

Scalable, Secure Wireless Controlled Lighting for Commercial Buildings

BaseBuild User Manual

Revision 2

Release 4.1



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1. Getting Started

1.1. Apple iPad

Cognian's BaseBuild app is designed to run on Apple iPad devices.

1.1.1. iOS Version

The iPad device shall be running iOS version 12.00 or higher.

1.1.2. BaseBuild and Syncromesh Compatibility

The BaseBuild app's version aligns with the Syncromesh Release it has been certified against.

1.1.3. Loading the BaseBuild App

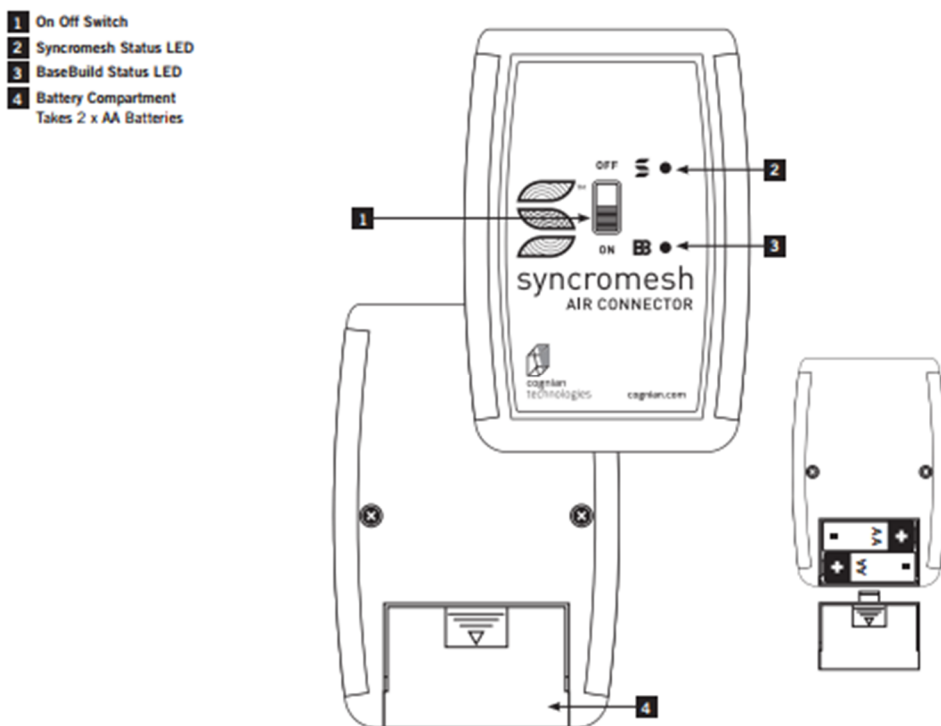
Installation of the BaseBuild app is through the Apple Store, Search for Cognian, BaseBuild.

Note: BaseBuild will run on an iPhone but the constrained screen landscape limits its usability.

Please note that the BaseBuild app is not optimized to run in "dark" mode.

2. Syncromesh Air Connector

The Syncromesh Air Connector is a wireless device that is only available from Cognian. The device securely connects the iPad (using Bluetooth) directly to the Syncromesh network.



2.1. Powering up the Air Connector

The Syncromesh Air Connector requires two AA batteries installed in the battery compartment on the bottom of the device.

To activate the Air Connector, move the power switch in the middle of the Air Connector to the "On" position. Both LEDs (Syncromesh and BaseBuild) should be "Red".

Cognian recommends that you label your Air Connector with its 12-character MAC address for easy identification. This can be found in BaseBuild's start up screen*, when turning on the Air Connector the MAC will immediately be displayed. ***SEE 2.3, 2.4**

2.2. Air Connector LEDs explained

SYNCROMESH LED COLOUR KEY:

RED

The Air Connector is able to act as the network beacon for initial commissioning of a Syncromesh system, When commissioning a system without a Syncromesh gateway energized and configured to the network, the LED will remain red as there is no formed Syncromesh network. (please see 4 – Commissioning a new project)

GREEN

Air Connector has connected to the selected Syncromesh network.

GREEN BLINKING

Air Connector is communicating with the Syncromesh network.

BASEBUILD LED COLOUR KEY:

RED

Power is on, Air Connector is not connected to an Ipad with the BaseBuild app.

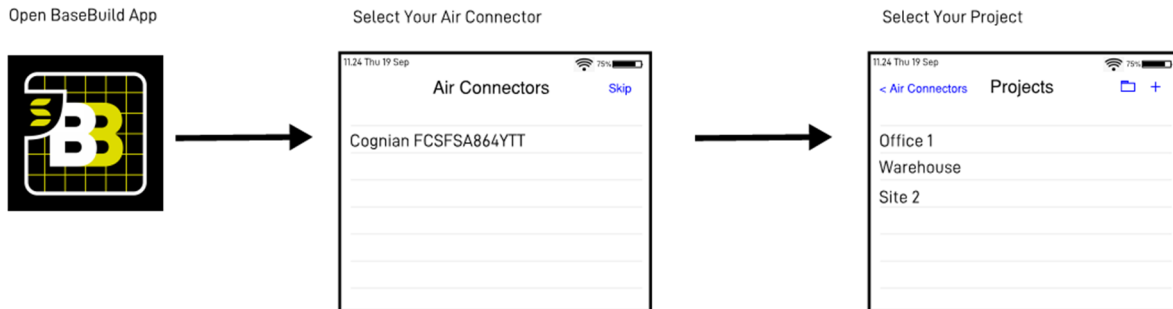
GREEN

Power is on, Air Connector is paired to a BaseBuild app.

RED BLINKING

Batteries are low.

2.3. Navigating BaseBuild



2.4. Connecting Syncromesh Air Connector and BaseBuild

Start the BaseBuild app then turn on the Air Connector.

- Note: you can start BaseBuild and Air Connector in any order, this process allows you to identify the Air Connector in BaseBuild when started.

BaseBuild's initial screen (Air Connectors) will display a list of in-range Air Connectors defined by their 12-character MAC address. Match your Air Connector's label with the BaseBuild identifier and select that device. BaseBuild will establish a connection with the selected Air Connector

Warning	<p>If an Air Connector does not appear in the BaseBuild list then:</p> <ul style="list-style-type: none">• Confirm that the Air Connector is powered.• If the Air Connector is powered and not visible then:<ul style="list-style-type: none">○ The Air Connector may be paired with a different iPad. Turn the Air Connector on and off to restart the process
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2.5. Confirming Air Connector communication

The Air Connector Syncromesh LED will flicker when BaseBuild communicates with the Syncromesh network.

3. Backing up projects



Before you back up your projects you need to configure the “Files” app on your iPad. For information on how to connect to your preferred cloud service (e.g. DropBox, Google, Box, etc.) refer to: <https://support.apple.com/en-au/HT206481>

In Base Build, select the folder icon (top right) and select “Export Projects”. Select the location that you want to use to store the project backup.

Note: Backup file names can only be changed on the storage service or device (i.e. not through BaseBuild). BaseBuild can read modified file names.

4. Creating a BaseBuild project

After the Air Connector is selected BaseBuild will present a list of all the projects in the app.

- *Note: you can skip the selection of an Air Connector if you just want to review an existing project as READ ONLY

To create a new project, press the “+” button (top right). A pop-up window will ask you to confirm then a second window will request the name of the project. Type in the project name and press “OK”.

BaseBuild will create a new project and display it in the Projects window.

5. Commissioning a new project

When commissioning a new installation for the first time there are different workflows; these depend on the site's current device configuration.

Workflow 1. (preferred) Network Gateway Onsite.

The most efficient method for the Syncromesh network to build.


This is recommended where a site is able to have its gateway powered.

**TIP: If the Distribution Board or Communication board is still being configured, the Gateway can instead be powered from an available GPO. For convenience use a 9-48v wall charger with micro USB cable.*

1. Syncromesh Gateway is onsite, and energised, any 3rd party integrations that connect to the gateway are disconnected. (Ethernet or RS232)
2. Syncromesh field devices are powered and showing a red indicator
3. Turn on the Air Connector & connect it to the BaseBuild app
4. Create a new project in the Base Build app.
5. Before any commissioning, The new project is named and uploaded (See *Uploading to Gateway*) to the gateway, this gives the gateway the newly created network details.
6. Wireless devices are discovered and grouped, and group settings configured,
7. When commissioning is complete, upload project to the correct gateway & wait 2 minutes to allow gateway to confirm group information
8. Reboot gateway and allow 10 minutes for network formation.
9. Connect any 3rd party integrations.

Workflow 2.

1. The Syncromesh Gateway is not energized
2. Syncromesh field devices are powered and showing a red indicator
3. Turn on the Air Connector & connect it to the BaseBuild app
4. Create a new project in the Base Build app.
5. Allow a moment for devices to appear in the unassigned queue. Refresh as necessary if you are moving through the site to find devices closest to you.
6. Wireless devices are discovered and grouped, and group settings configured,
**Note the Air Connectors Syncromesh LED will remain red. This will only go green when the project is uploaded to its Gateway*

- 
10. When commissioning is complete upload the project to the Gateway. (See *Uploading to Gateway*) This gives the Gateway the newly created network details.
 7. Wait 15 minutes for the network to form and group details to be transferred to the gateway
 8. Upload BaseBuild project again- This will confirm the gateway settings after the network formation.

6. Importing backed up projects

If you have previously exported your projects to your iPad or a cloud storage service then you can import that backup from the “Projects” screen.

Note: Importing projects will erase all existing projects stored in BaseBuild and import all the projects stored in the file on the iPad or your cloud storage service. For this reason, it is best practice to upload any changes to the Gateway before leaving site.

Select the folder icon (top right) and select “Import Projects”. Acknowledge the warning message by selecting “Replace All”.

Select the storage space where you have stored earlier backups, select the file you want to restore. When the restoration is complete, you will be returned to the “Air Connector” screen.

7. Access your project

From the “Projects” screen, select the project you want to access. You will be presented to the “Gateways” screen. Select your Gateway to access the Syncromesh network screen.

8. Downloading project from the configured gateway

From the “Projects” screen select the + icon on the top right corner of the screen, select “Download from Gateway”.

A prompt will then be shown requesting the Gateway MAC address of the gateway you wish to download from; Please note this is the MAC address of the Syncromesh wireless part of the gateway, not the ethernet ports, this MAC will be a printed label on the top right of the gateway.

Make sure you are within 5 metres of the gateway.

The network username and password will then be required to download the project.

9. Refreshing your existing project from the gateway

This feature is to be used when multiple iPads have been used onsite, or changes have been made using the Fitout app.

As part of normal use, this should be done each time when altering an existing project to ensure you have the latest copy of the project.

Starting on the projects page, on the right-hand side of each project is “Download from Gateway”, this will download the latest version of the project from the gateway.

Depending on the time from the last connection, you may have to enter your user name and password.

10. Updating Project Settings

To access advanced project settings “swipe left” on your project and select “Settings”.

You can also access the Project Setting options from the “network” screen by selecting “Settings” in the lower right-hand corner.

In the “settings” screen you can:

- Change the project name. The new name will update when the message window closes.
- Change the Syncromesh wireless range. Depending on the size and complexity of the site you may want to adjust the wireless sensitivity to show more or less devices.

Reducing the sensitivity of the Air Controller will hide devices further away from the Air Connector which may be beneficial when programming dense space whereas increasing sensitivity may be beneficial in a open space with tall ceilings and wide-open spaces.

When you have finished press X to exit.

11. Discovering Wireless Devices

When viewing a project in BaseBuild the screen shows a column for Unassigned Devices. The same screen also displays expanded or collapsed Groups that have been created.

To find any new lights, sensors or switches press the refresh button next to “Unassigned Devices” or “pull down” the list to refresh the Unassigned Device list.

Device Refresh	The app does not continuously scan for new devices but it does refresh when specific changes are applied or you request a refresh.
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The unassigned device area will always remain docked as the left-most column.

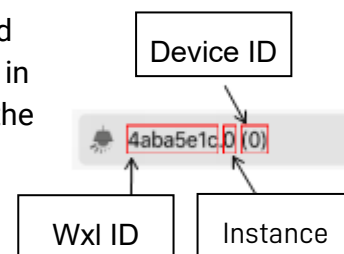
Devices shown in the “unassigned” area have no group information.

Once a light or device joins a group it no longer appears in the Unassigned area. Removing the device from all Groups will return the device to the unassigned area.

Devices with close proximity will generally populate first. The number of devices shown is limited to 30. A refresh of this list will populate with remaining in-range devices. When all unassigned devices have been grouped this list will be empty.

11.1. BaseBuild Lights, Switch and Sensor Identifiers

Lights, switches and sensors are all displayed on BaseBuild using the same format. The label displayed in BaseBuild is in the format ID.INSTANCE where ID is the hex Device ID for the WDI or WRI and INSTANCE is an incremental number for each device connected to a WDI (the WDI’s DALI slot) or WRI (Note WRIs only report 1 connected device).



There are a maximum of 8 DALI Instances PER WDI (Please See Syncromesh Manual)

Lights, sensors and switches connected to the same WDI will share the same Device ID, e.g. if a light connected to a WDI registers as 33333333.0, then a sensor wired in parallel will show as 33333333.1

WRI devices will always show INSTANCE 0. DALI lights will usually be assigned Slot 0.

The list of devices in the Unassigned Devices queue will be ordered according to their proximity to the Air Connector.

Device Types indicate the type of device connected to the WDI or WRI.

11.1.1. Current DALI types for Output Devices

- Fluorescent lamp control gear - Device Type 0 (DT0)
- Self-contained emergency - Device Type 1 (DT1)
- Discharge (HID) lamp control gear - Device Type 2 (DT2)
- Low-voltage halogen lamp control gear - Device Type 3 (DT3)
- Incandescent lamp dimmer - Device Type 4 (DT4)
- Conversion to D.C. voltage (1-10V, 0-10V converter) - Device Type 5 (DT5)
- LED lamp control gear - Device Type 6 (DT6)
- Switching (relay) control gear - Device Type 7 (DT7)
- Colour control gear - Device Type 8 (DT8)

There are cases where devices will report non-standard numbers.

11.1.2. DALI Input Devices

- Schneider Clipsal Switch (181)
- Schneider Clipsal Mech Sensor (182)
- Schneider Clipsal PIR Sensor (183)
- V2 Switch (240)
- V2 PIR Sensor (241)
- V2 Lux Sensor (242)

11.1.3. WRI Devices

- 251 - WRI

11.2. Identifying Lights, Switches and Sensors

To identify a light select it from the Unassigned Queue or its Group and the luminaire will flash. To stop the light flashing, unselect the device, the identification will stop.

Devices left in an *identify* mode, will time out after 5 minutes.

To identify a sensor, use the same process as you would use for a light. The sensor will flash rapidly.

Note: Sensors will flash upon movement, thus it is possible to perceive this as a false indication that this is the sensor being identified. The sensor will flash at slower rate when triggered by movement.

To identify an unassigned switch, physically press the switch. The switch will appear in

the unassigned list as a new device and will be coloured Blue. To identify a switch that has been grouped use the same process as used for lights – select it on BaseBuild and the switch will start flashing (if it is capable).

If there is an error when attempting to communicate with a device Base Build highlights the device with an orange border. If the last action was successful, then BaseBuild highlights the device with a green border. When the device is being identified the icon colour changes to grey.

11.3. Error Indicators

DALI Error Messages are shown in BaseBuild for specific conditions. These error indicators help diagnose wiring issues that can occur when installing a WDI.



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When the device is coloured *Pink* then the WDI is reporting that it does not have any DALI devices connected to it.



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When the device is coloured *Yellow* then two WDI devices have been connected in parallel. Both devices will be identified.



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When the device is coloured *Light Blue* then the WDI's DALI line is shorted.

11.4. Grouping

Grouping is the process of partitioning lights into a common area. Switches and sensors in the same group will interact with each other and respond together. A group simulates having lighting wired together in a traditional system.

Once a light joins an existing group it belongs to the project created by BaseBuild. The instance and all other instances associated with a WDI cannot be associated with another project unless all instances are removed from all groups.

11.4.1. Creating a Group

To create a new Group click on the “New Group” section underneath the “Unassigned Devices” column. A pop up will appear asking for a Group Name.

- We suggest that you use meaningful group names. Group Names are limited to 12 characters.

A Group can also be created by selecting and dragging a device from the Unassigned Device list or another Group and depositing it in the New Group area.

11.4.2. Modifying a Group

To move a device from one group to another select the device by pressing and holding it for a couple of seconds. When the device is “draggable” it will rotate slightly to the left.

Drag the device to the new Group (or the Unassigned Devices list) and release it.

The device now belongs to the new Group or has been unassigned.

When lights are regrouped, they will no longer respond to changes from the old Group, they now respond to switches and sensors in its new Group.

11.4.3. Removing a Device from a Group

To remove a light from a Group select it until it becomes “draggable” and drag it to the Unassigned Device area.

Unassigning a device from a Group allows the device to be assigned to a different project

11.4.4. Multi-Group Devices

You can only assign a device to one Group in BaseBuild

However, Multi-Group assignments that can be made using the Fitout web app are visible on BaseBuild after a “Download” has occurred then BaseBuild can move multi-devices between Groups or un-assign a device.

BaseBuild cannot reassign a multi-device to a Group if that device has been unassigned.

12. Group Menu Options

Each Group has a menu of options that is accessed by selecting the “3-dot” icon on the right-hand side of the Group heading. The menu options include the following:

12.1. Collapse and Expand

These options allow you to expand the Group and display the complete list of devices assigned to the Group. The Collapse option reduces the Group window to a heading only.

A 2-finger squeeze gesture will also collapse the Group window.

12.2. On and Off

These commands send an “On” command to the Group to switch on all lights, the “Off” option turns all lights off.

12.3. Recall Max and Recall Min

These commands send an “Recall Max” command to the Group to switch to the defined maximum light level. Similarly the “Recall Min” option changes all the lights to defined Min light level. Minimum and Maximum light levels can be defined in group settings.

12.4. Set Lux Level

When a group has a suitable Lux sensor in the group, daylight harvesting can be configured using this setting, using a Lux meter, and the slider on the screen set the light level to the desired LUX, then press Store lux value,

The group will now automatically Ramp up and down to achieve the desired lux level.

12.5. Group Settings

The “settings” options provide you with the following controls:

12.5.1. Controls

The On, Off, Recall Max and Recall Min options perform as per 12.2 & 12.3


12.5.2. Name

This section gives you the ability to change the Group name.

To change a Group name in a connected NAC or for other Gateway utilities the project needs to be “Uploaded to the Gateway”.

12.6. Add a Tag

You can create tags and assign tags to Groups to simplify searches in larger, more complex projects.



When you select “Add a Tag” you are prompted for a label, e.g. Boardroom. That tag is now available across all projects in BaseBuild.

A tag can be associated with a specific Group by selecting an existing Tag from the list presented when you press “Add a Tag”

Note- Tags in BaseBuild do not currently transfer to Fitout, this will be available in a future update.

12.6.1. Maximum and Minimum Levels

Are currently not supported - Configurable in Fitout App

12.6.2. Presence and Absence

These settings allow you to reconfigure the sensor in this Group to one or both settings.

To change sensor settings the project needs to be “Uploaded to the Gateway”.

12.6.3. On Time

The slider allows you to set the “On Time” for a sensor.

To change sensor settings the project needs to be “Uploaded to the Gateway”.

13. Upload Configuration

To upload configuration changes to the Gateway (and to synchronise with a NAC/SHAC) you must select the “Upload Configuration” option at the bottom of the “Projects” screen.

When you trigger an upload after being off site , you will be asked for your credentials, enter and press “Start”. You will see a progress meter in the same window to indicate activity and then success. The Syncromesh LEDs on the Air Connector will also flash.

It is recommended that an upload occur reasonably frequently to ensure that any Group changes are saved to the Gateway.

14. Filter by Tags

Using the “Filter by Tag” option at the bottom of the project screen you can select a tag and the Groups associated with that tag are shown (the rest are hidden).