

Dwelo Hub 3 Installer Manual

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Intended Audiences

The purpose of this document is to provide instructions on the installation and operation of the Dwelo Controller.

The audiences are

- Dwelo Field Technicians
- QA testers
- Developers
- Z-Wave™ certification testers

Glossary

Dwelo Controller	A device owned and operated by Dwelo, installed in multi family dwellings as a service provided to the community owner. It connects to devices locally via Z-Wave and to the Dwelo Cloud via Internet
Z-Ware	A web user interface used during installation by Dwelo Field Technicians and during product development and testing by Dwelo Engineers and Testers
Z/IP Gateway	A software component provided by Silicon Labs which translates messages between Z-Wave and IP
Balena Cloud	A fleet control and service platform used to manage Dwelo Controllers

Product Statements

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

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.

Factory Reset: "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."

Introduction

Hardware Installation

The Dwelo controller is installed by plugging it in to AC power with the supplied adapter and connecting the Ethernet port to a port on a router with internet access using the supplied Ethernet cable.

Rebooting

This device is equipped with a short term power backup. To reboot unplug the power cord and wait for 30 seconds or until the LED's turn dim.

User Interface

Users

The intended user is the Dwelo Field Technician responsible for installing Dwelo Controllers throughout an apartment complex. The tenants of the apartments will not have access to this interface nor will property management.

Logging in

Go to the Balena Cloud Dashboard: <https://dashboard.balena-cloud.com/login>

Log in using the Balena account credentials provided to you separately.

Under "Applications" (<https://dashboard.balena-cloud.com/apps>) select "**hub3-runtime**"

Identify the controller you want to log in to and note its local IP address:

The screenshot shows the balena runtime dashboard with a table of devices. The table has columns for Status, Name, Last Seen, UUID, OS Version, OS Variant, Supervisor Version, IP Address, and Release. The device 'restless-silence' is highlighted, and its IP address, 192.168.1.132, is circled in red.

Status	Name	Last Seen	UUID	OS Version	OS Variant	Supervisor Version	IP Address	Release
Online	divine-snow	Currently online (for 3 hours)	b727147	balenaOS 2.29.0+rev1	production	9.0.1	192.168.1.111	b4714d2
Offline	solitary-water	6 days ago	93e7c6d	balenaOS 2.29.2+rev2	production	9.0.1	192.168.1.112	6471f26
Offline	long-voice	a day ago	8c8d0c4	balenaOS 2.29.2+rev1	production	9.0.1	192.168.1.132	b4714d2
Online (local mode)	restless-silence	Currently online (for 3 hours)	912b21a	balenaOS 2.29.0+rev1	development	9.0.1	192.168.1.132	Development
Offline	divine-resonance	15 days ago	5b4a794	balenaOS 2.29.0+rev1	production	9.0.1	192.168.16.235	4406393

Note: The appearance may differ slightly depending on your role and which balena account you are logged into, but the purpose is the same: To identify the local IP.

Click on the copy icon and paste the IP in to a browser on the same local network as the controller is on.

This will present a login screen. Log in with the provided credentials.

Engineering UI

The Engineering UI has more advanced functions available. If you cannot find a function that you need in the standard UI try the engineering UI by going to <http://a.b.c.d/ui/eng/index.shtml> where a.b.c.d is the local IP of the controller.

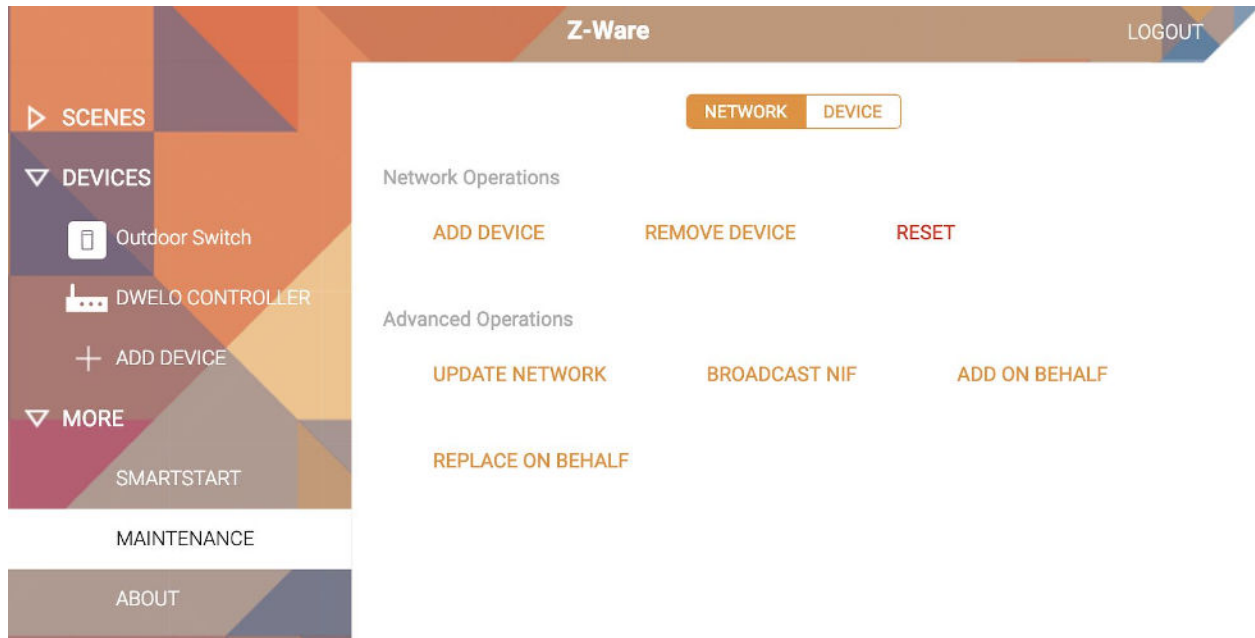
To return to the standard UI go to <http://a.b.c.d/ui/pc/index.html>

Network

Add/Remove

Z-Ware supports Add, Remove, Reset (Set Default), Replace/Remove Failed Node, and Send Node NIF (Node Information Frame). If it is assigned a primary controller role, it will always upgrade itself to an SIS unless there is an SUC already present. Hence it cannot initiate controller shift as a primary.

Including a device can be done by clicking “ADD DEVICE” in the menu, or under the MAINTENANCE menu:



To exclude select REMOVE DEVICE and the follow device instructions.
Factory Reset is triggered by selecting RESET, followed by CONFIRM.

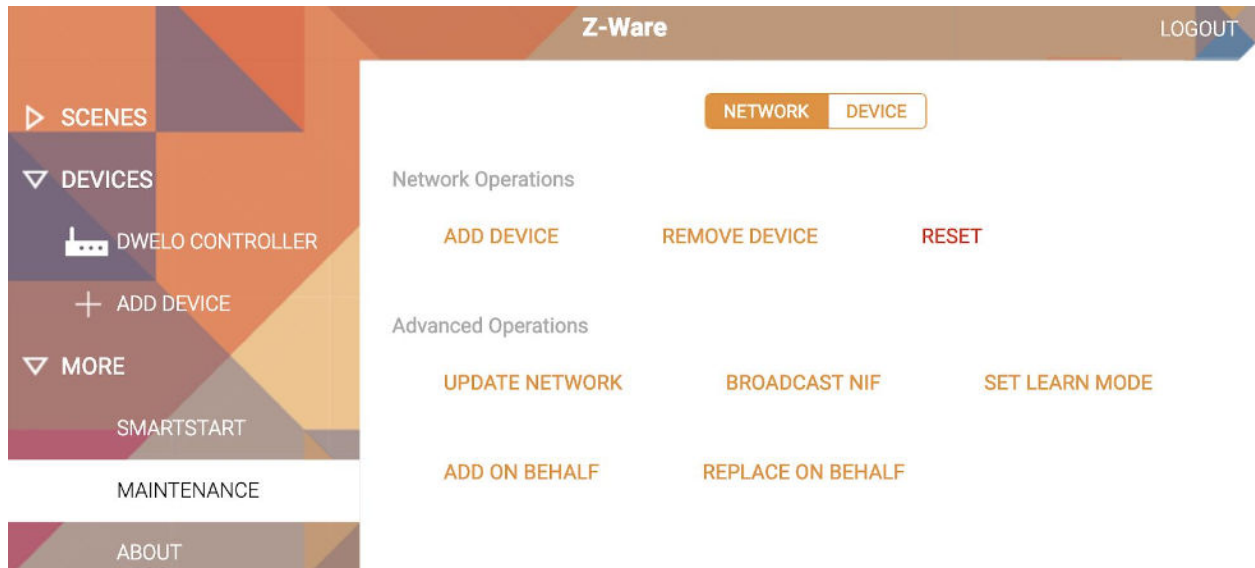
Copy/Controller Add

Z-Ware supports Set Learn mode but this can only be performed when Z-Ware is not already in a network and will make Z-Ware an Inclusion or Secondary Controller, in which case, some of its facilities will not be available.

To assume Inclusion role include it into a SIS network.

To assume Secondary role include it into a non SIS network.

This is triggered by clicking SET LEARN MODE while the primary controller is in inclusion mode. This will add the Dwelo Controller into the primary controllers network.



Controller replication (Copy) is achieved through Inclusion (click ADD DEVICE) and then Set Learn Mode on the other controller. This will add the other controller into the Dwelo Controllers network

Using S2 DSK

To include this controller in another network with S2 security use the key displayed in the pop-up during inclusion as illustrated below:



Node/Network Update

Additionally it also supports Node and Network Update. Z-Ware discovers a Z-Wave node's capabilities during inclusion through a series of comprehensive queries. This process may take some time. This operation may be aborted at any time.

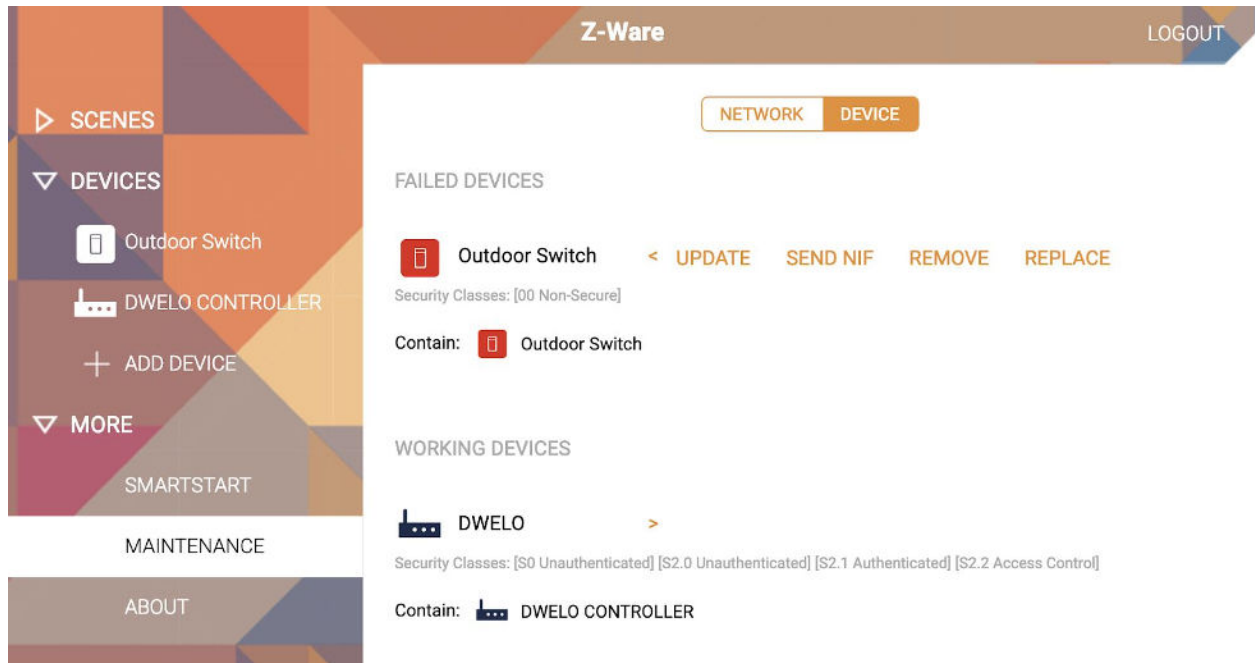
To exercise all the command classes supported by a node either add the device or run Node Update as described below. This will query all the nodes supported commands based on the

nodes NIF and, if supported, the VERSION command class responses, and populate the UI with the returned data where applicable

Node Update

Node Update re-queries the information that was obtained during inclusion. This allows discovering any changes that were not made through this Z-Ware.

Trigger this by clicking “UPDATE” on a device in the MAINTENANCE section under the DEVICE tab:



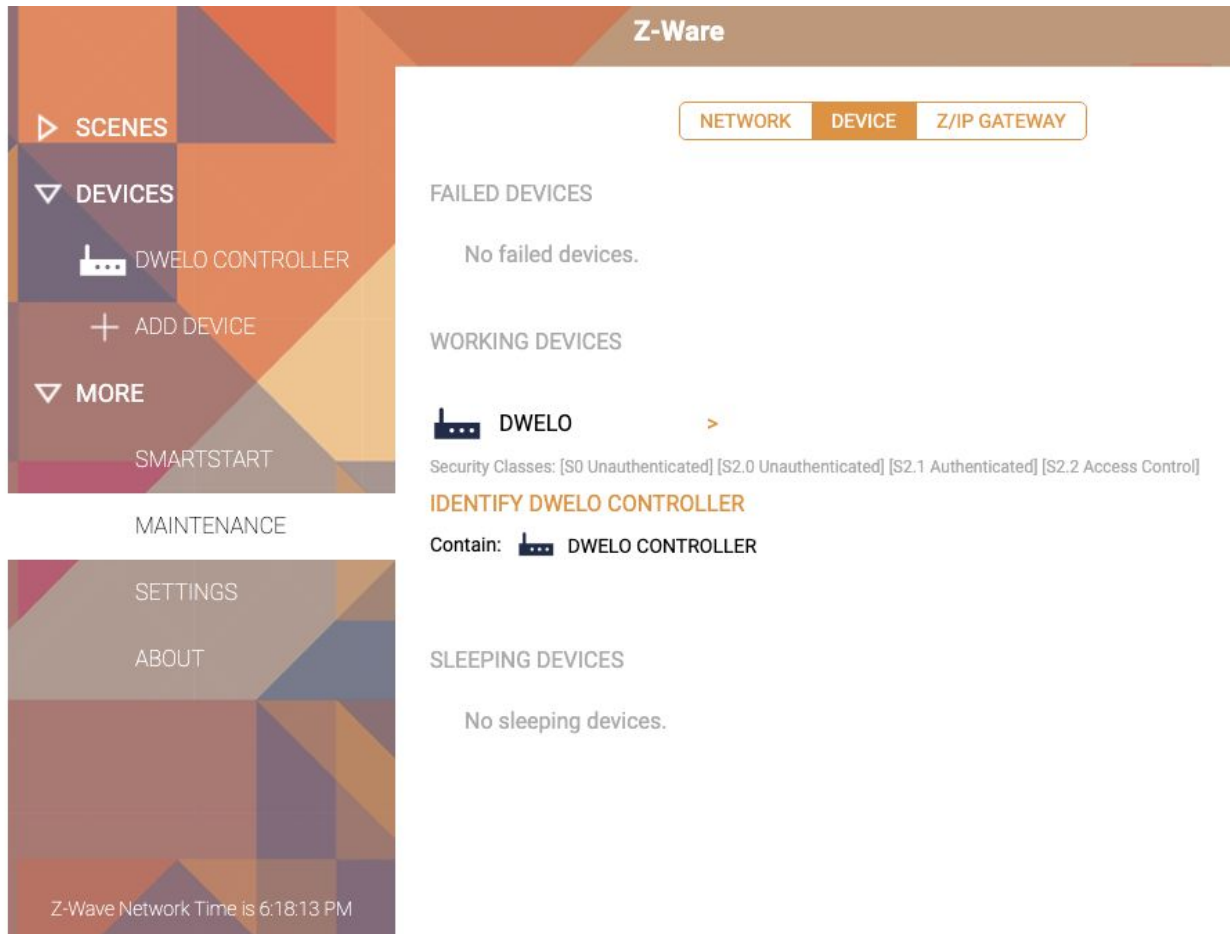
Network Update

Network Update requests topology from an SUC if available, and then performs neighbor update if available or node update to every node it is aware of.

To trigger click UPDATE NETWORK under the NETWORK tab of the MAINTENANCE page

Identify Controller

To trigger click IDENTIFY <Name of controller> under the NETWORK tab of the MAINTENANCE page. The number 1 LED will blink yellow.



Association/Groups

The Dwelo Controller can control association. In order to modify a nodes association parameters go to the Engineering UI Node Controller section (Can be found at <http://<IP>/ui/eng/node.shtml>) and select the desired node from the list at the top of the screen. Then expand "Group Settings". This will cause the Dwelo Controller to query the node for the supported associations and the available nodes.

To select a group pick it from the drop down menu named "Group".

To add a node to a selected group select it from the "Endpoint(s)" list and click Add.

To remove an already added node select it from the "Members" list and click Remove.

Menu

- Home
- Smart Start
- Network Manager
- Node Controller
- Scenes
- Security Scenes
- Settings
- About
- Change Password
- Logout

Z-Wave

Node Controller

Node	Vendor	Product	Product	Category	Security	Health
1	Id: 1045	1	1		[S0] [S2.0] [S2.1]	>>
6	zwaveproducts.com	12338	18244		[S2.0] [S2.1]	>>
7	Nortek Security &	21553	21570		[Non-Secure]	>>
8	Spectrum Brands	1	1		[S0]	>>
12	Sigma Designs	8	3		[S0] [S2.0] [S2.1]	>>

Endpoint Id	Generic Device Class	Specific Device Class	Name	Location
0	Thermostat	General Thermostat	Thermostat	Kitchen

► Multilevel Sensor Settings

► Thermostat Settings

► Thermostat Fan Settings

► Thermostat Setpoint Settings

► Basic Settings

► Battery Settings

▼ Group Settings

Group : 1
 Maximum Group Members : 5
 Group Members : Node:1
 Last Updated Time : February 22, 2019 8:14:42 AM

Endpoint(s)

Node:1
Node:6
Node:7
Node:8
Node:12

Add

Group

1

Member(s)

All
Node:1

Remove

► Configuration

► Name/Location Settings

Configuration

The Dwelo Controller can control configuration. To view or modify a nodes configuration parameters go to the Engineering UI Node Controller section (Can be found at <http://<IP>/ui/eng/node.shtml>) and select the desired node from the list at the top of the screen. Then expand the Configuration section.

To view a parameter enter the parameters number in the "Parameter Number" box. The controller will then query the node for the parameter and after a few seconds update the display with the latest data.

To edit a parameter, enter the desire value into the "Value" field and click "Set"

Menu

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Settings
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Change Password
Logout

Z-Wave

Node Controller

Node	Vendor	Product	Product	Category	Security	Health
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7	Nortek Security &	21553	21570		[Non-Secure]	>>
8	Spectrum Brands	1	1		[S0]	>>
12	Sigma Designs	8	3		[S0] [S2.0] [S2.1]	>>

Endpoint Id	Generic Device Class	Specific Device Class	Name	Location
0	Thermostat	General Thermostat	Thermostat	Kitchen

Multilevel Sensor Settings
Thermostat Settings
Thermostat Fan Settings
Thermostat Setpoint Settings
Basic Settings
Battery Settings
Group Settings
Configuration

Parameter Number:1 Current Value:0
Last Updated Time : February 22, 2019 8:20:08 AM
Parameter Number:1 Number of Parameters:1 Size:Minimum ☐ Default ☐ Handshake
Value:0
Set

Name/Location Settings

SmartStart

SmartStart enabled products can be added into a Z-Wave network by retrieving the Z-Wave DSK present on the product and adding it to the SmartStart provisioning list as documented in this section.

No further action is required and the SmartStart product will be added automatically within 10 minutes of being switched on in the network vicinity.

Provisioning

The SmartStart provisioning list can be accessed from under the MORE menu



To add a device select the + sign.

To edit or delete a device from the list click EDIT in the top right corner:



Device Control

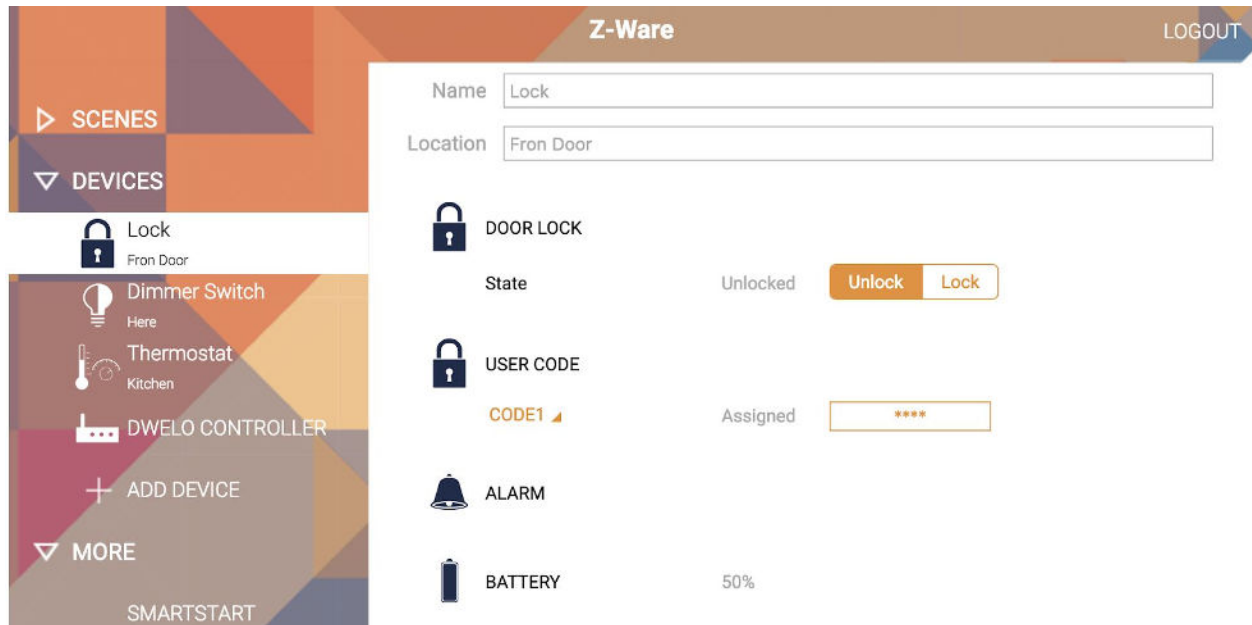
Devices can be controlled from the DEVICES section in the UI.

To exercise the Dwelo Controllers controlled command classes, include a device supporting them and manipulate the controls accordingly.

Door Lock

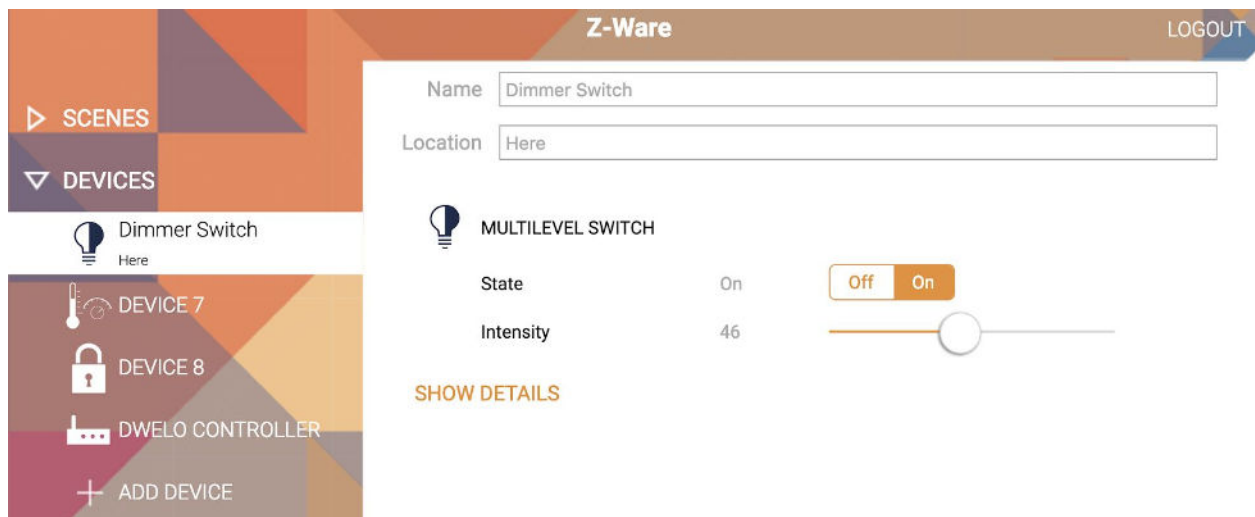
To lock/unlock a door select the unlock/lock toggle.

To add/edit door codes select the code number from the multi selection list and enter the PIN



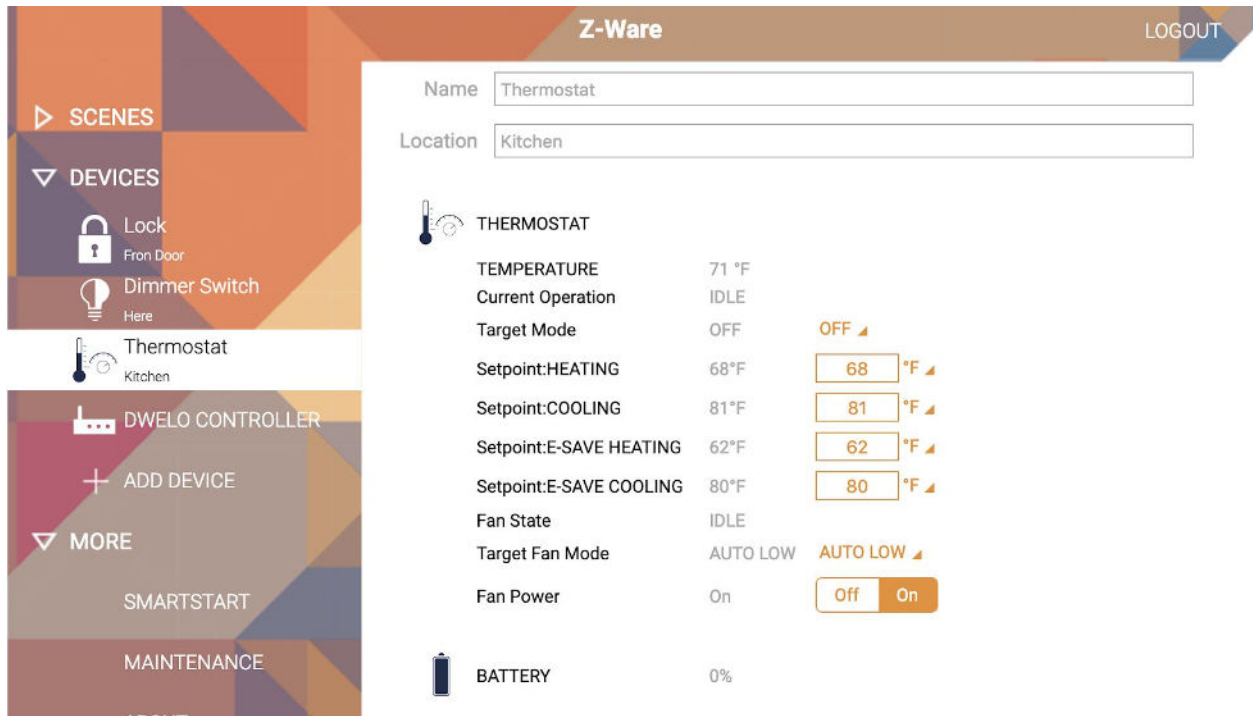
Switch

Use the button and/or the slider to effect a change



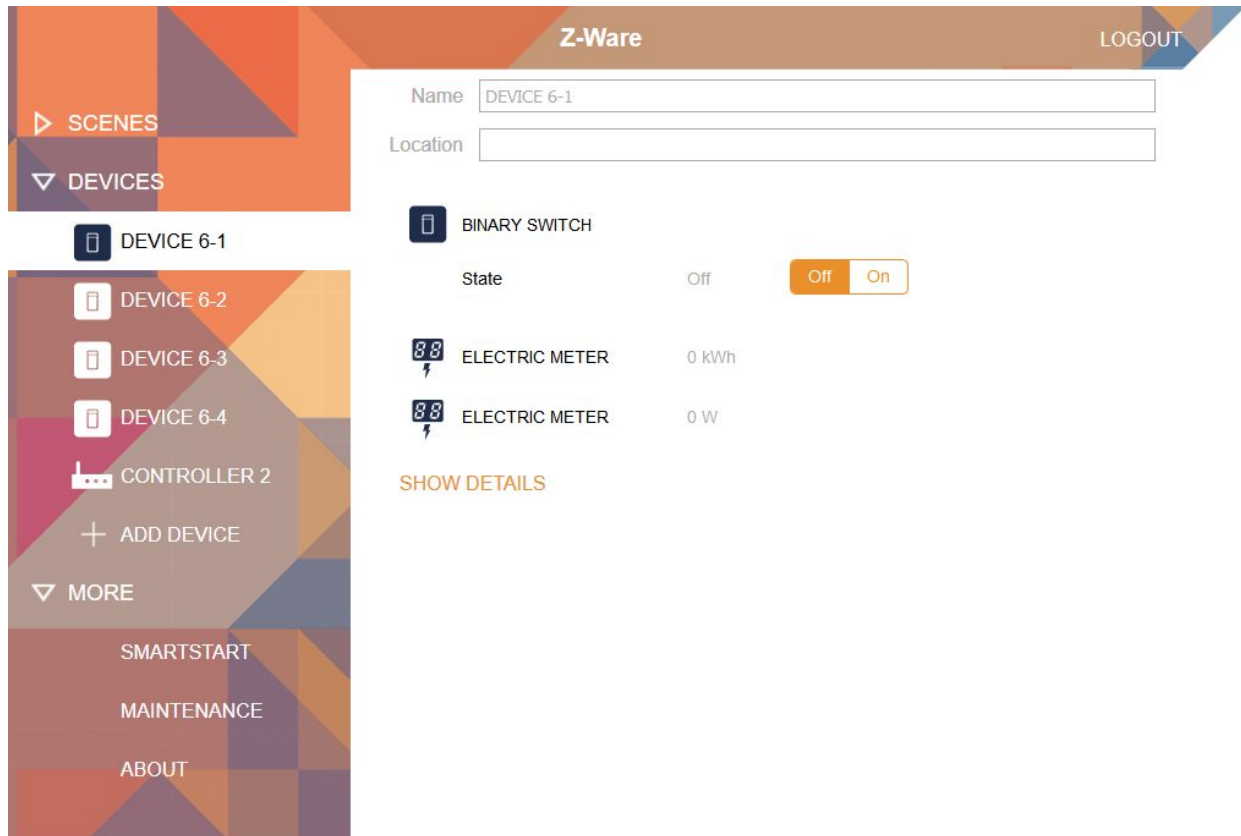
Thermostat

Select the desired modes and setpoints from the respective buttons and multi selectors.
Availability of options depends on the support of the specific thermostat



Multi-Channel Device

A multi-channel device will be enumerated as separate devices. For example, this multi-channel power switch is shown as four distinct binary switches that can each be controlled like a separate device.



Z-Wave™ Information

Association

The only supported association group is the Lifeline group. Maximum number of supported nodes is 1.

Basic

Dwelo Controller does nothing on receiving Basic Set/Get