BELIMO ZoneEase VAV AP

Step by step guide of Setup of projects in Cloud, Testing & Commissioning

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<u>BELIMO ZONEEASE PROJECT SETUP AND CONFIGURATION</u>

In this document you will learn how to setup the ZoneEase VAV actuator for its operation.

First you will need to have a Belimo ZoneEase cloud account registered for the creation of your future projects. You can register an account for free at this link:
https://zoneease.cloud.belimo.com

After you have successfully created your account, you will receive an email sent to you via the email address registered. Click on the link, and your account will be activated.

You can now login to your account and create, modify or delete projects. First you will need to create a project, and after that click on the cloud icon in order to upload the information of all the devices in the project into the account.

On your first project, you will need to download the excel sheet template for the configuration of the actuator, which you will be given a link after you have clicked on the cloud icon to download.[1]

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[1] The excel sheet is a macro file, it may be hidden in the window when prompted to choose the excel file. Try to select "all file type" in the file type column.

18	15	114	115	117	118	119	120	167	4	2	5	6	7	24	25	26	60	61	27	28	105	106	29
Control		BACnet							Global														
V'min	V'max	Baudrate	Address	Instance Number	Object Name	Location	Description	BACnet Trunk No.	Application Number	Boost Mode Time	Eco Mode Heating Shift	Eco Mode Cooling Shift	Off Mode Damper Pos	Room Unit Display	Room Unit Rights	Room Unit Logo	Setpoint Temp High Lim	Setpoint Temp Low Lim	CO2 Sensor min Limit	CO2 Sensor max Limit	Damper Sync Position	Power On Mode	Occupancy Sensor
		2							1				1	1	1	1					1	2	0

Valid values
0: 9600, 1: 19200, 2: 38400, 3: 76800, 4: 115200

The picture shown are the list of parameters required to be filled in with specified values according to the project requirements:

Parameters	Description
Vmin	Minimum Airflow by design
Vmax	Maximum Airflow by design
Baudrate	BACnet communication baudrate
Address	MAC / Network Address of the device
Instance Number	BACnet address/ Device ID of the device
Object Name	Name of the device when discovered in BACnet interface
Location	Location of device installed
Description	Description of device
BACnet Trunk No.	The BACnet trunk of device installed (For reference only)
Application Number	Application type of the actuator (no.2 for cooling only app)
Boost Mode Time	Time for Boost mode -forced Maximum airflow (in minutes)
Eco Mode Heating Shift	Setpoint shift in ECO mode for heating (±8°C)
Eco Mode Cooling Shift	Setpoint shift in ECO mode for cooling (±8°C)
Off Mode Damper Pos	Position of damper blades in OFF mode
Room Unit Display	The main information displayed in room unit
Room Unit Rights	Room unit ability to change temperature & operation settings
Room Unit Logo	Enable/Disable showing of Manufacturer logo (BELIMO)
Setpoint Temp High Lim	Maximum temperature setpoint allowed
Setpoint Temp Low Lim	Minimum temperature setpoint allowed
CO2 Sensor min Limit	Minimum allowed CO2 level (if applicable)
CO2 Sensor max Limit	Maximum allowed CO2 level (if applicable)
Damper Sync Position	To which position where the damper will synchronized
Power on Mode	Action done by actuator during power up
Occupancy Sensor	If there are occupancy sensor connected to the setup

A comment box will appear with the valid values option once the column is highlighted. You should only key in values within the suggested range or options.

For VAV Box Manufacturer, there are expandable options for additional setting:

Box Calibration	Description
ΔP@Vnom	The measured ΔP Value at absolute maximum Flow of the box
Vnom	The absolute maximum flow of the box
Rotation Direction	Rotation direction to open

All the columns in the excel sheet will be required to filled up with the relevant information. If any column that is irrelevant to your application (e.g. CO2 sensor limits), just fill in a '0' as value. When you highlighted a specific column, additional information will be available in a comment box to aid user in providing the correct values. Once all the information has been filled, you can then upload this document to your cloud account.

After the excel template is filled in with all required information, you can then upload the template in the cloud website. If the template is filled in with invalid information, and error will prompt in cloud page after you have uploaded, and you will need to amend the template with valid values.
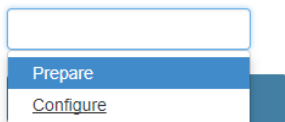
You can add more members in a project. Simply go to the 'Project Setup' (a wrench icon), and you could add another member who has a Belimo ZoneEase cloud account so that they are able to monitor the progress as well.

After a new project is created, you will need to change the state from "Prepare" to "Configure" to allow for the settings of devices, as predetermined in the excel template, to be loaded into the Zone Ease VAV devices. After you have changed the state, it is not able to return to "Prepare" stage.

This screen will show after the "Site Detail ☰ " icon is clicked on. It shows the status of the devices at site, if there is any configuration been loaded on the actuator. At this point, the update will be available after the devices have been commissioned with BELIMO ZoneEase Application on a smart phone with NFC communication capability. The next page will show the step-by-step screenshot of the application during the commissioning.

"Belimo ZoneEase" App will be given to user by local Belimo representatives as an independent .apk file, you will be required to transfer this .apk file into your NFC compatible smartphone, and open the file to run the installation. Once install, launch the "Belimo ZoneEase" app.
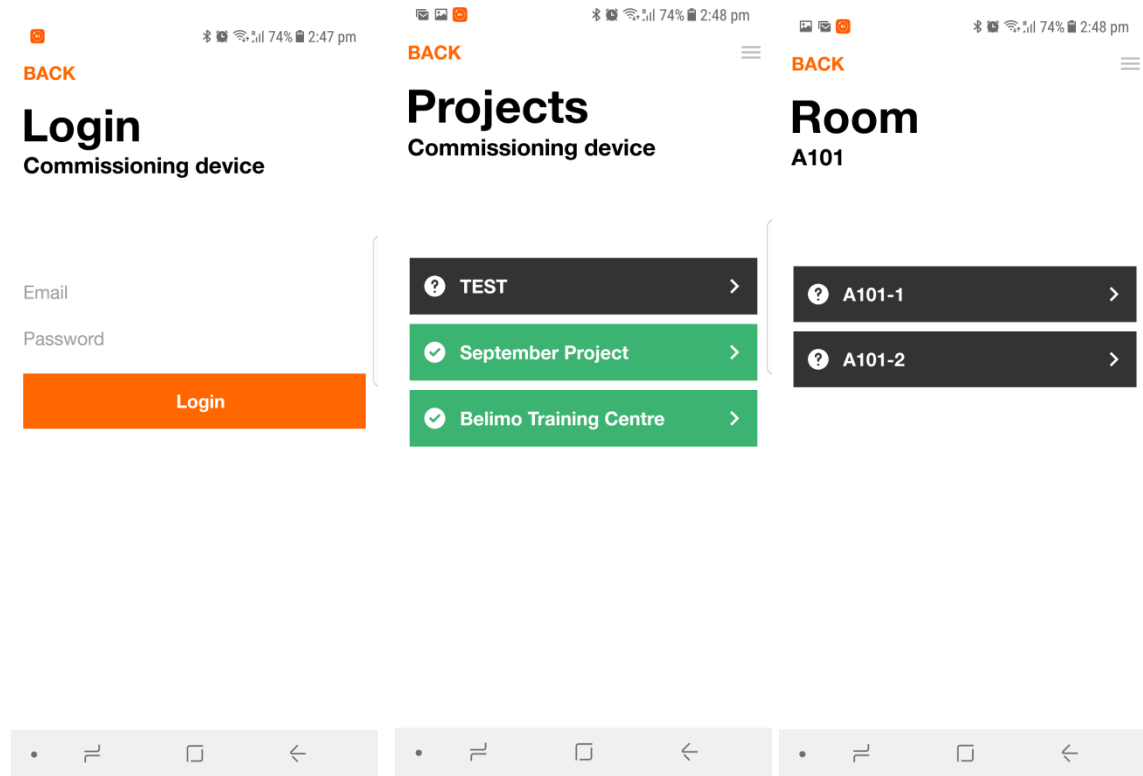
Picture 1: Shows the login screen. You need to key in the registered cloud email address and password to access your projects. The projects carry information from the template you have uploaded during project creation.

Picture 2: All the created projects and its progress will be shown. Tap on the project you would like to access to.
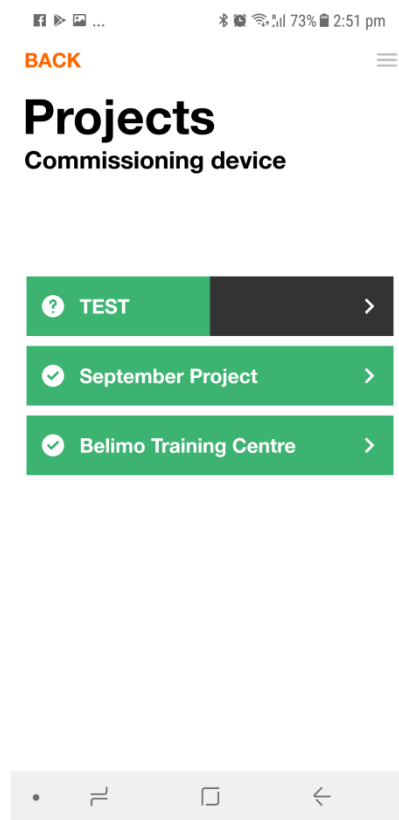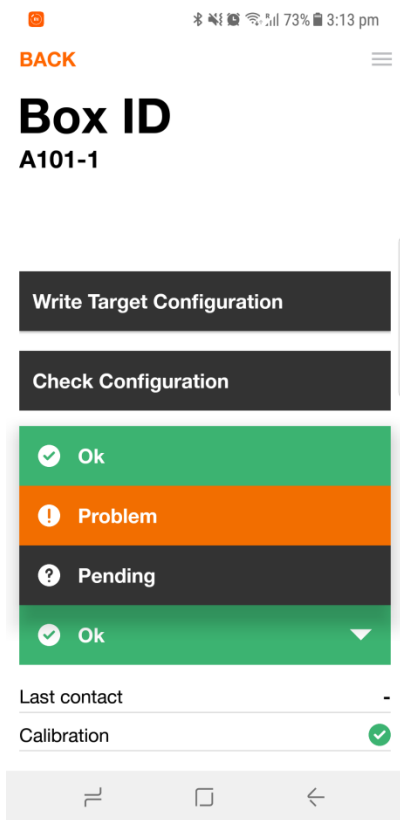
Picture 3: Tap on the unit that you wish to configure. After that, tap your smart phone on the device (Room unit or Actuator) and hold until the progress bar is fully filled and the screen changes to the next screen. Powerless commissioning is available on the actuator only.
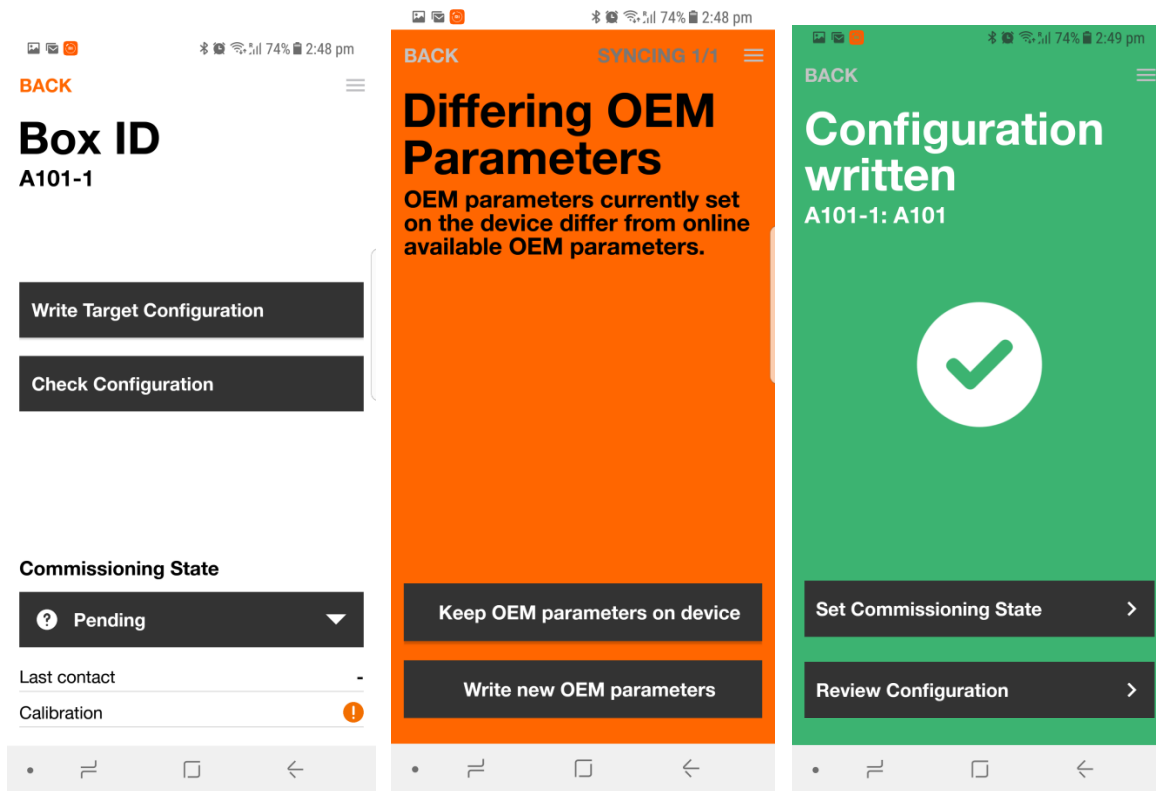
Picture 1: Options available for each unit. You may start to write the configuration into the actuator, or you can check the previous setting done on the actuator. You can also change the commissioning state of the actuator, if they have been successfully completed, or if you are facing any problem with the operation.

Picture 2: If during the writing of configuration, the information provided in the excel template does not match the calibration data of the box manufacturer, a warning will prompt, and you may opt to keep the setting from the box manufacturer or just overwrite them with your current settings.

Picture 3: After you have successfully configured the actuator, a green screen will appear, and you can update the commissioning state at this point, or check the configurations.

Box ID
A101-1

Write Target Configuration

Check Configuration

- ✅ Ok
- ❗ Problem
- ❓ Pending
- ✅ Ok ▼

Last contact   -

Calibration   ✅

Projects
Commissioning device

- ❓ TEST   ›
- ✅ September Project   ›
- ✅ Belimo Training Centre   ›

Picture 1: The options available for commissioning state are "Ok", "Problem" or "Pending"

Picture 2: Shows the progress of the project in the bar.

Configuration Progress: TEST

Progress	

50% progress

1 devices out of 2 devices are configured. State: 10/4/2017, 2:49 PM
Show Not Configured Devices

0 reported problems

Number of reported problems

Site Details: TEST

Filter...

Building	Floor	Room	Box ID	Calibration	State	Details
▼ TEST				❗	❓	
TEST	▼ TEST GF			❗	❓	
TEST	TEST GF	▼ A101		❗	❓	
TEST	TEST GF	A101	A101-1	✅	✅	📋
TEST	TEST GF	A101	A101-2	❗	❓	

The progress will be reflected on the Zone Ease cloud page too. Clicking on the "Details⊟ " icon will bring you to the screen below:

Device Information: 21720-30034-023-000

Identification

Project Name	TEST
Type	VAV-AP
Serial Number	21720-30034-023-000

Status UNKNOWN

Health	
Connection	5 minutes ago
Activated Features	

Location

Coordinates	1.2896699905395508 / 103.85006713867188
Source	Based on IP address.

Location of device can be corrected with right click on map.

Data Points

Data Points: 21720-30034-023-000

Search [   ]

Data Point	Value on Device	Action
Actual Airflow abs.	27.9	⏹
Actual Airflow rel.	2.8	⏹
Actual CO2 Value	70	⏹
Actual Heat Demand		⏹
Actual Room Temp	25.36	⏹
Actual Δp		⏹
Actuator Serial Number	21720-30034-023-000	

This page provides operational details of the VAV actuator at the instant the configuration was written or read from the device set using BELIMO ZoneEase Application.