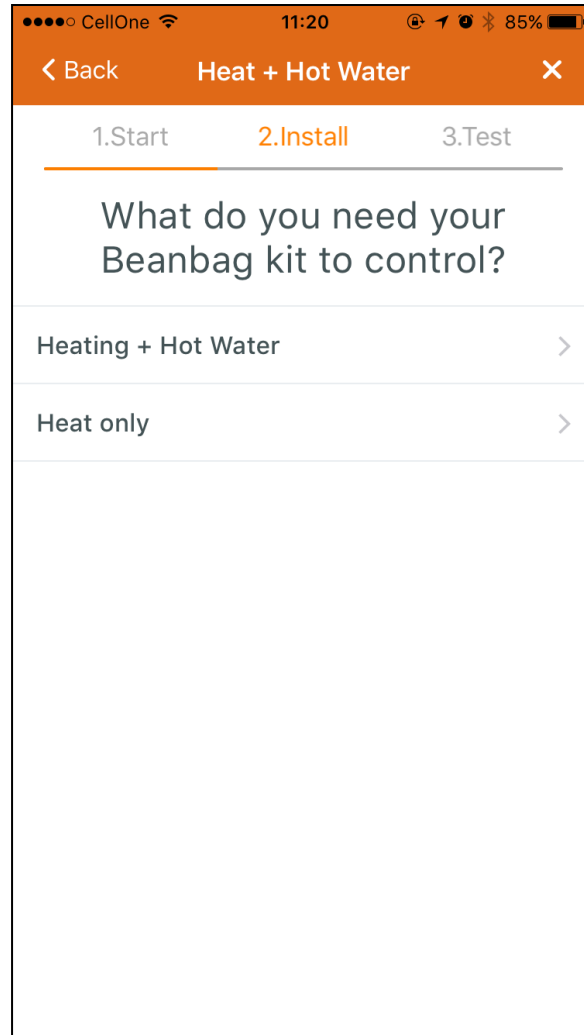
1. Beanbag Receiver version
2. Beanbag Thermostat

4.1 Install Beanbag System

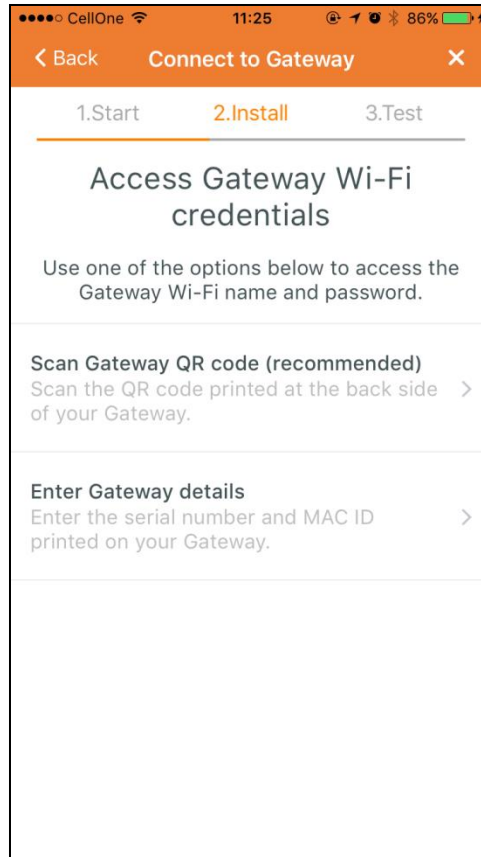
User will select “**Install a new Beanbag system**” option from the above dashboard. Following screen will appear



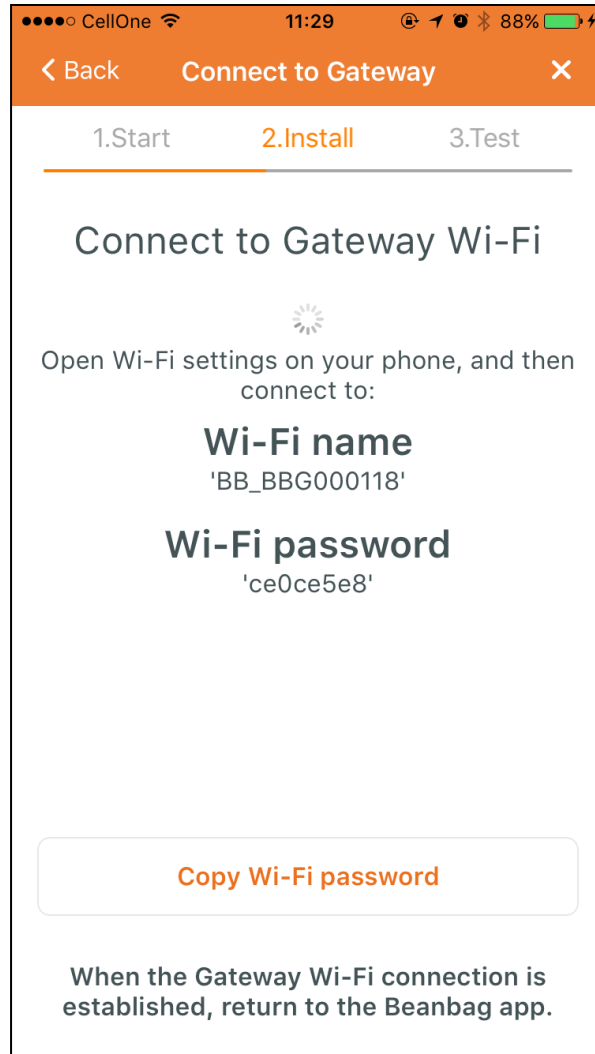
User will select a Beanbag Kit from the App. After following screen will appear: -



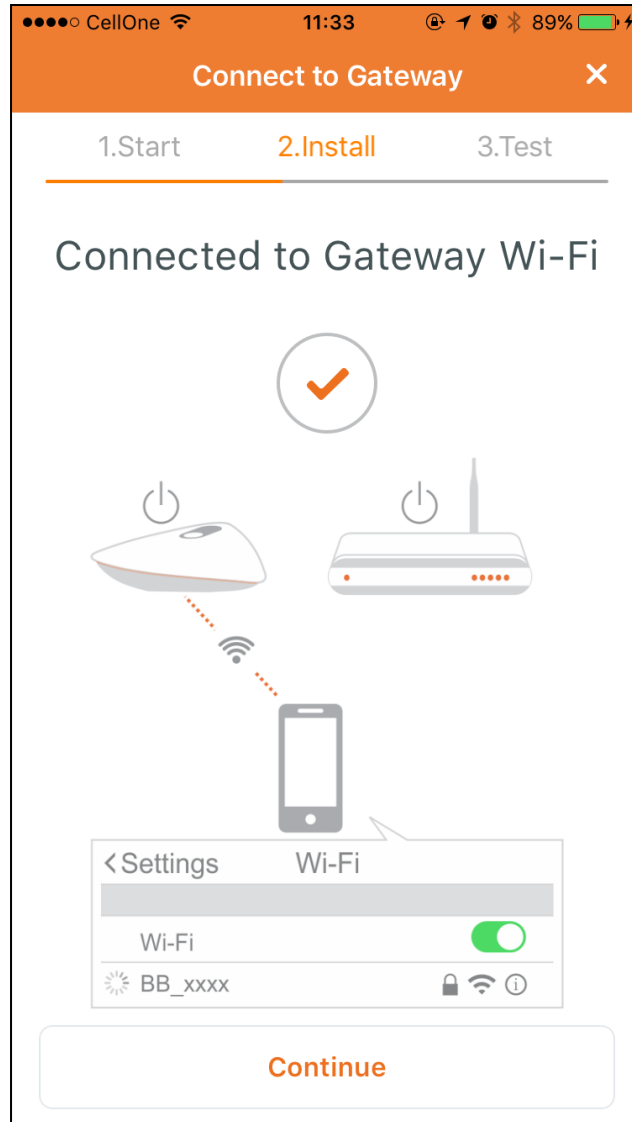
User will select Heat Only option from the above menu. After that App will prompt user to fill his/her home details related to Home Name, Address, City and Postal Code. User have to fill proper details related to his/her home and then press **Continue** option. After that App will ask user to enter gateway details related to its MAC Address and Serial Number. User have an option either to scan the QR code present on the gateway label or can enter manually these details from the gateway label.



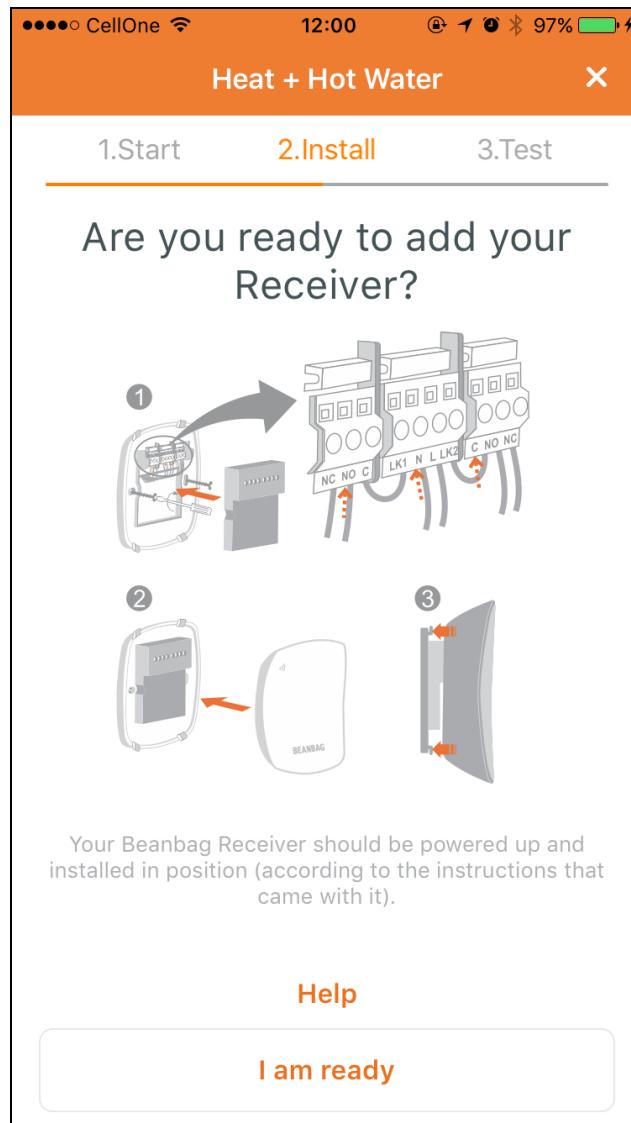
After that gateway will prompt user to connect the mobile device with Gateway Wi-Fi (AP mode). Screen will show user the Wi-Fi SSID name and its password.



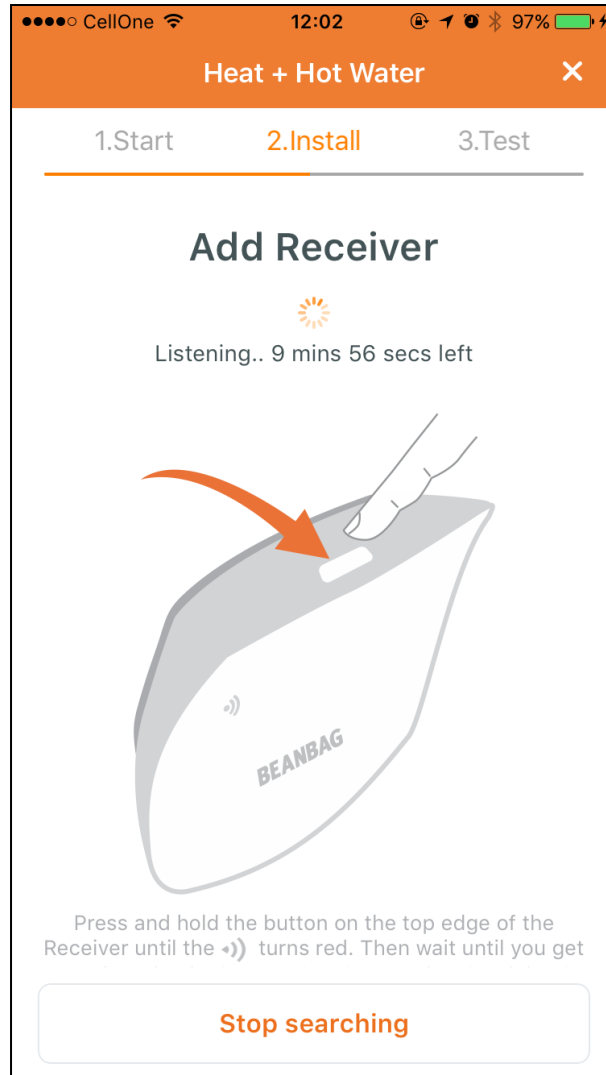
User will have to select that Wi-Fi name from the Wi-Fi settings of the phone and try to connect with it with proper credentials. As soon as the mobile is connected with the gateway's Wi-Fi following screen will be shown: -



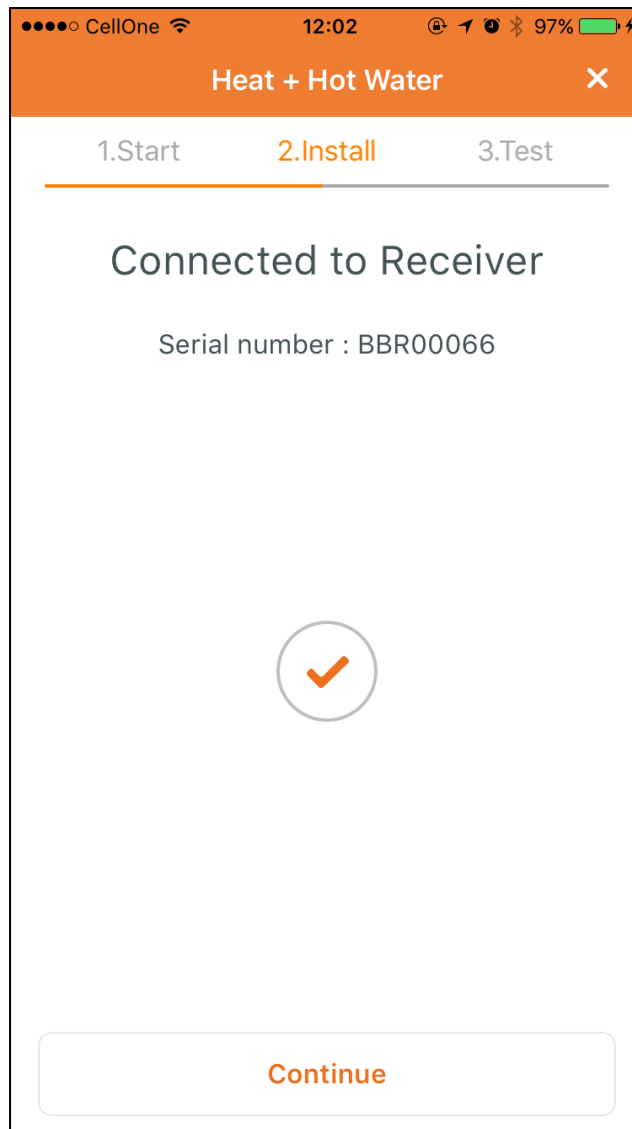
After that App will prompt user to enter gateway details related to its user defined name and its location. Then App will prompt user to set gateway time zone and time. After that App will prompt to add Beanbag Receiver and following screen will be displayed.



User needs to check whether the Beanbag Receiver is power up or not. If not then power up the receiver and then press the **"I am ready"** option. As soon as the user pressed this option following screen will be displayed in which gateway will be in Inclusion Mode and search for Beanbag Receiver. App screen will also guide the user to press the required button on the Beanbag Receiver.

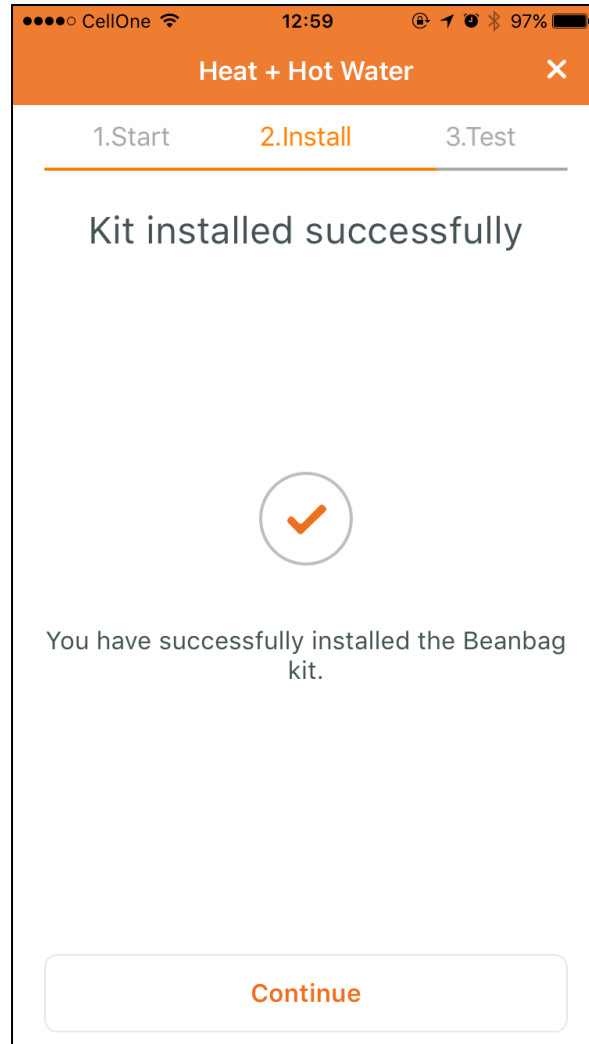


As soon as the user pressed the button on the Beanbag Receiver it is included in the Gateway's Z-Wave network and following screen will be displayed: -



After that App will prompt the user to enter Beanbag Receiver's related to its user defined name and location.

After that App will prompt user to add the Beanbag Thermostat. User will add the Beanbag Thermostat in the gateway's Z-Wave network by following the instructions displaying on the App. After that App will display successful installation of the kit.



After that App will prompt user to check the signal strength of all the included devices in the gateway's Z-Wave network.

4.2 Remove Device

Refer section 5.1.2

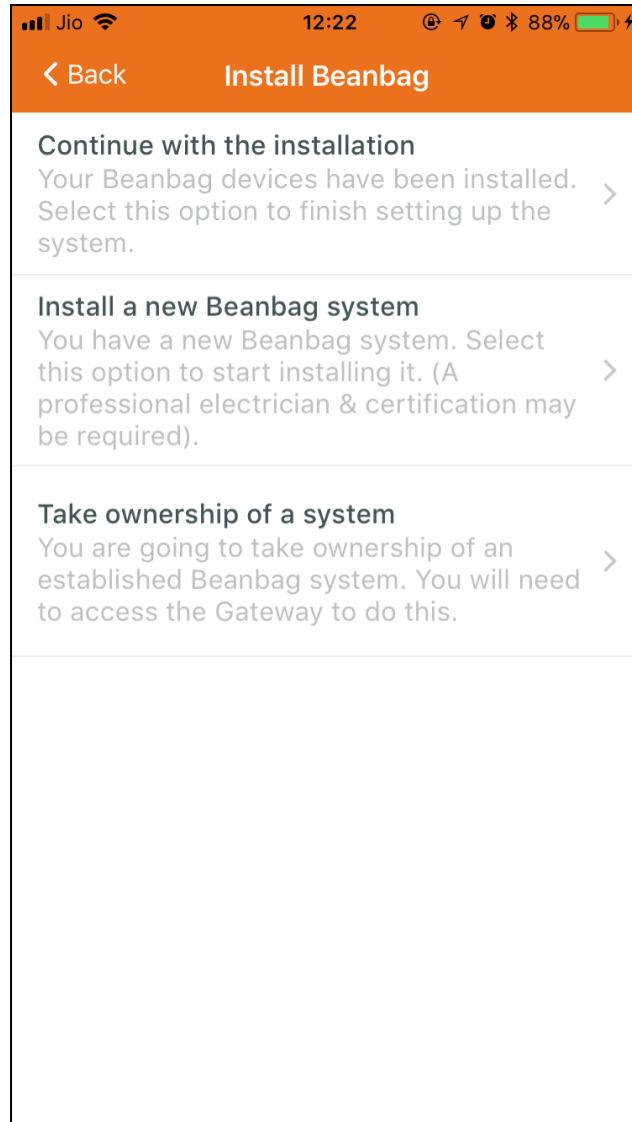
5 Non-Preferred Devices Flow

Beanbag gateway is compliant with all other Z-Wave compliant devices. All these Z-Wave devices are considered as non-preferred devices for the Beanbag gateway. User can interact with any non-preferred Z-Wave complaint devices through the menu **“Additional Z-Wave Ecosystem Devices”** present on the App.

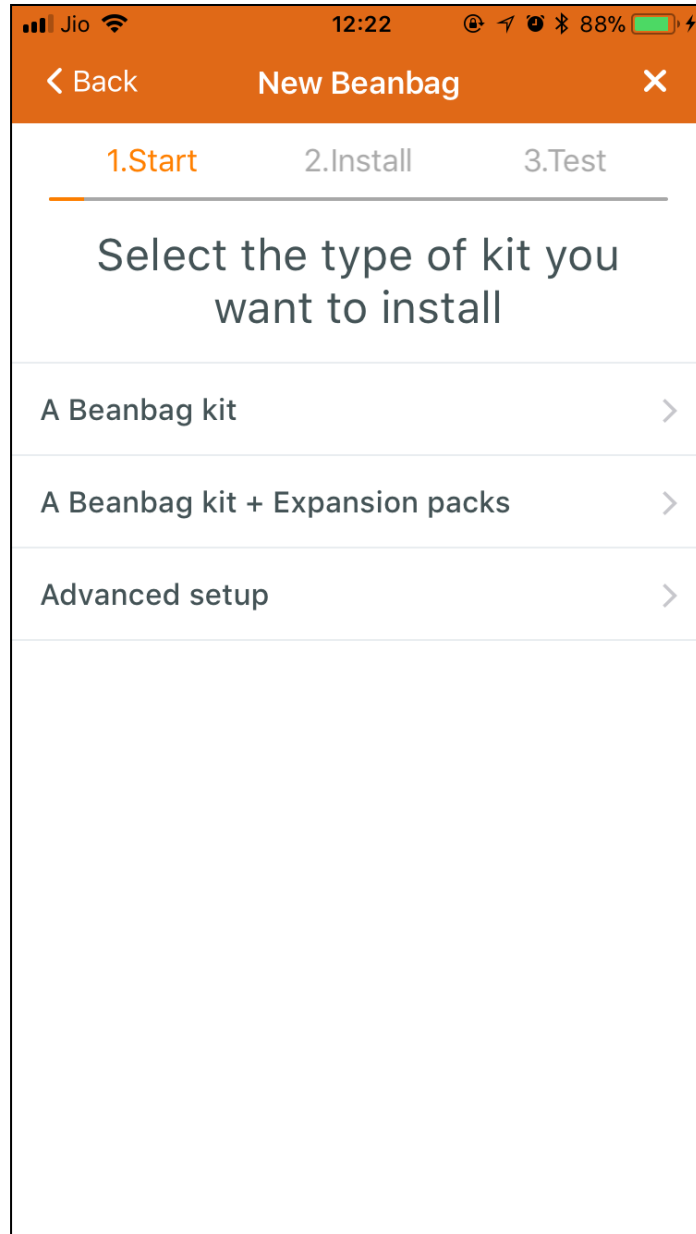
5.1 Additional Z-Wave Ecosystem Devices

5.1.1 Add Device

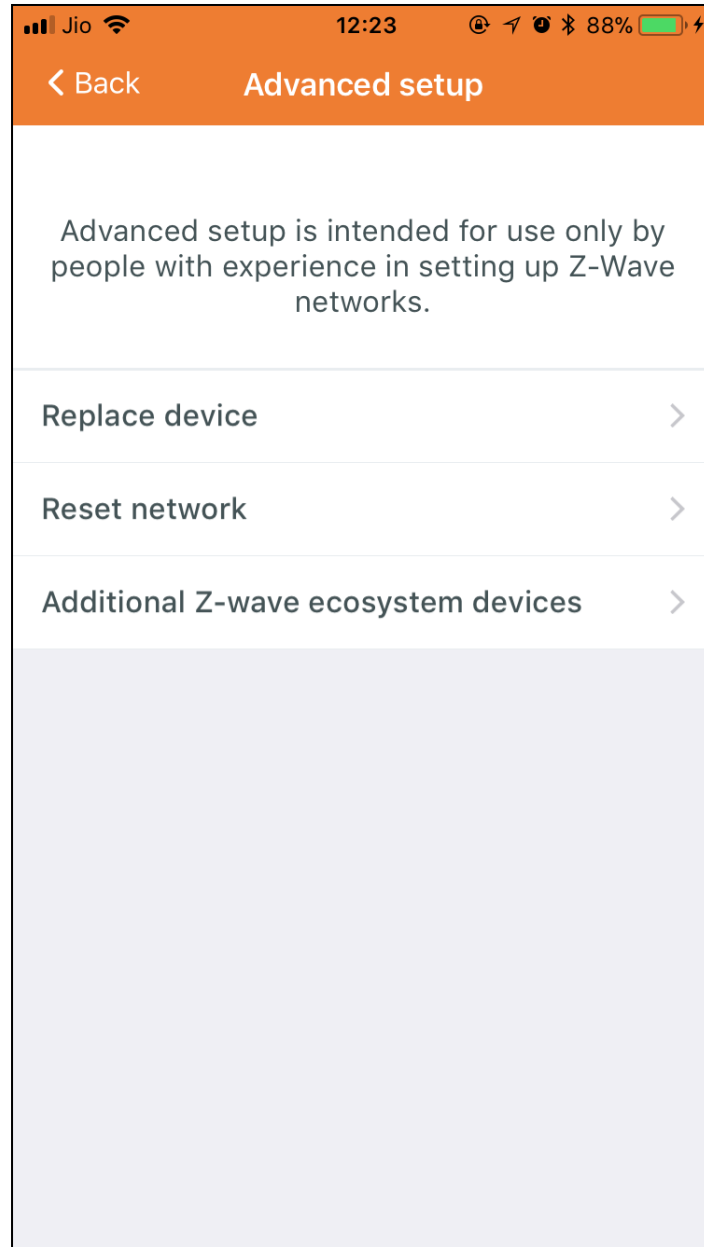
For non preferred or unknown devices, after login in the App, from the initial dashboard select the option **“Install new Beanbag system”**.



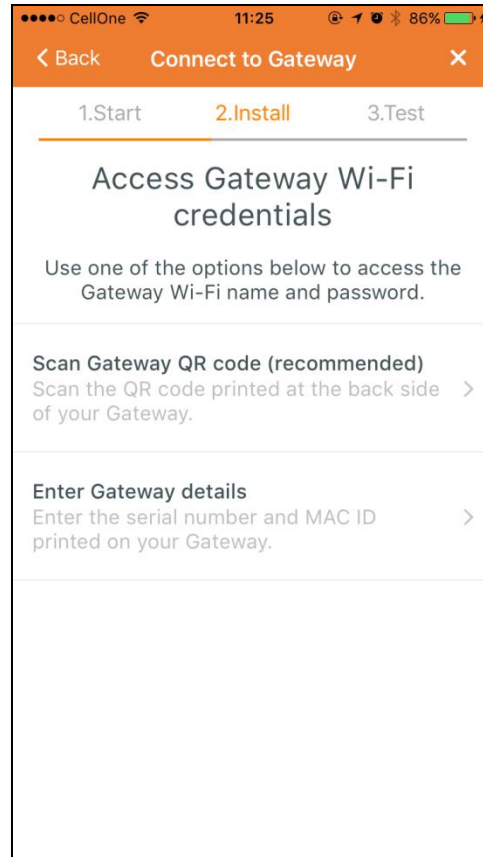
On selecting this option following screen will appear which is having a menu option of **Advanced SetUp**



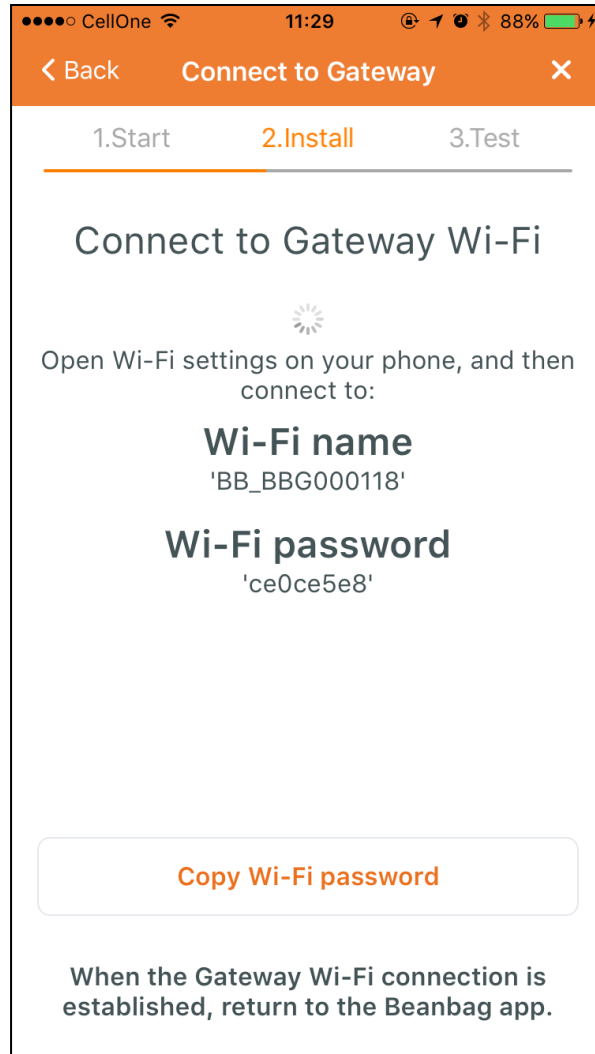
On selecting the **Advanced SetUp** option from the above screen following screen will appear which is having a menu option **Additional Z-Wave ecosystem devices**.



On selecting this option App will prompt user for entering Beanbag gateway's details related to MAC Address and Serial number.



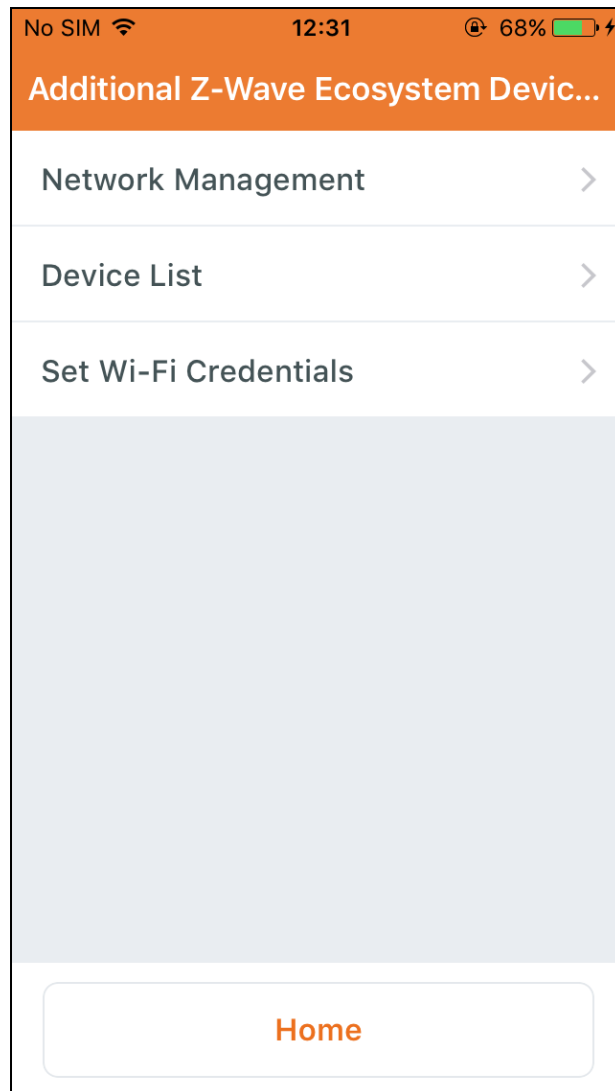
After that gateway will prompt user to connect the mobile device with Gateway Wi-Fi (AP mode). Screen will show user the Wi-Fi SSID name and its password.



User will have to select that Wi-Fi name from the Wi-Fi settings of the phone and try to connect with it with proper credentials. As soon as the mobile is connected with the gateway's Wi-Fi following screen will be shown: -

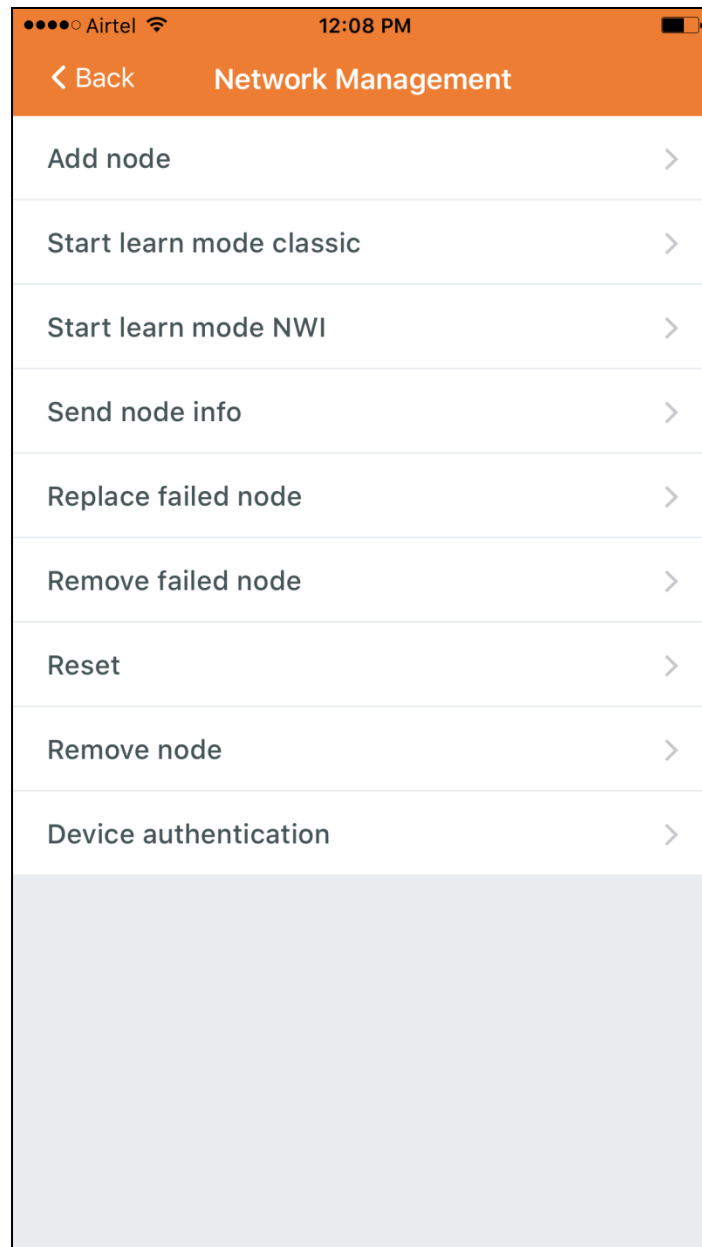


After that App will prompt user to enter gateway details related to its user defined name and its location. Then App will prompt user to set gateway time zone and time. After that dashboard for “**Additional Z-Wave Ecosystem Devices**” will be shown on the App which consisting of two options “**Network Management**” and “**Device List**”.

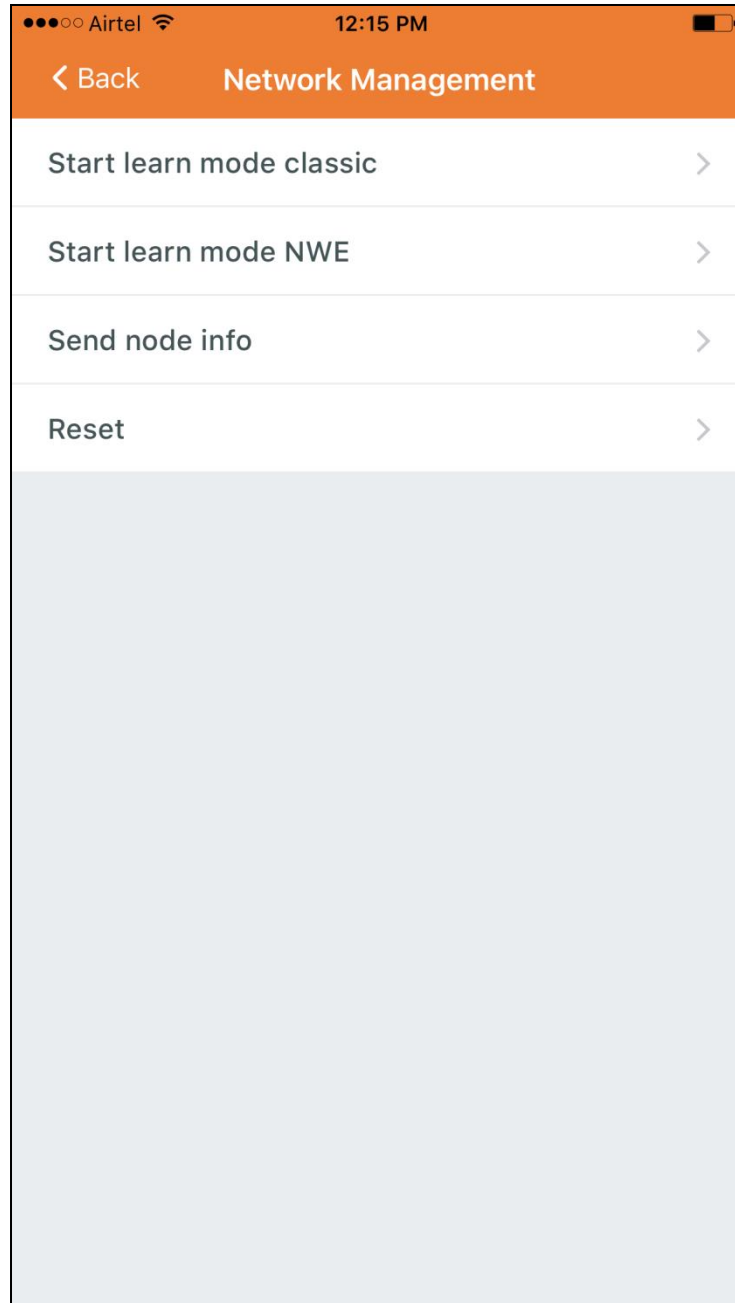


For all Network related tasks user have to click on the “**Network Management**” option and for all actions related to control of included nodes user have to click on “**Device List**” option. “**Set Wi-Fi credentials**” is used when user wants to send wi-fi credentials of home wi-fi router to gateway so that gateway will be able to connect with the backoffice.

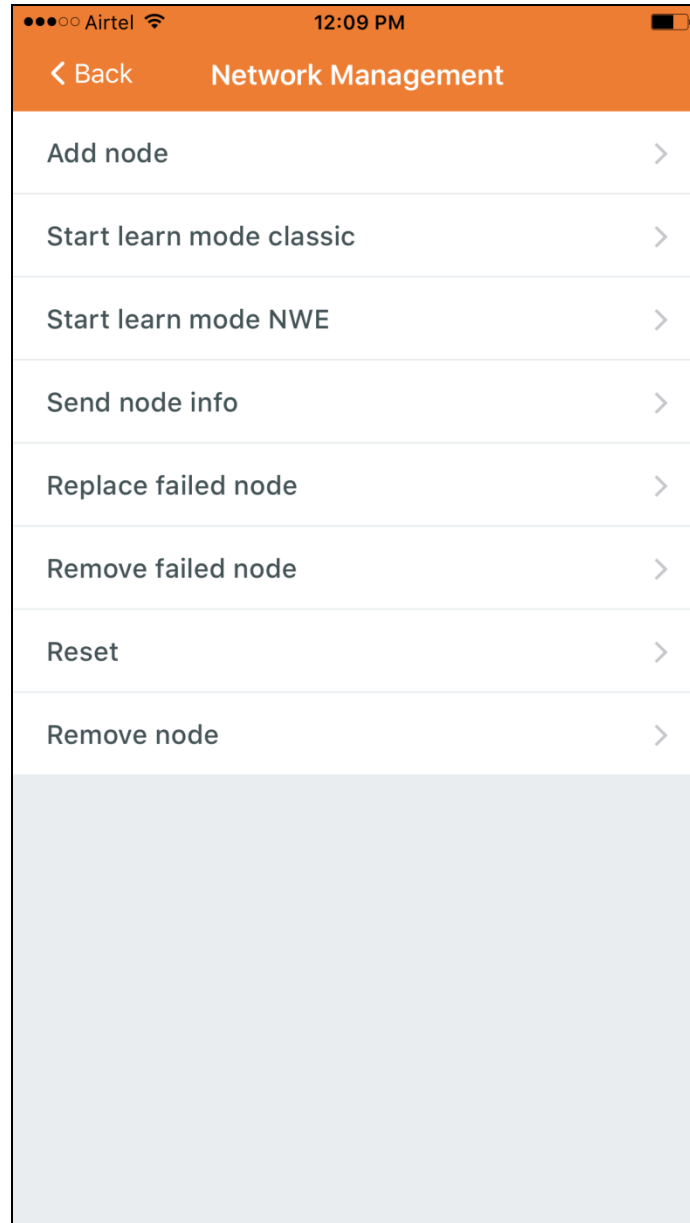
Network Management options will be displayed on App based on the Role type of gateway. If the Role Type is Primary then following screen will be displayed on the App.



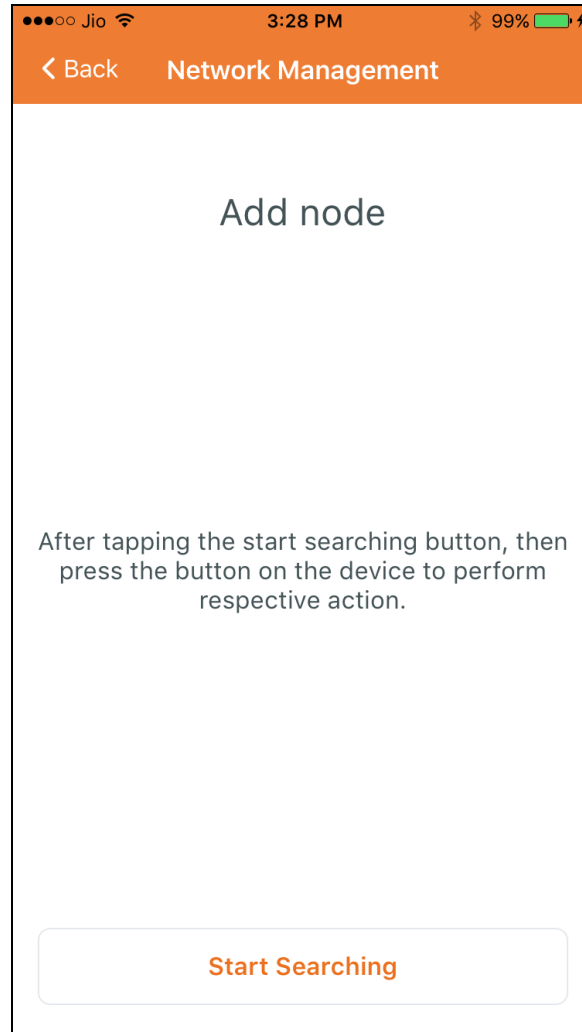
If the Role Type is Secondary then following screen will be displayed on the App.



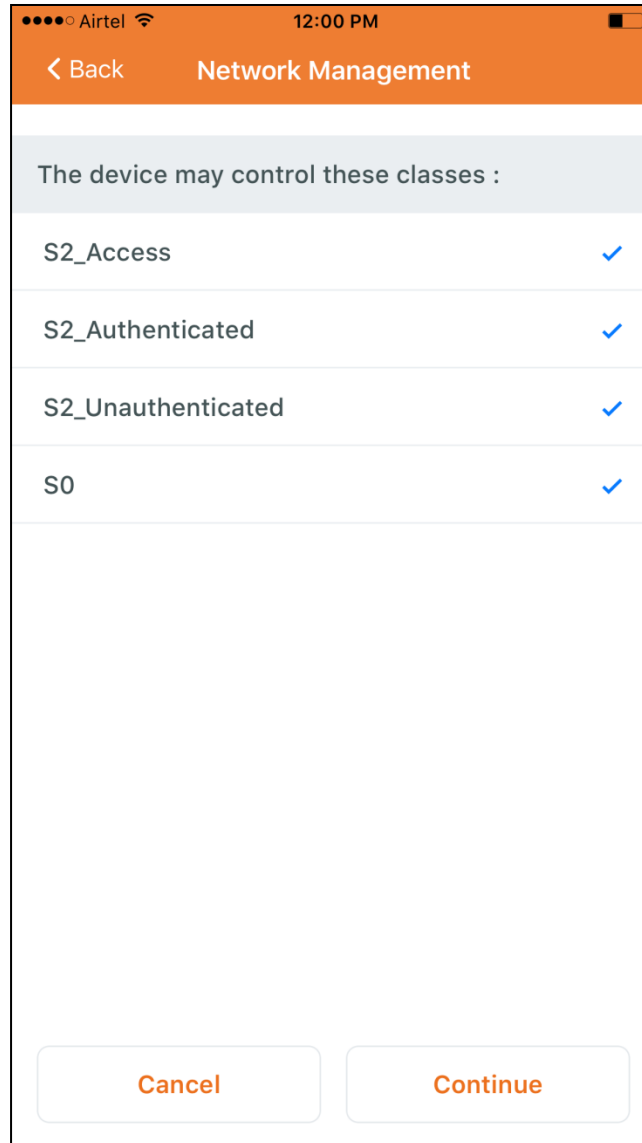
If the Role Type is Inclusion then following screen will be displayed on the App.

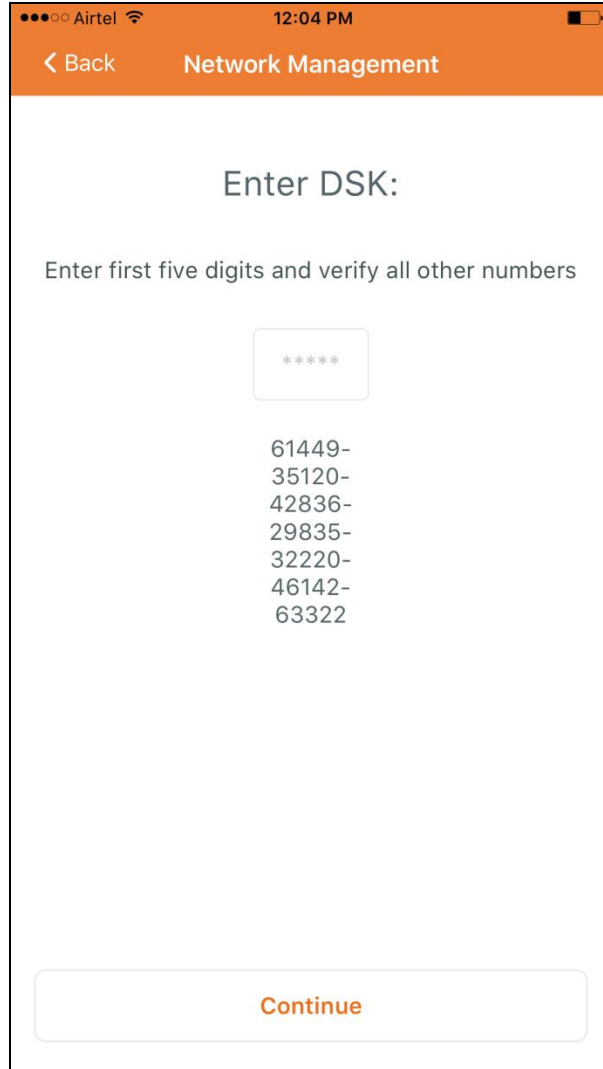


For adding an unknown or a non-preferred device click on “**Network Management**” option and then select “**Add Node**” option.



If the including node supports S2 security then all the relevant screens will be displayed on the App for user confirmation for which security scheme to be selected and also for inputting key details of the including node.





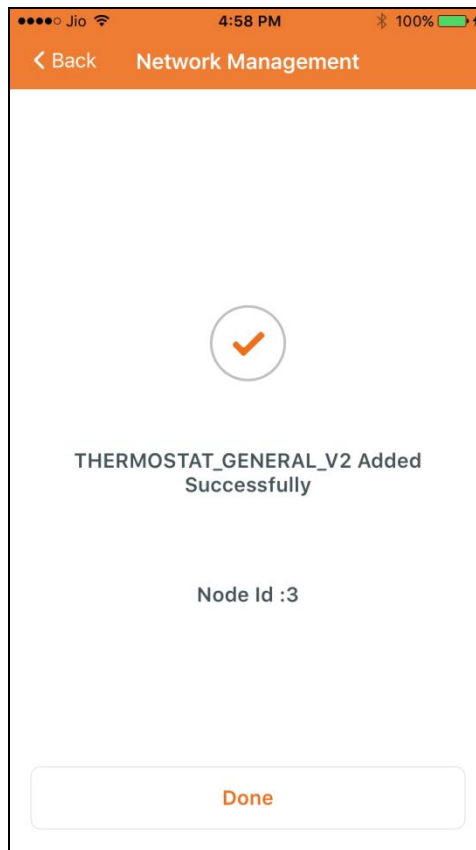
Enter DSK:

Enter first five digits and verify all other numbers

61449-
35120-
42836-
29835-
32220-
46142-
63322

Continue

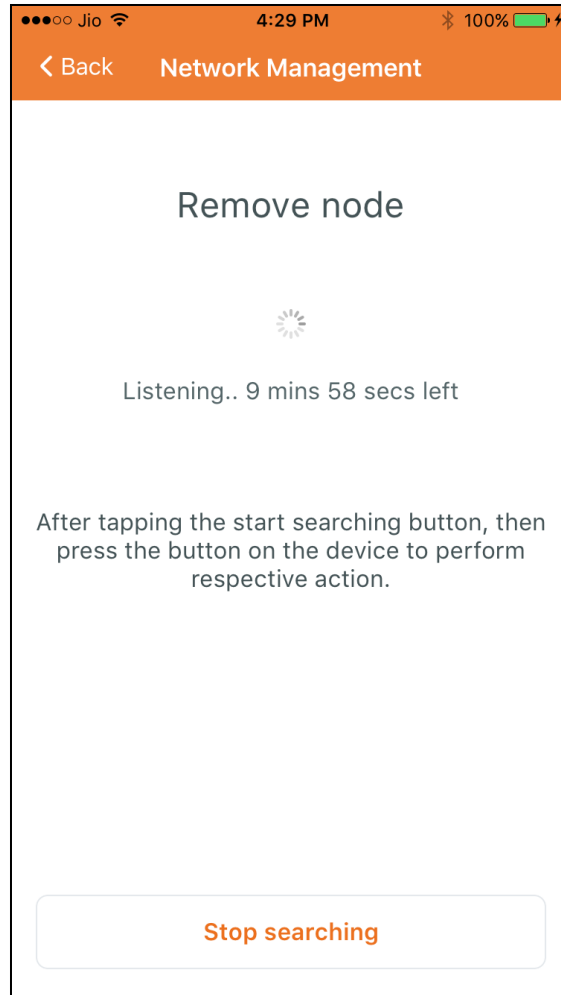
On pressing **“Continue”**, App will show confirmation about the inclusion of the node in the gateway's Z-Wave network.



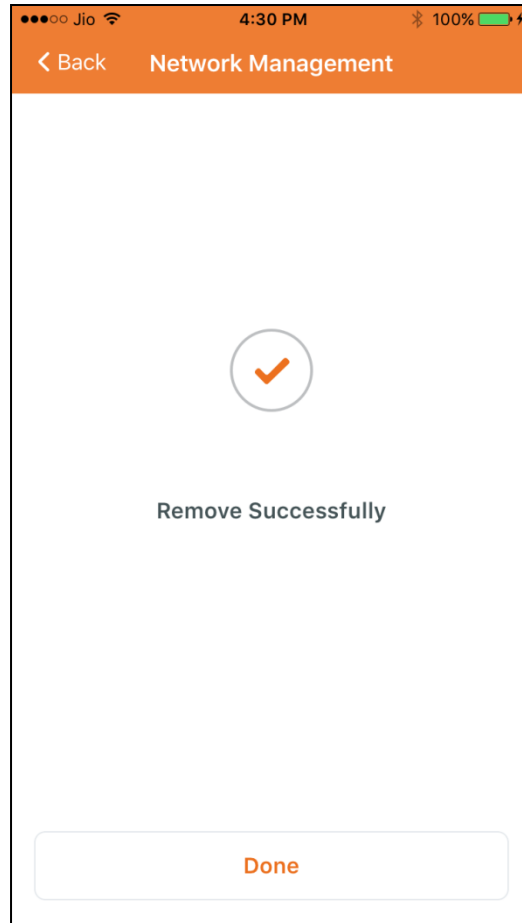
If the including node do not support security then these above security related screens will not be displayed on the App.

5.1.2 Remove Device

For removing any Z-Wave device from gateway's Z-Wave network select the **"Remove Node"** option under the **"Network Management"** option.



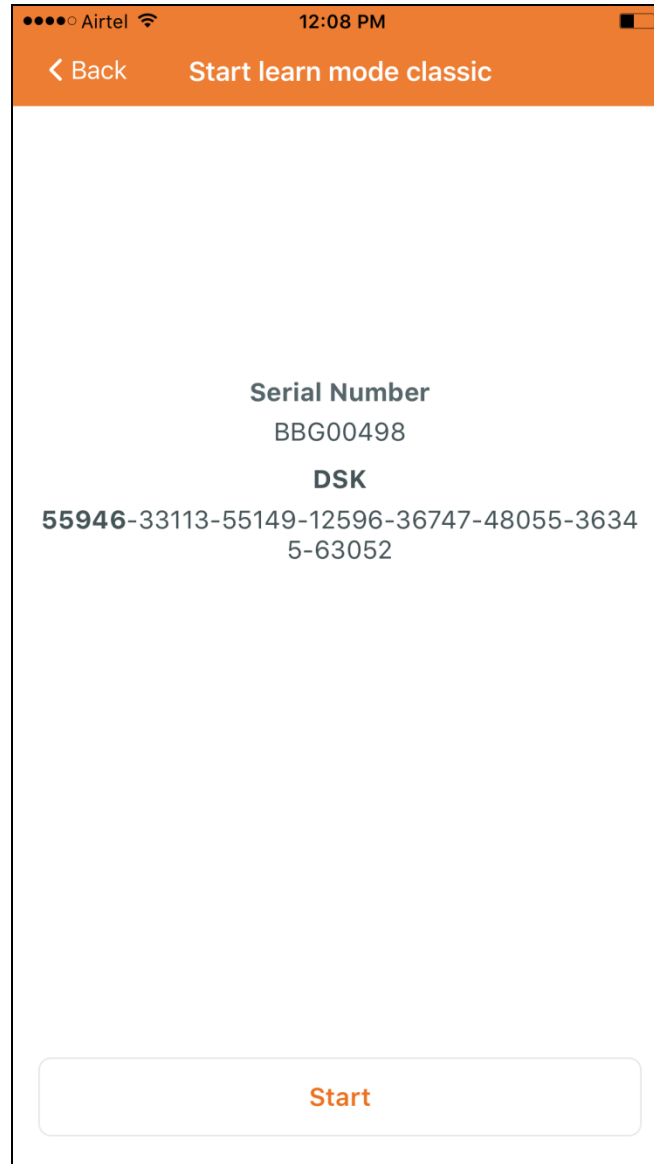
This screen is prompting user to press button on the intended device. As soon as the user pressed the button on the intended device that device is removed from the gateway's Z-Wave network and following screen will be shown on the App.



5.2 Including gateway to existing network

To add the Gateway into another controller's network, user has to start the Add Node operation on the other controller, and then select either the **"Learn Mode Classic"** or the **"Learn Mode NWI"** option under the **"Network Management"** option on the App.

Following screen will be shown on the app: -



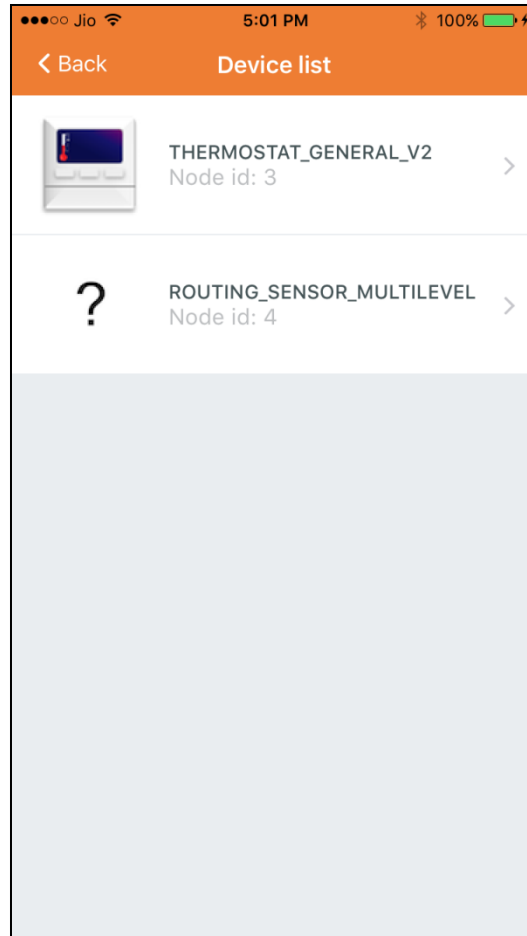
5.3 Replication of network information

To copy network information to another controller on the same network, user has to select the “**Add Node**” option under the “**Network Management**” option on the App, and then start Learn Mode on the other controller.

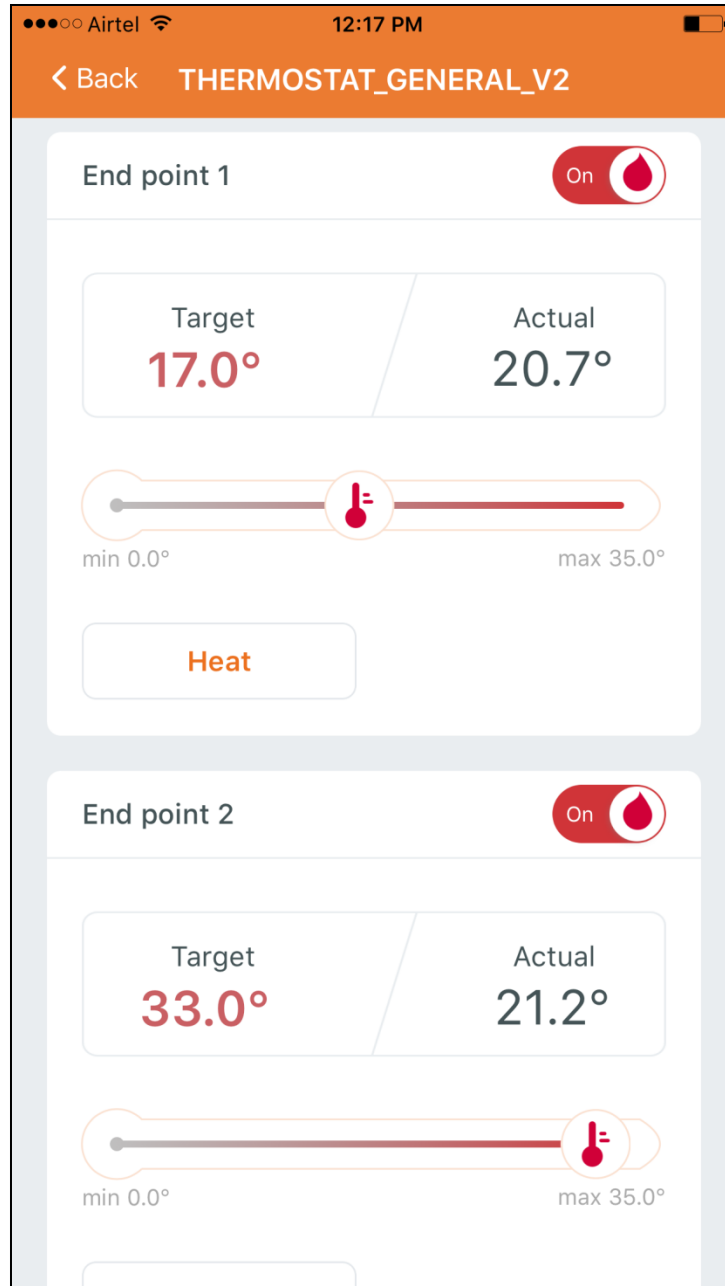
To receive a copy of the network information from another controller on the same network, user has to initiate the replication operation on the other controller, and then select “**Learn Mode Classic**” under the “**Network Management**” option on the App.

5.4 Controlling Devices

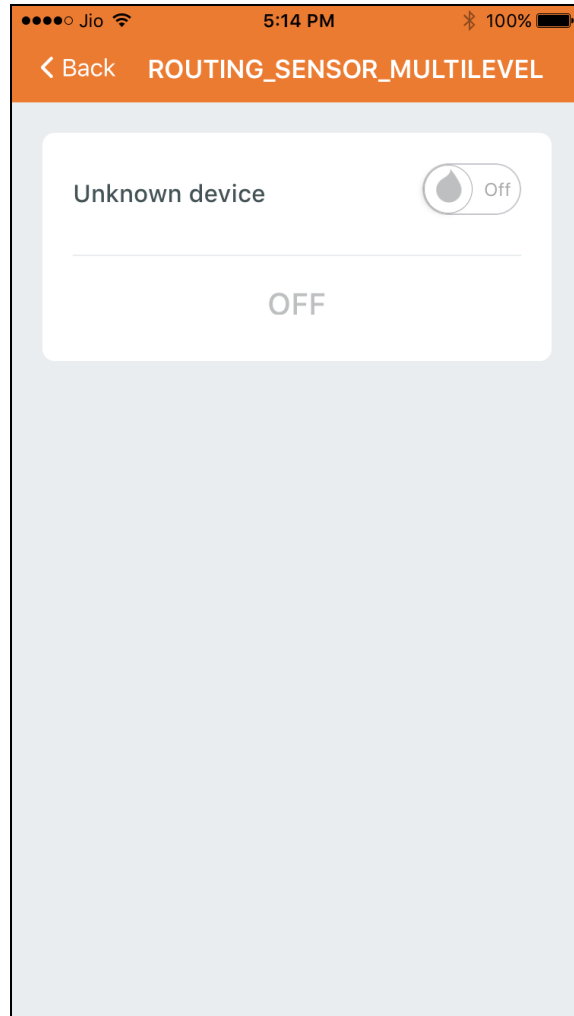
App will show a list of all the included nodes in gateway's Z-Wave network in the “**Device List**” option.



For controlling any Thermostat included node when user click on the Thermostat option it will allow user to set Basic Set, Thermostat Mode and Set Point.



For controlling Unknown devices when user clicks on the Unknown device option it will allow user to set only Basic Set option.

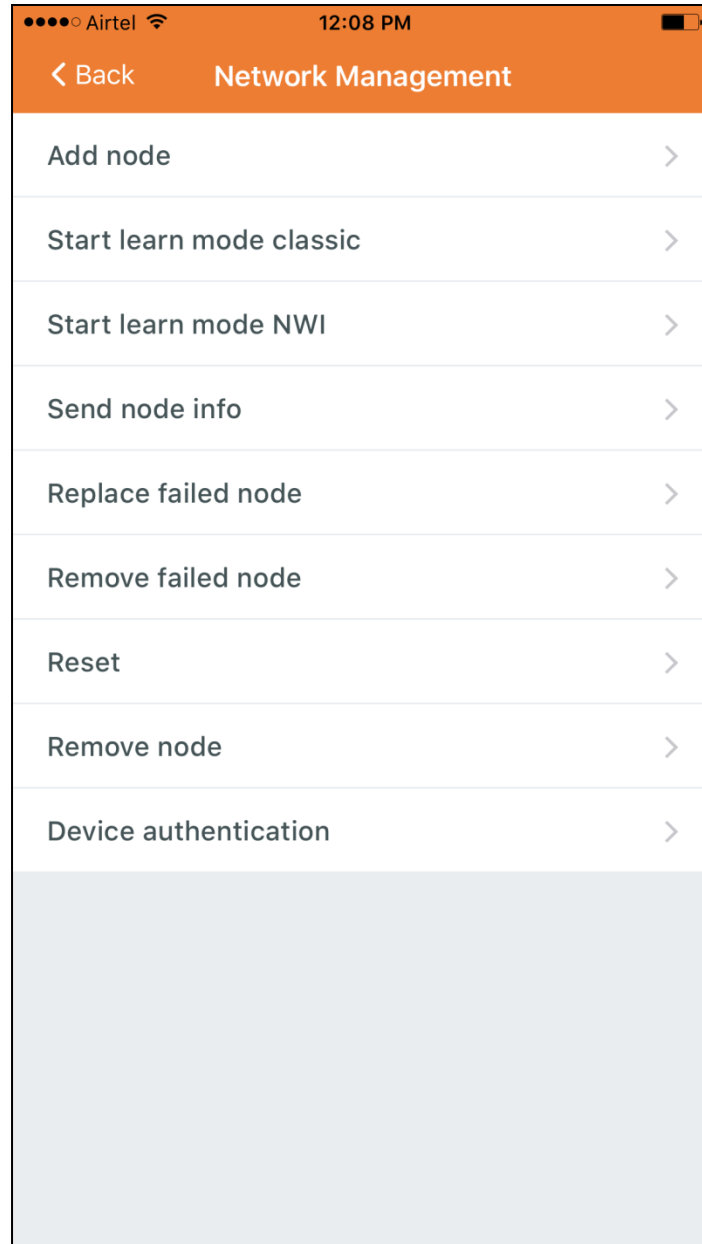


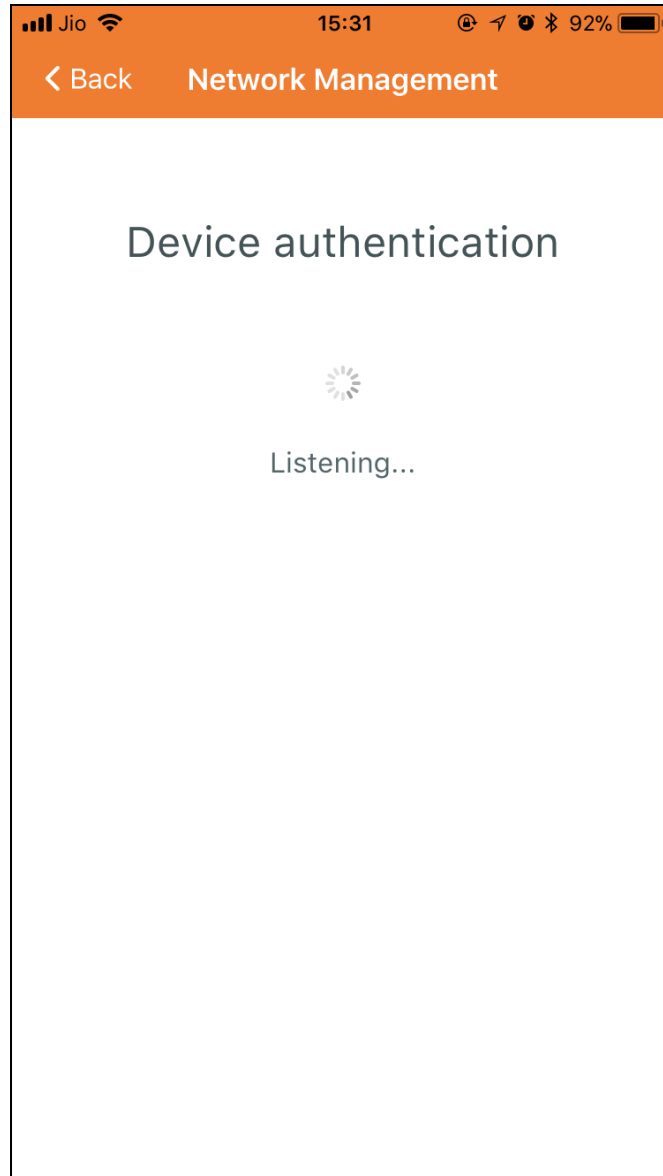
5.5 BASIC Commands

Beanbag gateway will ignore/do nothing when it receives BASIC SET or BASIC GET command.

5.6 Device Authentication

User will have to select this option for granting security schemes to the device, in case when device is including in the network by some other inclusion controller in the network.





5.7 Factory Reset

User will have to select the option “**Reset**” under “**Network Management**” for factory reset the gateway.

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.

6 Compliance

