User Guide:

Operation of Helvar ActiveAhead® Mobile Application

Version 1.17

The Helvar ActiveAhead® mobile application allows you to configure ActiveAhead Generation 2 solution. There is a separate mobile application for the ActiveAhead Generation 2018 solution.

To use this application, we recommend recent Android or iOS mobile device with up-to-date operating system equipped with Bluetooth low energy (BLE) and near-field communication (NFC). The application releases are tested with recent iPhones and Samsung Galaxy A series phones. With the mobile application you can view or configure a single node, group of nodes or the network of nodes. Operation requires one or more nearby nodes supporting the ActiveAhead solution.

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Introduction

USAGE MODES

There are three main uses of the ActiveAhead app:

Verify installation

1. You can browse to see the nodes, groups, and settings of the ActiveAhead network.
2. Identify luminaires by blinking, to help you find the specific luminaire or group.
3. Use filters to narrow down your search by nodes or groups.
4. Execute a Walk Test function for testing how the luminaires work.

Configure installation

1. You can configure the lighting installation. Make sure you have planned the configuration you want to implement before starting.

Emergency light testing

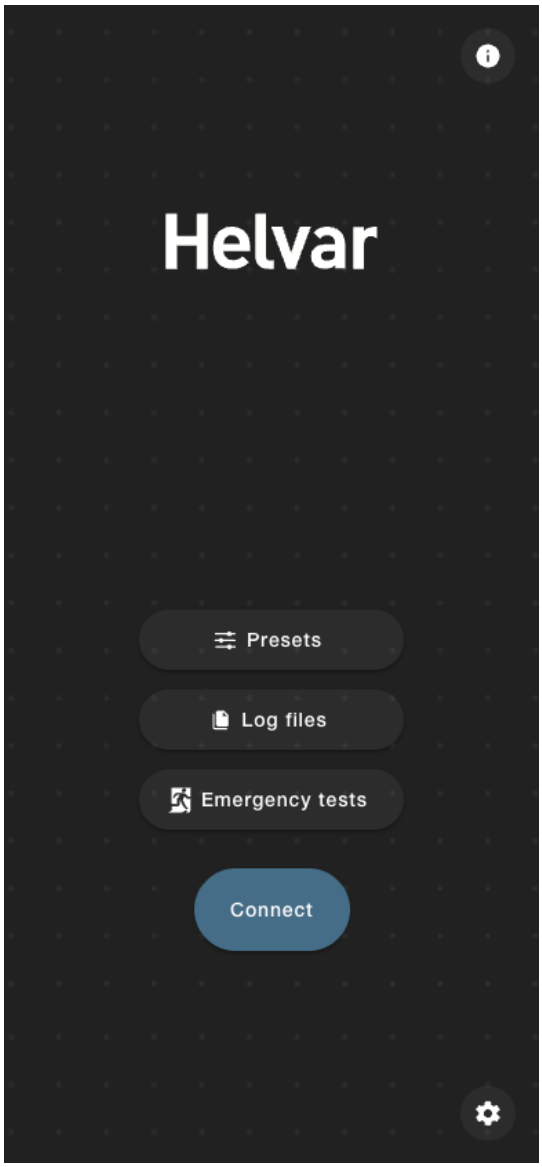
1. Create Emergency Lighting Function- or Duration test executions
2. Run tests
3. Create test reports

TARGETING

While viewing or making changes with ActiveAhead app, you can target

1. single node
2. group of nodes
3. network with target filters for a floor and / or area type.

HOME SCREEN



The app has a “Home screen”, which you see as soon as the app loads. Choose whether you want to read application info, modify parameter presets, read log files, connect to the ActiveAhead network or change app settings.

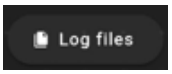


The application version, patch number, End-User License Agreement and this User Guide can be found in the “About” page, which is accessible via the “i” icon in the top right corner.

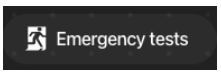


The Presets option will allow you to add, modify and delete presets before connecting to a network. Presets can be used while setting light levels and timings to a node, group, or the whole network. Predefined Eco, Comfort and Default presets (“factory presets”) are available.

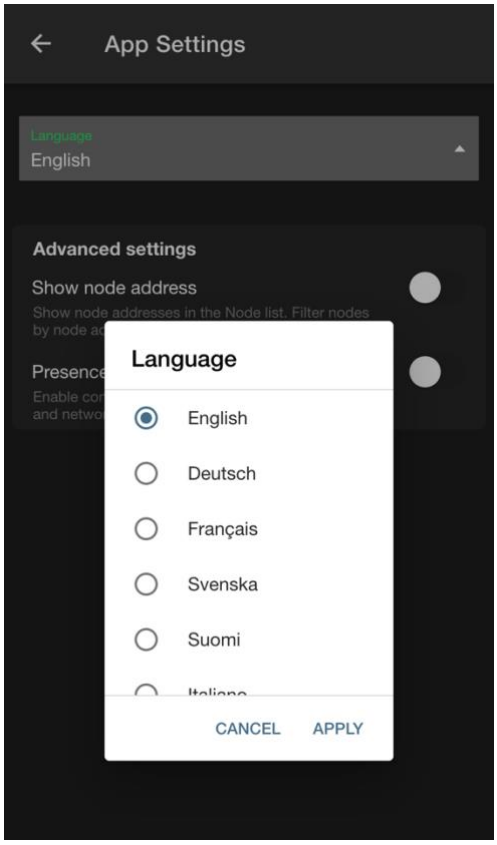
Note: Factory presets cannot be modified or deleted.



The Log files option will allow you to view the actions and related details done with the app on different dates and times. You can also use filter to limit the scope to what you want to see. These logs can be sent forward over email.



Emergency tests will allow you to run Function and Duration tests for Emergency nodes. The feature is explained in more detail in Emergency lighting.





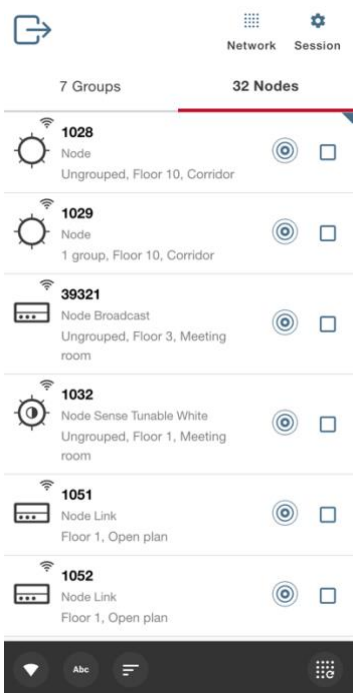
Connect will get you started with the browsing or configuration by opening the “Main screen”.



The App Settings icon at the bottom right corner will allow you to change the language of the app.

The desired language can be selected from options available in the menu.

MAIN SCREEN



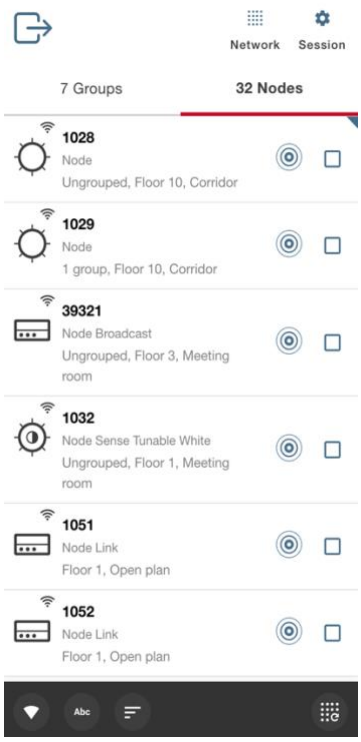
"Main screen" is the central view to navigate through the nearby nodes and groups in the connected network. Here you can find a tab with a list of the discovered nodes and another tab with a list of discovered groups. Filtering options are located at the bottom of the view.

"Exit" button - will disconnect the app from the network and take you back to the Home screen.

From the top of the view, you can access

- Network Network pages
- Session Settings pages

Browsing and Configuring nodes

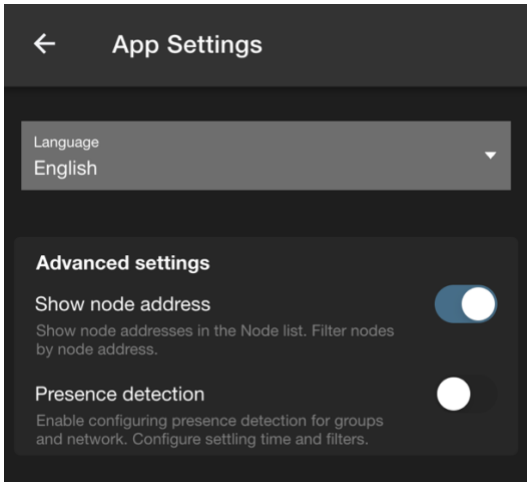


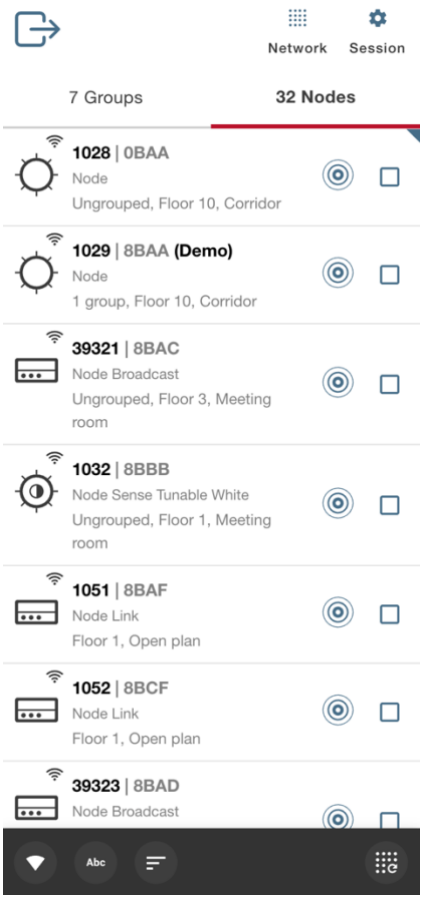
All ActiveAhead nodes are part of the same network. This allows you to flexibly and easily install and setup the nodes without needing to worry how to provision the nodes, where to set network borders, etc. When you hit "Connect" on the mobile app Home screen, it starts to scan for the nearby ActiveAhead nodes and will try to connect to the one which the app considers to be the nearest one. If the connection attempt fails, the app will automatically retry. Once the connection is established, the app will fetch information from the nearby nodes to show you lists of found nodes and groups. The strength of the

If someone has already configured the nearby nodes, you will see the configuration with groups etc. and you can continue to configure the installation.

Note: The nodes and groups list may *not* show all the nearby nodes and groups. Use the refresh and identification functions to scan again and check visually which are the group members.

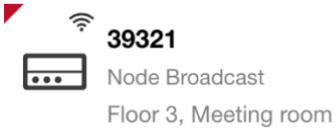
Tip: Use the filters  at the bottom of the “Groups” or “Nodes” tab to find nodes you are interested in based on the signal strength, name, floor, area type, node type or whether they are grouped or not. You can also search nodes based on node address by enabling “Show node address” option in Advanced settings section in app settings page. This will also show the node address in the node list.





REFRESH AND RESCAN

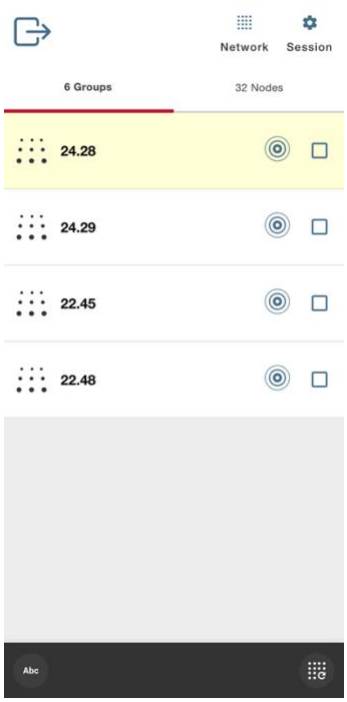
Pull down to refresh device and group lists. This causes the application to start discovering for more devices and groups. Network and group-wide actions may work for a bigger area than the app discovers. If a node or group is missing, refreshing may help. Nodes which have been found via refresh are shown with a small red highlight in the top-left corner:



Only nodes found through the latest refresh attempt are highlighted this way.

 - The Rescan button renews the connection to the network by scanning for nearby nodes and connecting to the nearest luminaire. Use it when you have finished working on an area and you have moved to the next.

IDENTIFY



 - The Identify button lets you blink a luminaire, group, or the entire network to help you locate them in the space around you. The most recently identified luminaires and groups are highlighted with a yellow background.

You can modify the duration of the identification in the Settings page. “Identify timeout” parameter sets identification duration temporarily. If you reopen the app, identification duration will be reset to default.

Tip: When multiple people configure in the same area simultaneously, use different identify timeouts to tell who started the identification.

MEASURING NODE DISTANCE

You can estimate the distance to a node by checking the signal icon displayed next to the node icon. The icon indicates how far your smartphone is from nearby nodes at the time of scanning. The distance is represented by signal bars:

 indicates that the node is close by

 indicates that the node is slightly farther away

 indicates that the node is too far

 not heard directly, only discovered from mesh network

Tip: If a node is nearby to the smartphone but is proxy to other application instance or ActiveAhead controller, it will be shown right after the nodes which have been heard directly during scanning.

SELF-LEARNING

By utilizing sensor data and AI, the system can recognise and remember space usage patterns and adapt lighting automatically and continuously to the changes in the space usage over time. That results in predictive lighting, which turns the ActiveAhead lights on ahead of the person moving in the space offering feeling of comfort and secure.

Learning is enabled by default on the ActiveAhead Nodes and it can be disabled where necessary. A luminaire continuously collects data about its neighbouring luminaires. Leaning is based on data from own and neighbours' sensor data. The sensor data is collected from movement detection sensor, light sensor as well as from the radio interface. The closer the luminaires are and the more they have in common, the higher the resulting "follow strength" between the neighbours is. This "follow strength" is translated into light output level.

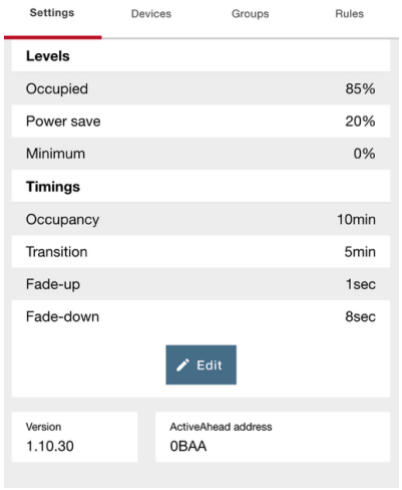
Learning does not consider potential grouping; meaning, some luminaires in the group (not the whole group) may lit up when their neighbours detect movement.

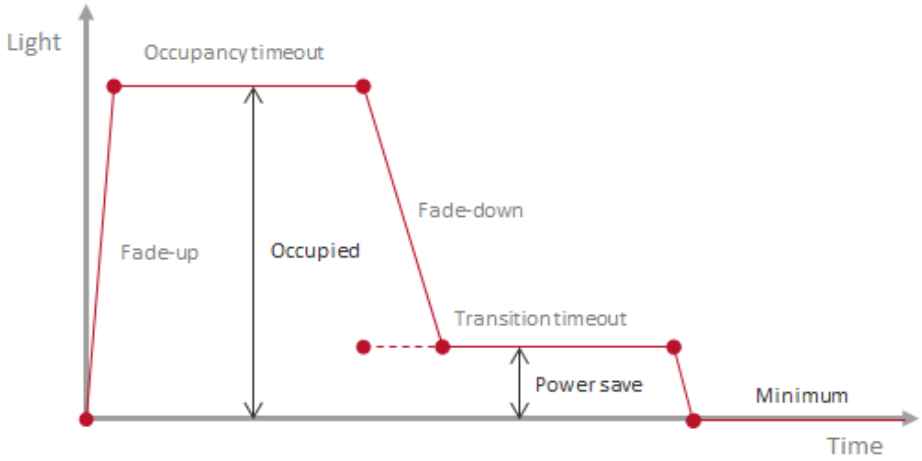
You can manage whether learning is enabled or disabled via the options menu, which can be accessed behind the three dots at the top right corner when inside a node, group or network.

Settings

LIGHT LEVELS AND TIMINGS

You can adjust the levels, timeouts, fade times, as well as daylight harvesting and other rules for a node, group, or the whole network. The below picture describes the used terminology.





When you open a specific node or group, the Settings tab will show you the current parameters. “Edit” button allows you to enter the editing view where you will find different set of parameters on “Levels” and “Timings” tabs. You may also load the parameters from presets you have stored on the app. See Home screen section for more information on the presets.

Note: Group settings page shows the *individual* settings of one of the group members and does *not* show if settings are different in between the group members. It is possible that different group members have different values and thus the settings you see in the app are not necessarily valid for the whole group. Setting values for a group will override the previous settings on the group members.

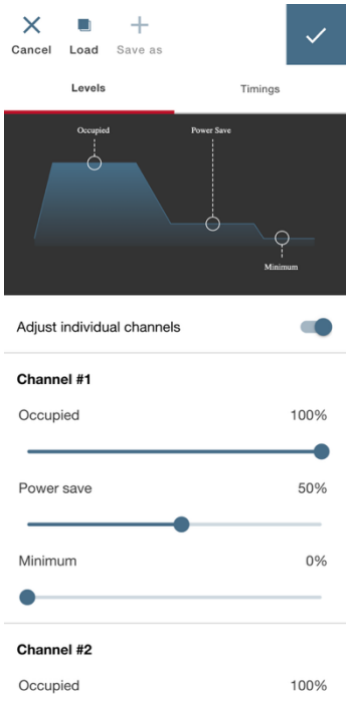
Tip: For Node Advanced devices, it is possible to adjust timings and not modify the current subdevice levels. Steps: Press “Edit”, change the timings, press “Apply” and select “No” when the app asks if you want to apply the unchanged levels too.

Colour Temperature

Via the mobile app you can define the default colour temperature for luminaires which support Tunable White. The colour temperature option is also visible when the system does not know if the connected LED driver supports Tunable White. This is the case with Node Advanced, and in general when one directional communication such as DALI broadcast is used.

The default colour temperature is 4000 Kelvin.

Channel Control

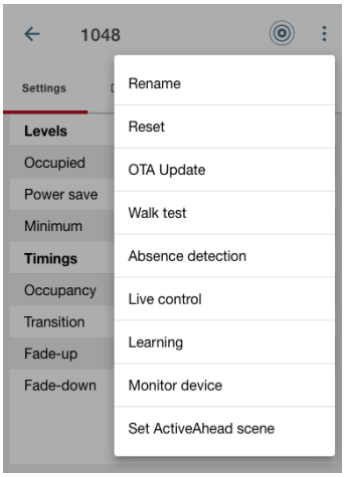


Luminaires built with the Helvar Freedom Dual Channel LED drivers can be used in two channel mode. In the most common use case, one channel is for the indirect light i.e “uplight” and the other for the direct light i.e “downlight”.

Each of two channels can be identified and controlled independently on a node, group, or network level by turning on the "Adjust individual channels" toggle (off by default). Channels can be used in Wall Panel scenes as well. You can set individual Occupied, Power Save and Minimum levels for each channel.

OPTIONS MENU

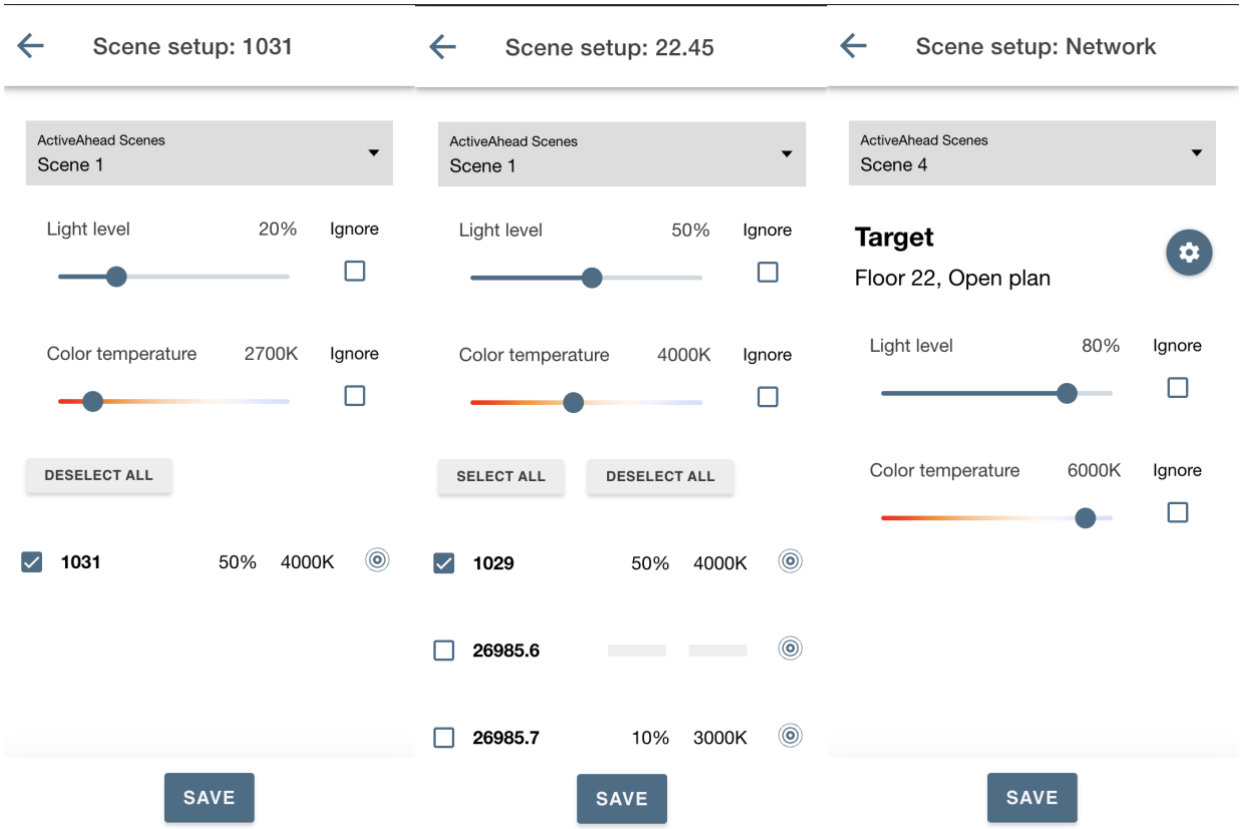
Three dots menu in the top right corner gives you options to rename ID / floor / area type, reset parameters / grouping / learning to factory values, update node firmware OTA (over the air), enable walk test, enable / disable absence detection, live control, enable / disable learning, remove the group, monitor node’s sensors readings, or set ActiveAhead scenes.



Set ActiveAhead scene

ActiveAhead scenes can be set to a node, group or network. The feature is available under the three dots menu in the node, group and network pages. A single scene can be set at a time.

When you open the Scene Setup page, the app shows all drivers under the selected node or group and fetches their scene values. For example, in the screenshots below, 1031 is a Node Tunable White and therefore has only one driver attached to it whereas group 22.45 contains Node 1029 and Node Advanced 26985 which has several sub-devices. The Scene Setup page for the network view does not show individual devices.



When modifying the scene

1. Select the scene
2. Select the devices where the scene should be modified
3. Set the values with the sliders
4. Press "Save"
5. Verify that the new values are shown for the selected devices

The light level and color temperature can be set as "Ignore" by toggling the checkbox next to the slider. The values are reflected for the selected device(s) in real time.

Note: The app shows empty values when it is still fetching the current scene for a device. Also, color temperature is shown for all devices even though they might not support it.

OTA Update

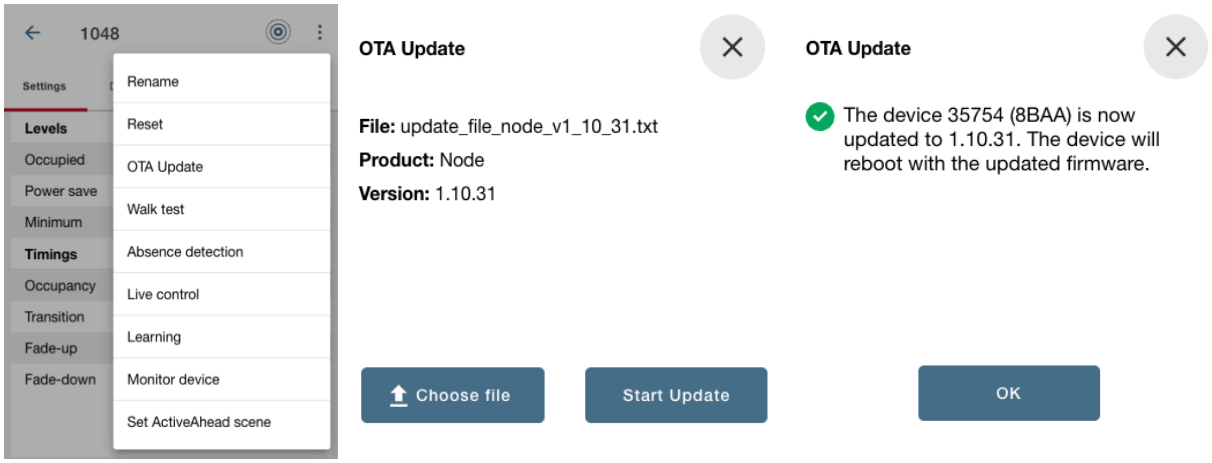
ActiveAhead family nodes support over-the-air device firmware updates through Bluetooth low energy (BLE) Point-to-Point (P2P) connection. Follow the steps below if you need to perform an update:

1. Contact Helvar tech support (*global.tier.support@helvar.com*).
2. Helvar tech support provides you the correct update file(s) and gives you further instructions if required.
3. After receiving the update file(s), make file(s) available from the smartphone file system.
4. Open the app and press “Connect”. Wait until the app shows you the list of nearby nodes.
5. Find and open the node you want to update
6. From 3 dots menu select OTA update.
7. Choose the update file from the smartphone file system.
8. Press “Start update”.
9. The app will connect to the node if not already connected and start the update.
10. Wait until the app has finished the update. Please keep the smart phone near the node and the application running in the foreground. Do not turn off Bluetooth.
11. The app tells you when the update is done, and the node will reboot with the updated firmware.

Post-update actions

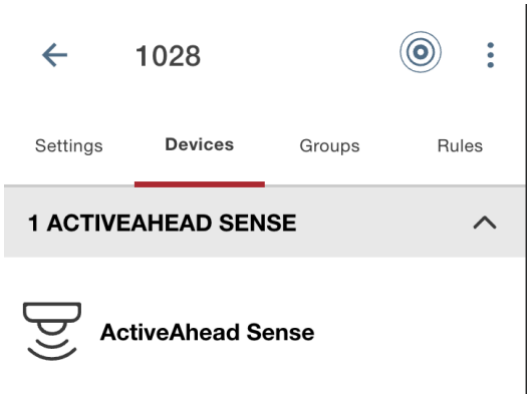
Post-update behaviour depends on the product and the new firmware version.

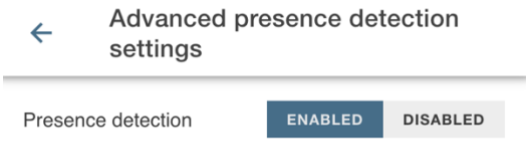
- Update Node, Node Sense, Node Advanced and Node Multisensor to 1.15 or lower: the device is reset to factory settings.
- Update to Node and Node Sense 1.16 or higher: the device retains its parameters if updated from version 1.12 or newer.
- Update Node Advanced and Node Multisensor to 1.16 or higher: the device retains its parameters if updated from version 1.15 or newer.



Presence detection settings

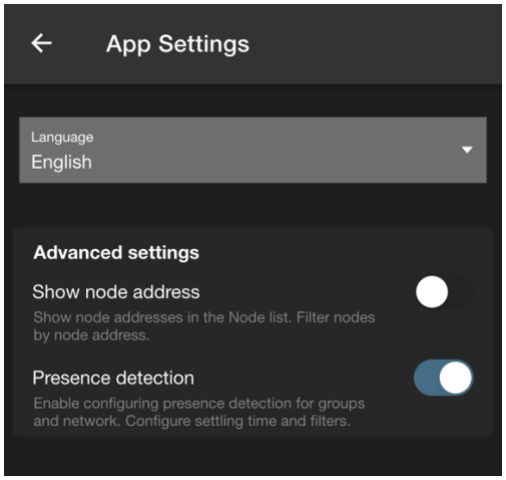
Presence detection settings allow you to disable PIR presence detection. Disabling a sensor is only necessary in rare cases, such as when an HVAC system produces heat variation within the sensor's operating range, causing unwanted triggers. The feature is supported on firmware version 1.23 and above.

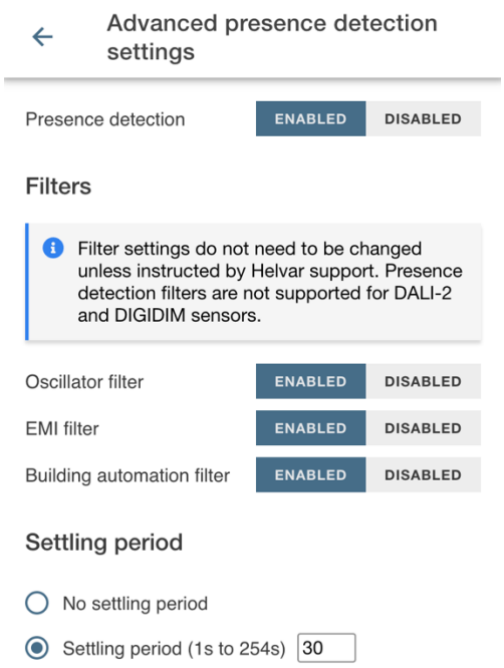




You can access presence detection settings for individual sensors from the Devices tab of a node by selecting the sensor.

You can also access this feature for groups and networks and configure various trigger filters and sensor settling time by enabling "Presence detection" option from Advanced settings section in the app settings page. Once the option is enabled, the feature can be accessed for groups and network through the three-dot menu if needed.





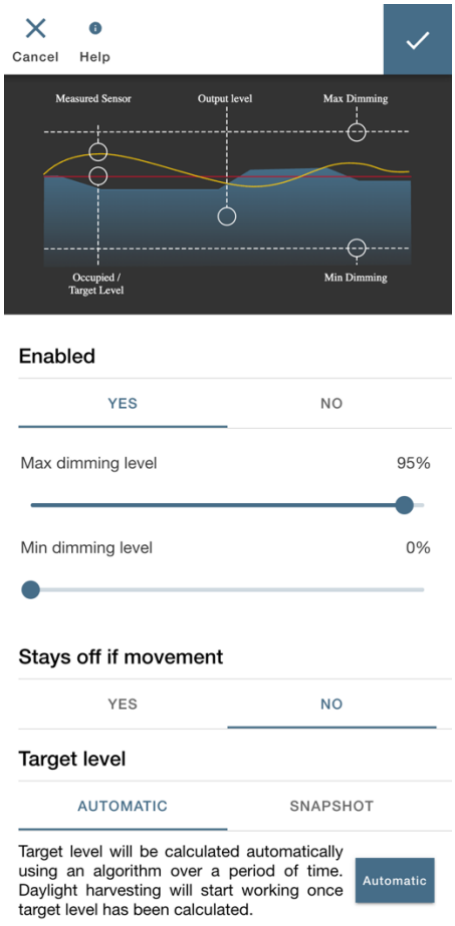
Note: Trigger filters and sensor settling time configurations should not be changed unless instructed by Helvar support.

RULES

ActiveTune

Helvar ActiveTune personal lighting solution allows space user to use their mobile device to adjust the light above their desk. ActiveTune can be configured in the Rules tab of a node. An ActiveTune sticker is required to configure ActiveTune. Separate stickers exist for intensity only and for intensity + colour temperature. Multiple nodes can be paired with the same sticker but the configuration must be done one node at a time. To purchase ActiveTune stickers, contact your Helvar sales representative.

Daylight Harvesting



Purpose of the daylight harvesting (DLH) is to reduce the usage of artificial light when natural light is available. Light sensor measures the amount of light reflecting from the surface right below the sensor, so the luminaire can respond to the amount of natural light in the space by dimming the light, which helps to save energy and at the same time maintain the lighting level optimal for the user.

For DLH to work correctly the system needs a target level which should correspond to the light sensor reading when on occupied light level without daylight present. System will try to maintain that target level while on the occupied state and so can dim the light downwards when there is daylight present and upwards when more light is required.

You can find DHL options in a separate view under “Rules” tab in node, group, and network settings.

By default, target level is measured automatically within few days of space usage, but it is also possible to take a snapshot of light sensor reading and use it as the target level. Thus, you can select the conditions when you want to measure target level. When taking a snapshot, make sure that no daylight is present, the surface below the sensor is the intended one and that the lux level in the space is what you are aiming for.

Note: If target level is calculated using an automatic algorithm, the target level gets stored permanently only after some hours of active usage. Thus, do not turn off the mains power after enabling the automatic target level calculation.

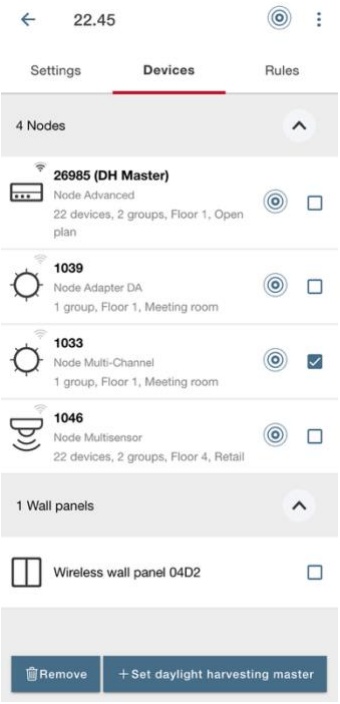
Set the occupied light output level to the wanted level first before taking a target level snapshot. If you change the occupied level, the DLH target is reset and will be recalculated automatically using the automatic algorithm or a new snapshot should be taken.

Note: Taking a snapshot should be the last step in DLH configuration process.

Minimum and maximum dimming levels are the limits in between which the light level will be kept while harvesting. Maximum dimming level is typically set to be higher than occupied light level. In case maximum dimming level is lower than occupied level the light will dim up and down freely till it reaches the maximum dimming level.

When minimum dimming level is set to 0 %, an option is shown to select whether to keep lights off when a movement is detected. The "keep off" option will not allow the light to turn on when movement is detected when there is already enough light. Otherwise, the light will first turn on to occupied level, to see that luminaire is functional, and will then gradually dim down to 0 % if there is enough of light.

Note: In case the luminaire is in the two channels mode, DLH controls only channel 1 (typically direct light).



Daylight harvesting function is enabled by default on individual luminaires. To achieve an evenly dimmed ceiling, a group daylight harvesting master can be selected.

Firmware version: 1.0 - 1.11
Group DLH master controls the light level for the whole group when master has detected movement by itself.

Firmware version: 1.12 -
Group DLH master controls the light level for the whole group when group area is occupied (any group member has seen movement).

When Group DLH control is active, the other group members will not perform individual DLH control but instead will wait for Group DLH control commands from the Group DLH master.

Note: In case of Group DLH, always use Group Member Light Level = Occupied.

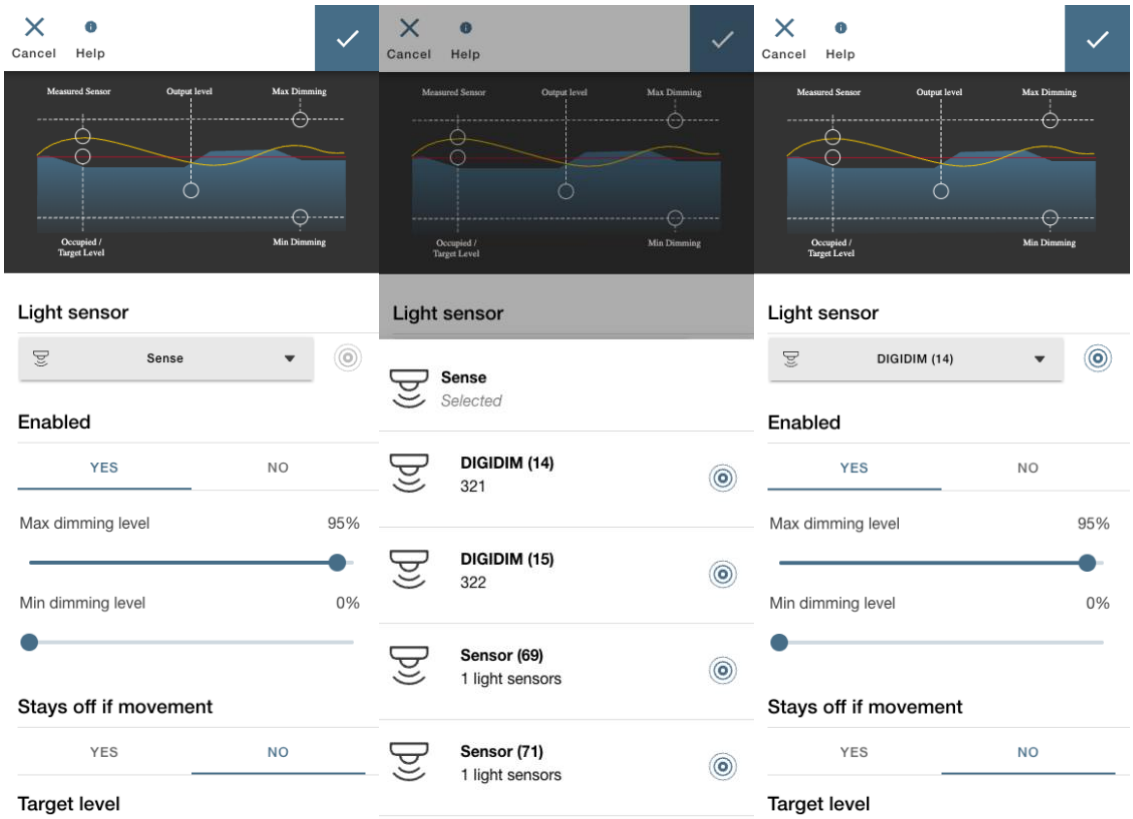
Note: In case of Group DLH, it is recommended to disable learning to avoid uneven light levels within the DLH group.

Note: Single Node must NOT be added to more than one DLH Group. In other words, single Node must not receive DLH Group control messages from two masters simultaneously. Instead, if you have for example a bigger open office area, you may group luminaires in rows and assign a separate master for every row.

Note: DLH is not supported with Wall Panel scenes or with ActiveTune control.

Daylight Harvesting with Node Advanced

The light sensor used for daylight harvesting can be changed to any connected sensor which supports the feature: 5630 ActiveAhead Sense, 5632 ActiveAhead Sense Outdoor, DIGIDIM 321, DIGIDIM 322 and all DALI-2 103 Input devices with a 304 light sensor instance. Additionally, the currently selected light sensor can be identified if the device supports it.

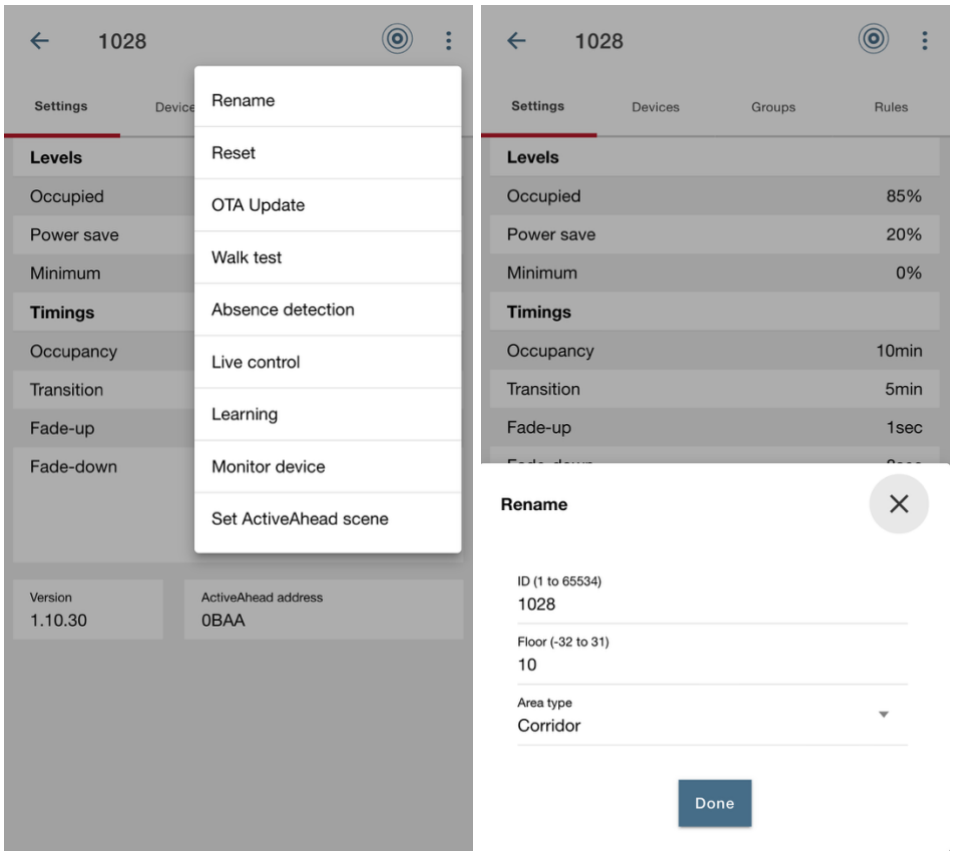


Note: Changing the light sensor will reset current DLH target level and starts automatic target calculation.

Note: Support for DALI-2 103 input devices is only available in Node Advanced and Node Multisensor 1.15 onwards.

CHANGING NODE DETAILS

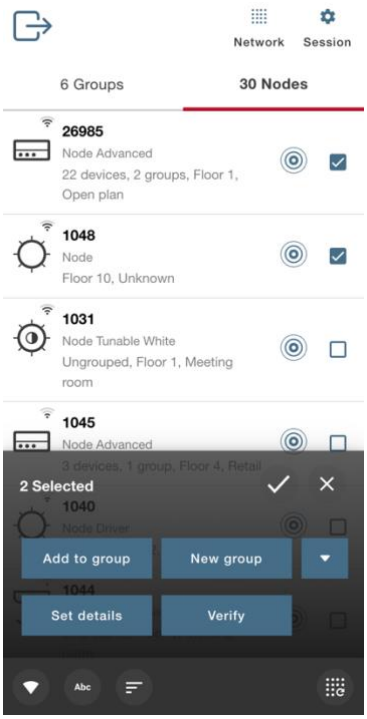
Change details of an individual node

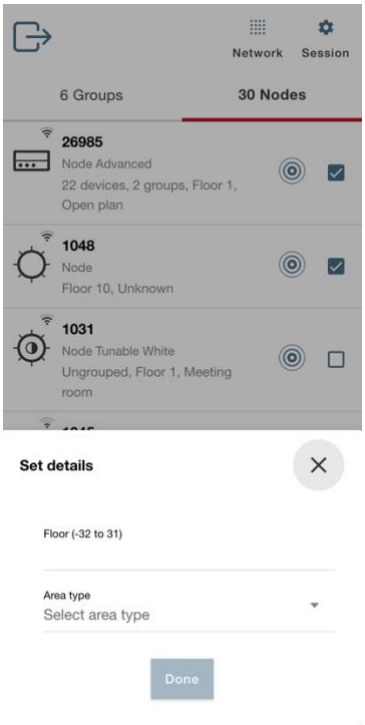


An individual node's details can be changed via the *Rename* menu, accessible through the three dots ⋮ after opening a node.

An ID (name), floor and area type must be set. The ID (name) should be a number between 1 and 65534, and the floor between -32 and 31.

Set details in the node list





It is possible to set floor and area type for multiple nodes at once. You can do this by first selecting the nodes, pressing  to show the additional actions and selecting "Set details". The current area type or floor is used if the corresponding field is left empty. Node floor must be between -32 and 31. Setting area type "None" will make the node behave as if it has no area type.

Sub-devices (Node Advanced & Node Multisensor)

Within the DALI bus current limit of 100 mA, Node Advanced can support up to 16 x DALI-2 control gear / DIGIDIM and 8 x DALI-2 input devices as *sub-devices* attached to its DALI bus:

- Max 16 pcs of DALI 102 control gear devices / Helvar DIGIDIM sensors
  - Supported 102 device types: DT0, DT1, DT4, DT6, DT7 and DT8 Tc
  - Supported DIGIDIM sensors: 320, 321, 322, 341, 342
- Max 8 pcs of DALI-2 103 input devices
  - Functionalities of 303 occupancy sensor and 304 light sensor instances are supported
  - Other instances (301 push button and 302 absolute input device) are mentioned in the device list, but no functionality is available.

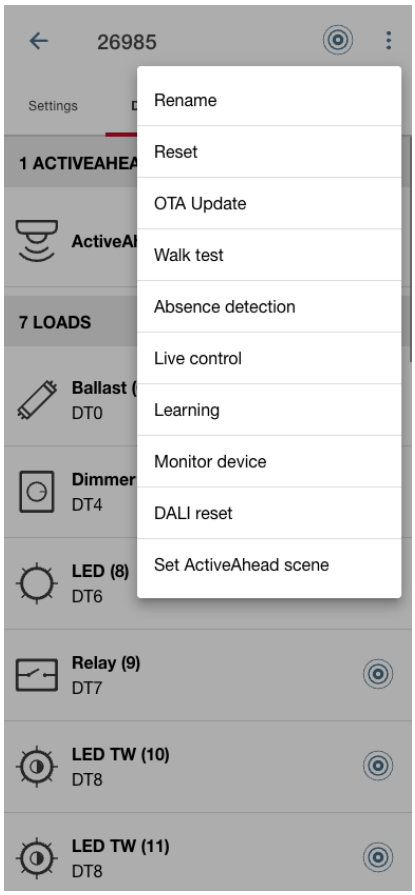
Sub-devices can be viewed, identified, and configured with the app. Sub-devices are discovered and addressed by the Node Advanced automatically only if they are in factory reset state *without DALI short addresses* when Node Advanced is powered up. When replacing old DALI control systems with Node Advanced, *DALI reset* -function is required. Also, when adding a new DALI device or DIGIDIM sensor to the Node Advanced, re-commissioning of the parameters is required.

Sub devices **cannot be grouped**. Sub devices can have different light level in various features, but they always share state machine (goes to occupied, transition, minimum together). Also, PIR triggers from any sensor are always treated as a control input for all sub devices.

Note: Support for DALI-2 103 input devices is only available in Node Advanced and Node Multisensor 1.15 onwards.

- 1.15 supports
  - 303 occupancy sensor instances providing triggers for state machine
  - 304 light sensor instances can be used as DLH light level source

DALI RESET



DALI reset can be started with the AAG2 App to force Node Advanced to clear its memory, re-address and re-initialize DALI devices and DIGIDIM sensors attached to its DALI bus. This can be done through the three dots in the top-right corner of the node details screen, by selecting “DALI reset” in the menu.

When DALI reset is started, it may take some time before actual re-addressing starts. Device will erase the memory and it will start re-addressing once the memory is ready.

DALI reset can take few minutes depending on the amount of the sub-devices in the DALI bus. The Node Advanced will identify when the process is complete. If you have DIGIDIM sensors attached to the DALI bus, sensors will blink during the addressing stage.

DALI 102 CONTROL GEAR (“LOADS”)

Supported DALI 102 control gear

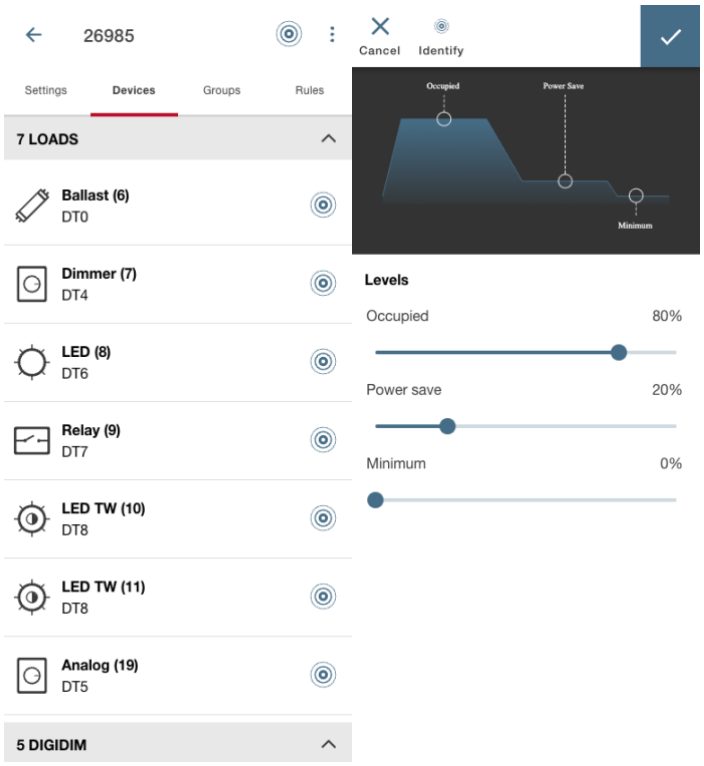
- Legacy Ballasts (DT0)
- Emergency luminaires (DT1)
- Dimmers (DT4)
- LED drivers (DT6)
- Relays (DT7)
- Tunable White LED drivers (DT8 Tc)

recognized by Node Advanced will show up under the Nodes list.

Each sub-devices’ identify button can be used to identify them individually.

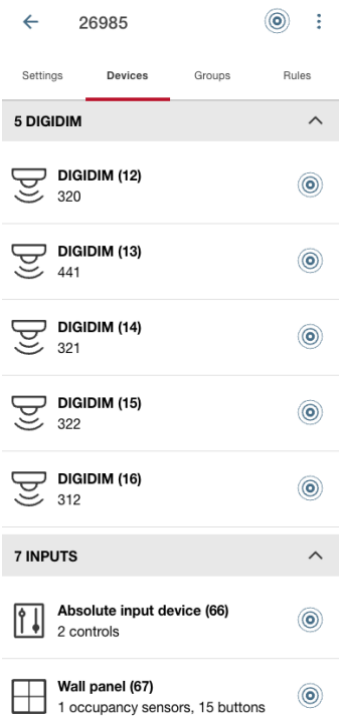
Tapping a 102 control gear will open a settings view where its occupied, power save, and minimum light levels can be adjusted individually.

Note: DALI device types which are unsupported by Node Advanced will not appear in the list. Also, if there are more than 16 control gear devices / DIGIDIM sensors attached to the DALI bus, only 16 first supported devices are shown.

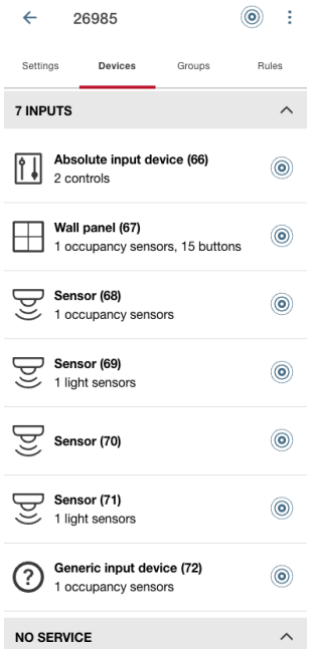


DIGIDIM SENSORS

Supported DIGIDIM sensors (320, 321, 322 and 441 based sensors like 341 and 342) which are recognized by Node Advanced will show up under the sensors list. Each sensor can be identified individually if they support identification.



DALI-2 103 INPUT DEVICES



DALI-2 103 input devices will show up in the input device list, where they can be identified.

Note: If there are more than 8 input devices attached to the DALI bus, only 8 first found devices are shown.

DALI-2 WALL PANEL

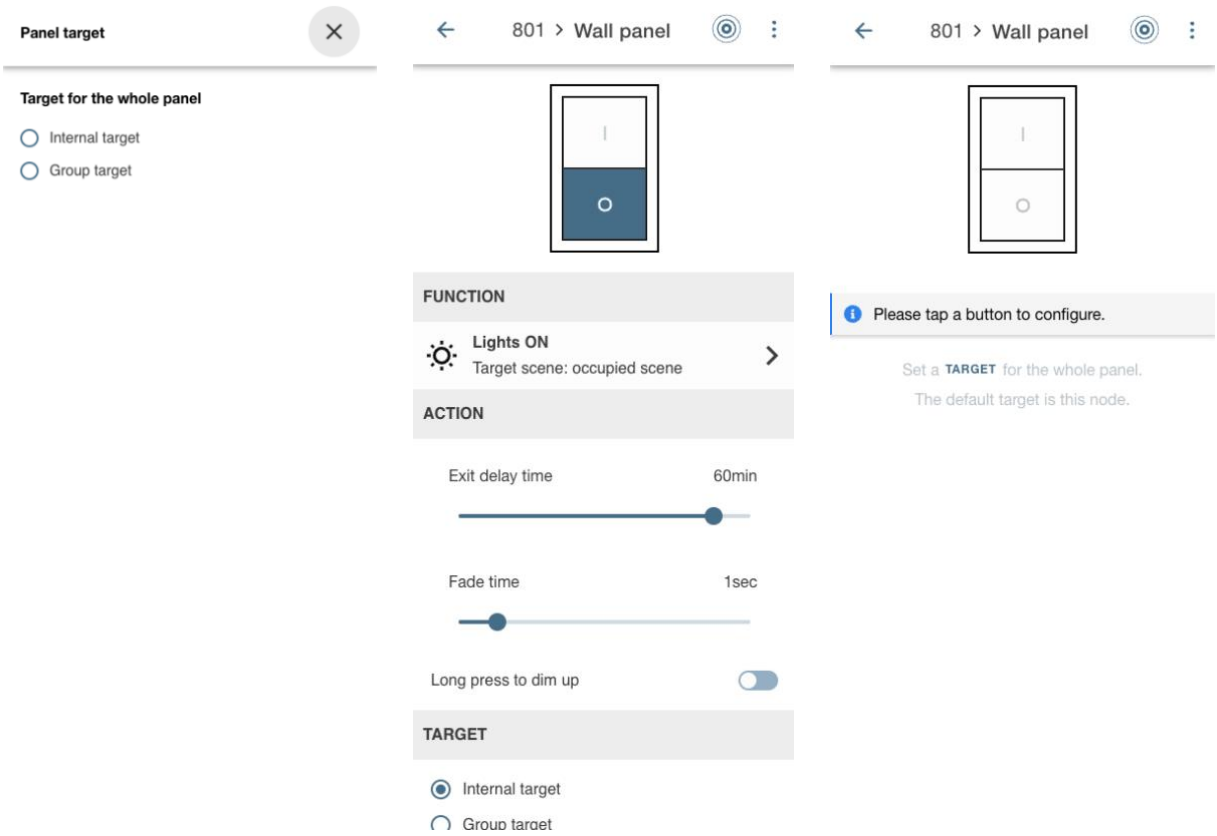
DALI-2 wall panel can be configured by selecting a wall panel from the list of DALI-2 103 input devices. The DALI-2 wall panel configuration feature is only available from app version 1.14 and ActiveAhead firmware 1.21 onwards.

At the panel view,

1. Select a button to open the button setup and change its parameters.
2. Click “TARGET” to configure a target for a whole panel or click a button shown in the wall panel layout to configure that specific button.

Internal target button controls only devices attached to the panel master Node Advanced / Node Multisensor.

Group target button controls all devices in the selected group if they are in the range of control area (30 m radius around the panel master Node Advanced / Node Multisensor).



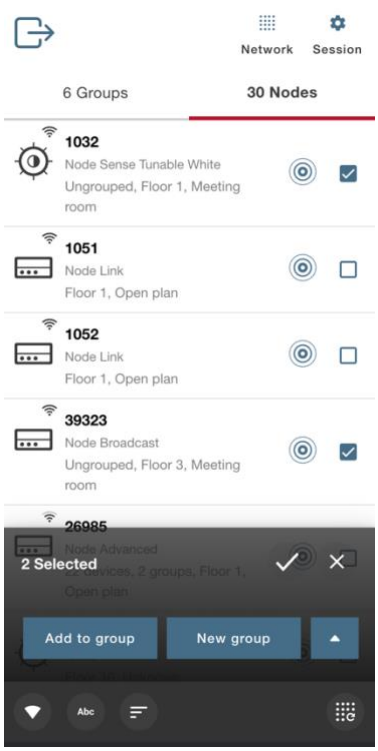
NO SERVICE

Input devices that are not known to Node Advanced are listed in their own category. These devices can be identified from the app, but Node Advanced will not offer any functionality for them.

Grouping

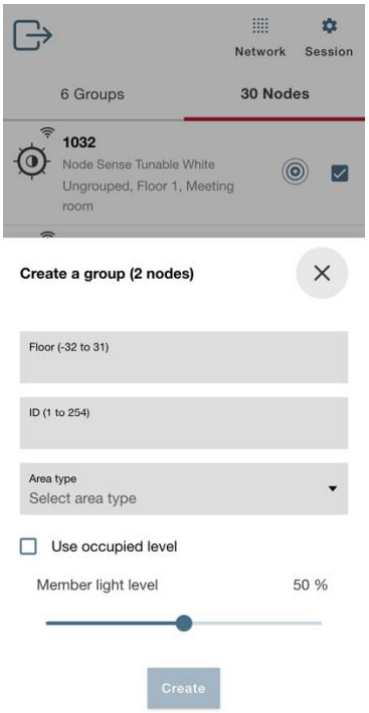
Nodes tab on the Main screen allows to select multiple nodes and use the buttons at the bottom of the screen to either create a new group with the selected nodes or add them to an existing group.

Floor, ID, area type and group member light level are required to create a new group. Floor + ID will be used as the group's unique ID by the system as well as the mobile app. Creating a group with floor + ID which match to an already existing group in the network, will add the selected nodes to the existing group.



Note: You have the option to set the member light level to be the same as the occupied level. In this case, the member light level follows the occupied level of the node. Consequently, it will be different for different group members in case they have different occupied levels.

Note: The node will always follow the state which results in the highest light level. Usually, the state with the highest light level is the occupied state which is active when the node's own sensor detects movement. Consequently, group members may be on different light levels at any given point in time. An exception to this rule is the wall panel, which is always followed till the scene times out.



Tip: Setting 0 % as the value for the member light level will create *a logical group.* This group will not react to movement detections as a group, but you can use the group for other purposes, such as, setting parameters, corridor hold and wall panel.

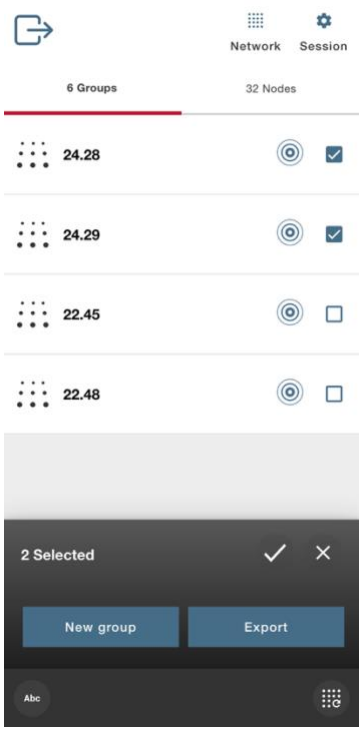
Note: After adding new nodes to an existing group, previously configured wall panels and corridor holds in the group must be reconfigured.

Note: The app prevents creating a group which the app has already discovered. In a large network, it's possible that some groups are not discovered, so you still need to pay attention not to create a group which you already have made earlier.

CREATING A NEW GROUP FROM EXISTING GROUPS

A new group can be created from multiple other groups in the group list. The new group will contain all selected groups' devices.

Note: Corridor holds, wall panels and group parameters like absence detection are not carried over to the new group. They must be configured separately.

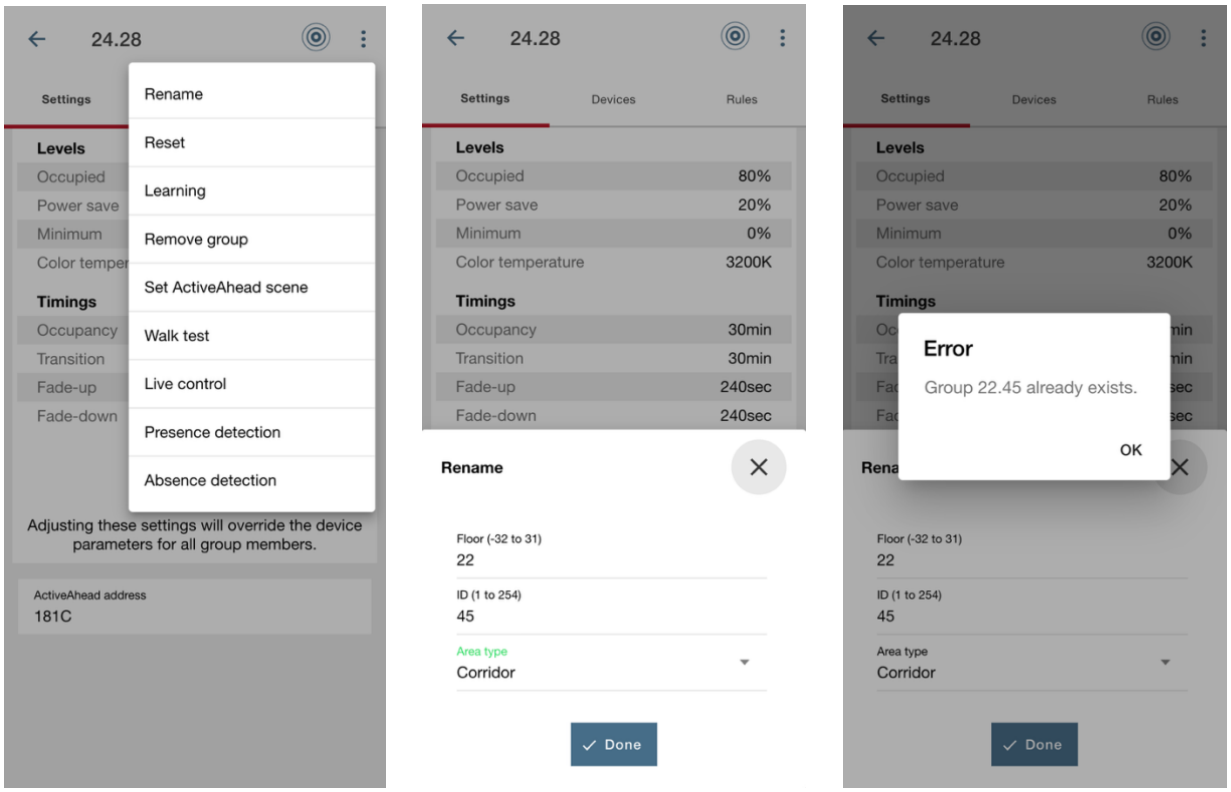


CHANGING GROUP DETAILS

A group's details can be changed via the Rename menu, accessible through the three dots ⋮ after opening a group.

A floor and ID must be entered. The floor should be between -32 and 31 and the ID between 1 and 254.

Note: The app prevents renaming to a group which the app has already discovered. In a large network, it's possible that some groups are not discovered so you still need to pay attention not to rename to a group which you already have made earlier.



Changing parameters via group view

The group view can be used to SET light level and timing parameters of group members with single action. It should NOT be used to check whether all group members have the same parameter values.

Note: *Group members can have different light levels and/or timings*. Parameters (light level and timings) shown in settings tab of the group view are queried from randomly selected single group member. This view does not reveal possible different parameters between group members. Do NOT use parameters view inside group when verifying those parameters are set correctly. Instead, always check parameters in node view.

ENOCEAN WALL PANEL

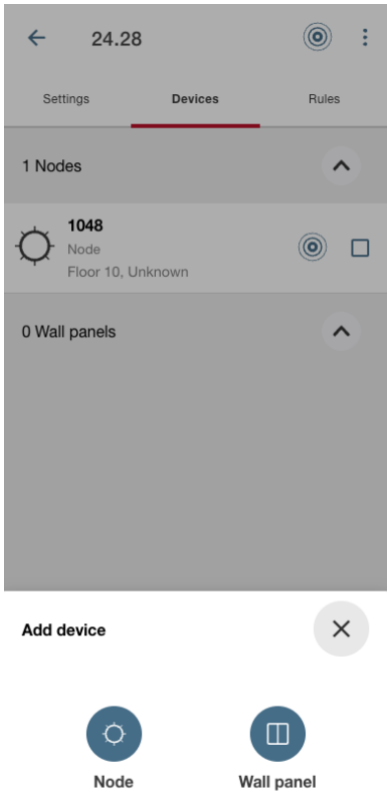
EnOcean Wall panels can be added to a group. NFC is required on the mobile device to configure a panel. To add a panel to a group, click on the big red + button at the bottom of the group's Devices tab and choose "Wall panel". Then hold the back of your phone close to the panel for about two seconds. Once the EnOcean

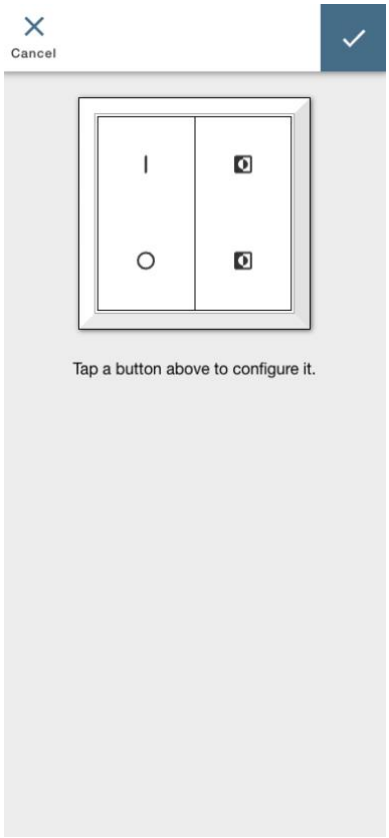
wall panel has been recognised and security added to it, the app will show the existing configuration for an already configured panel or propose default button configuration for a new panel. Select a button to open the button setup and change its parameters.

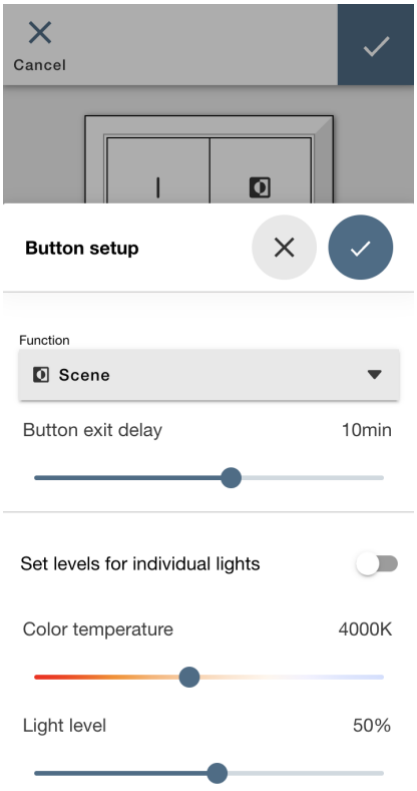
Note: Always ensure that the EnOcean wall panel has been correctly configured by physically pressing each of the buttons. Pressing a button first time after adding a new panel links the wall panel to the group, and therefore does not cause a reaction in the luminaires.

One group can have multiple panels configured to it. Each node can have maximum 8 groups and in total up to 8 unique EnOcean wall panels.

Note: After adding new nodes to the group, the existing EnOcean wall panels in the group must be reconfigured.







Available button types

Each EnOcean button has a separate exit delay. In case movement is detected after the exit delay but during the transition timeout, lights will return to Occupied state.

On: *Short press* dims up light level to the configured level by using device fade-up time. *Long press* dims up light level to the configured level gradually. Colour temperature is not affected.

Off: *Short press* dims down light level to 0% by using device fade-up time. *Long press* dims down light level to 0% gradually. Colour temperature is not affected.

Dim up: Light level dims up to 100% gradually. Colour temperature is not affected.

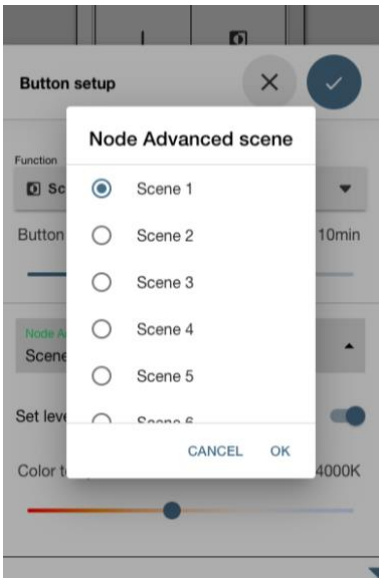
Dim down: Light level dims down to 0% gradually. Colour temperature is not affected.

Occupied: Return to normal light automation by activating Occupied state. Daylight Harvesting is active in the Occupied state if enabled and has a valid target level.

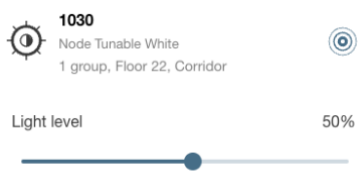
> **Note:** Pressing Occupied button causes no action when *Absence Detection* is enabled, and therefore should not be configured when planning to use Absence Detection. Occupied button type is available only from firmware version 1.10 onwards.

No function: No action is taken when pressing the button.

Scene: Recalls a scene with the configured light levels and colour temperature by using device fade-up time. Scenes can have individual light levels, but colour temperature is common to all devices.



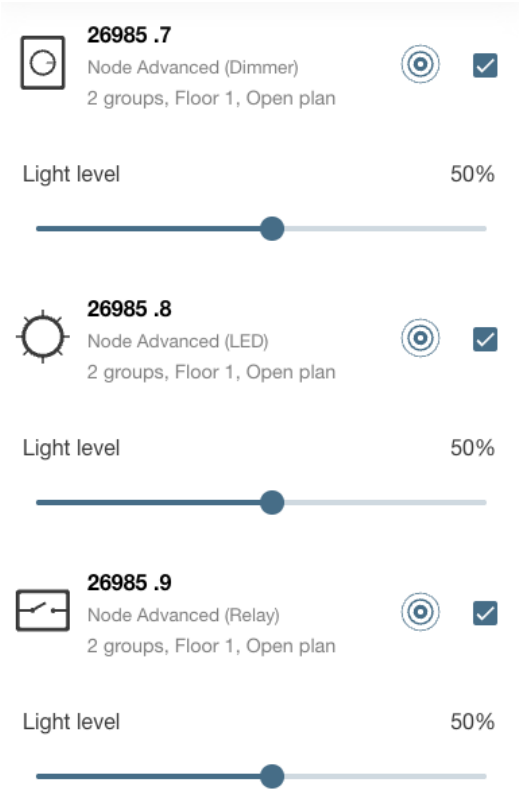
Note: Node Advanced requires selecting a DALI scene to be used with the Scene button. **DALI scenes are device specific, not button specific,** which means that light level and colour temperature modifications apply also to other buttons which have the same DALI scene configured.



Note: When loading a Scene, the light levels are queried from each device. It is possible that some of the light level responses are not received if there are many devices configured with the wall panel. The devices which have not responded are automatically assigned default light levels and highlighted as below when “Set individual lights” is toggled on.

EnOcean Wall Panel for Node Advanced and Node Multisensor

When used with Node Advanced, the EnOcean wall panel can be configured for each DALI device separately. Each device's checkbox defines if the device should react to the button press or not. The light level slider defines the individual light level.



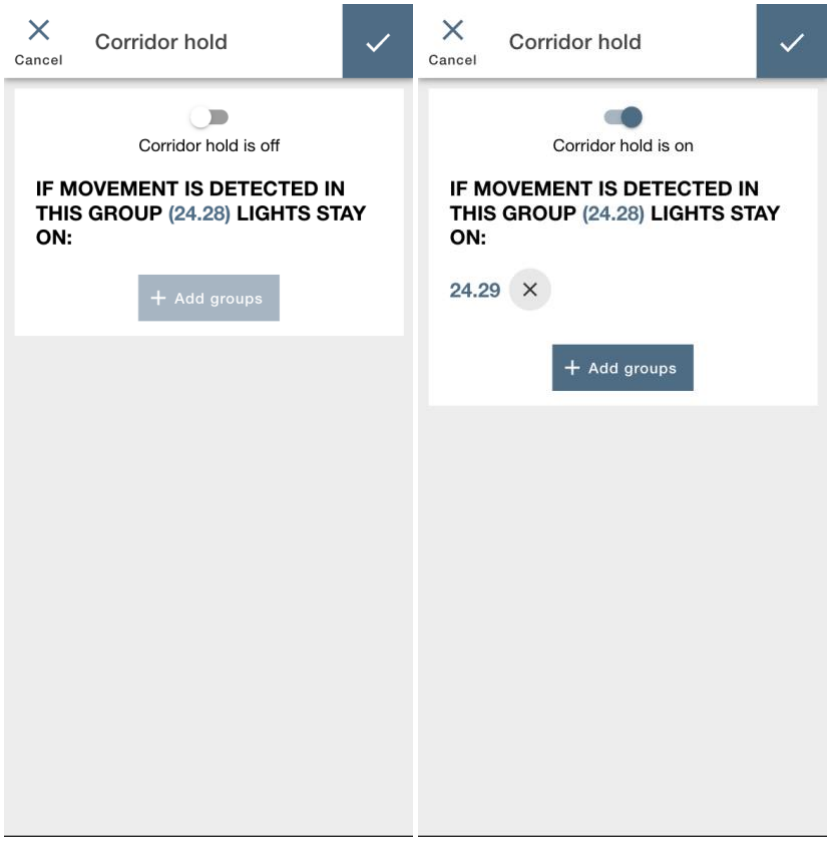
CORRIDOR HOLD

With the corridor hold function you can set a group to follow another group. An example use case for the feature is to keep the corridor lights on while there are people still in a meeting room. Another example use case is to keep the first row of lights next to the window or near an exit on while there is someone in the open plan office.

Corridor hold is set in the Rules tab of the group you want to be followed, for example, meeting room group's Rules tab. You can add one or multiple groups from the "Select groups" list. The "Select groups" list will show all the nearby groups which the app has found earlier; meaning, the ones listed also on the main Groups tab.

In the corridor hold state, group members will use their power save level when the followed group is in occupied state. In case other states are also active (e.g., movement in the corridor), the nodes will use the state which offers the highest light output level.

Note: The corridor hold is available between groups only. A group can have just one member in it. Thus, in case of having one node which need to be followed or need to follow, create a group with that one node before setting up corridor hold.

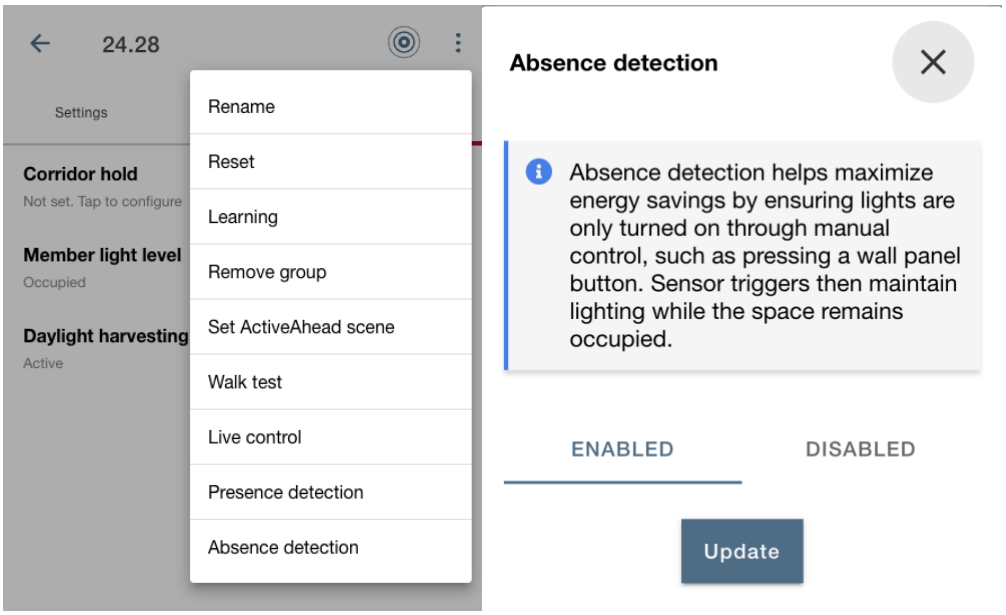


ABSENCE DETECTION

This feature maximises energy savings by turning lights on only when actively turning lights on using the wall panel. Sensors are used to keep lights on while the space is occupied. Absence is detected if sensors have not detected movement within occupied timeout time. When the group is on off state, detected movement does not trigger lights to switch on. When absence detection is activated, luminaires of the group change their state and light level to unoccupied immediately.

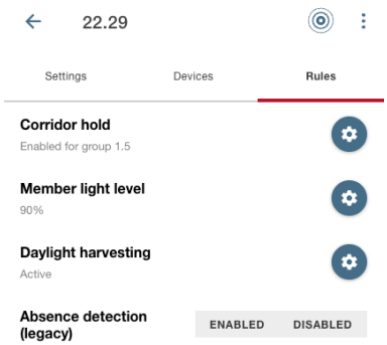
Firmware version 1.23 and up

Absence detection can be accessed from the three dots menu ⋮ for a group or a node.



Firmware version 1.22 and below

For group members having firmware version below 1.22, the feature can be toggled from Rules tab in group view when at least one wall panel has been configured for the group.



Note: For Node and Node Sense, the absence detection feature is supported from 1.5 onwards and is reported as inactive if all group members having firmware version 1.4 or lower. For Node Advanced, absence detection is supported from 1.12 onwards.

Reset

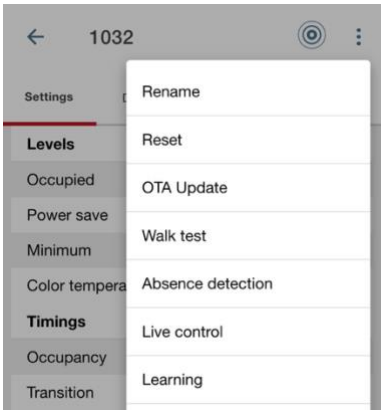
You may choose to perform reset on different levels: a node, group, or the whole network. You may choose whether to reset everything or a selection of configurations:

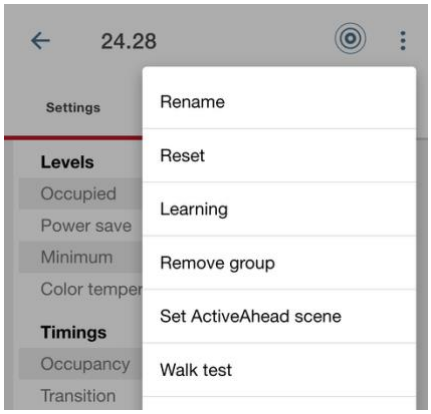
1) Parameters
2) Groups
3) Learning

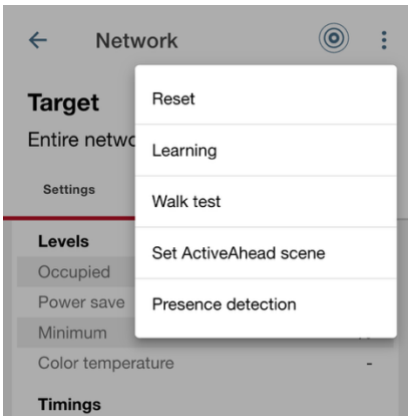
Resetting learning will remove all the self-learning records and the learning process will start from the beginning. This option is useful when for example you have renovated the space recently and you want the node(s) to learn faster how the new space will be used. Note that the node(s) will re-learn anyway, since learning is a continuous process, thus resetting the learnings is not typically necessary.

Note: in case the space should not use self-learning, the correct option is to disable learning for the node or group in question.

Walk test



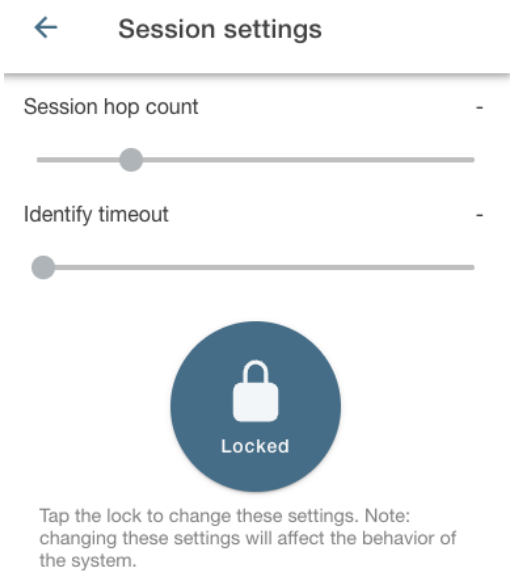




You can find walk test under node, group and network pages' three dots menu ⋮. Walk test will force the targeted nodes to go to unoccupied state using the configured fade down time. In case movement is detected, the nodes will immediately react to it and fade up to occupied light level. Consequently, walk test requires the space to be empty. No one else should move there and disturb your test process.

Tip: Set shorter fade down time to get devices dim faster.

Session Settings



“Session hop count” defines how many hops messages sent by your proxy Node travel in the mesh network. You can increase the session hop count if you want to make sure that the whole network gets the command you send. This setting is temporary and will be reset when you disconnect.

“Identify timeout” is the setting for controlling how long luminaires will blink when you use identification function. This setting persists between sessions, but will be reset when the application is closed.

Network Level Operations

App allows you to manipulate the whole network. You can access the network from the Main screen top header when viewing groups or nodes lists.

Note: When you send commands for the whole network it depends on the size of the network whether all nodes will get the command or not. Consequently, it is recommended to check that the action was received by all. This can be done by applying the change again from a different location and inspecting visually that the command was received (luminaires blink when they get a command). You may change the identification (blinking) time in the Main screen Settings to make the identification last longer to inspect a bigger area on one go.

SECURITY

In the Network page Security tab, you can set a PIN code to the network to prevent actions from users not knowing the PIN code. This can be also used to separate different areas. By default, the nodes are open to connections. When PIN code is set, the mobile app will request for it when connecting to such a node.

Note: Once PIN code is set, the nodes will stay open for configuration for five minutes. This timeout is restarted on every action; such as, identify or configuration command, the node receives. Thus, to test the security after setting a PIN, please disconnect the mobile apps from the network and wait for over five minutes before reconnecting. The open network command will open the nodes with the given PIN code similarly for five minutes.

Note: In case part of the network has a PIN code and the other part does not, only the unprotected (no PIN) nodes and open nodes (unlocked) will accept commands you send through the app. Identification and parameter reading still works for all the nodes. Using different PIN codes in different areas allow you to isolate specific areas from unwanted parameter changes. PIN code does not affect the learning that the nodes do.

Tip: It is recommended to store the set PIN code to a secure place so that people who should have access to modify the system settings can find the PIN code. See the Appendix 1 for more an example printout.

Emergency lighting (Node Advanced & Node Multisensor)

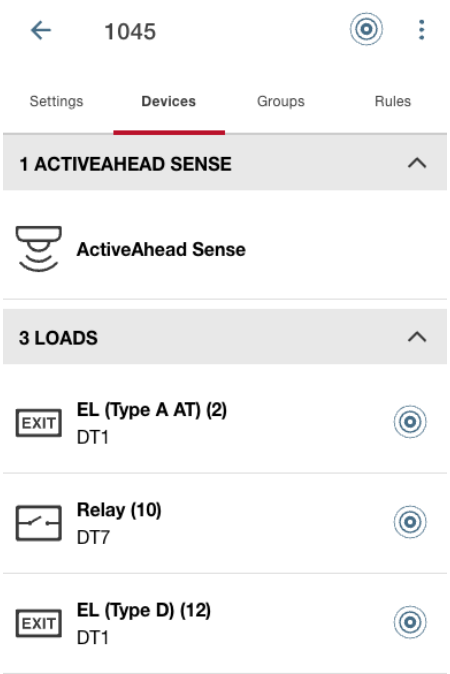
Node Advanced based Nodes (Node Advanced, Node Multisensor) support DALI device type 1 (DT1) emergency lighting devices. All DT1 self-contained emergency device types: A, B, C, and D are supported. The required function and duration tests can be run with Helvar ActiveAhead mobile application. Each node can have multiple emergency devices connected to it while following the DALI line limits of the Node type in question.

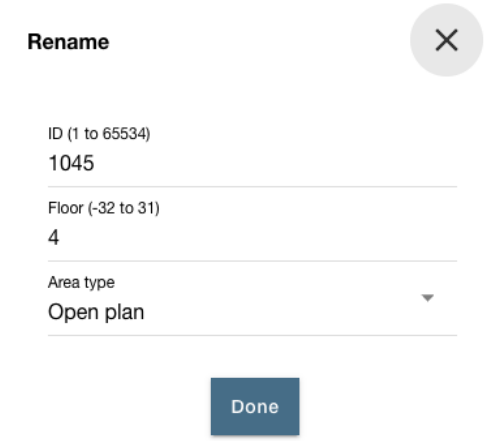
BEFORE RUNNING ANY EMERGENCY TESTS

Before running any emergency tests, ensure that

1. All DALI devices are connected to the DALI line on the Node Advanced.
2. The installed devices are visible in *Connect -> Node List -> Node Details -> Devices*
3. Appropriate floor and area type is set for the Node Advanced in the *Node Details -> Rename*

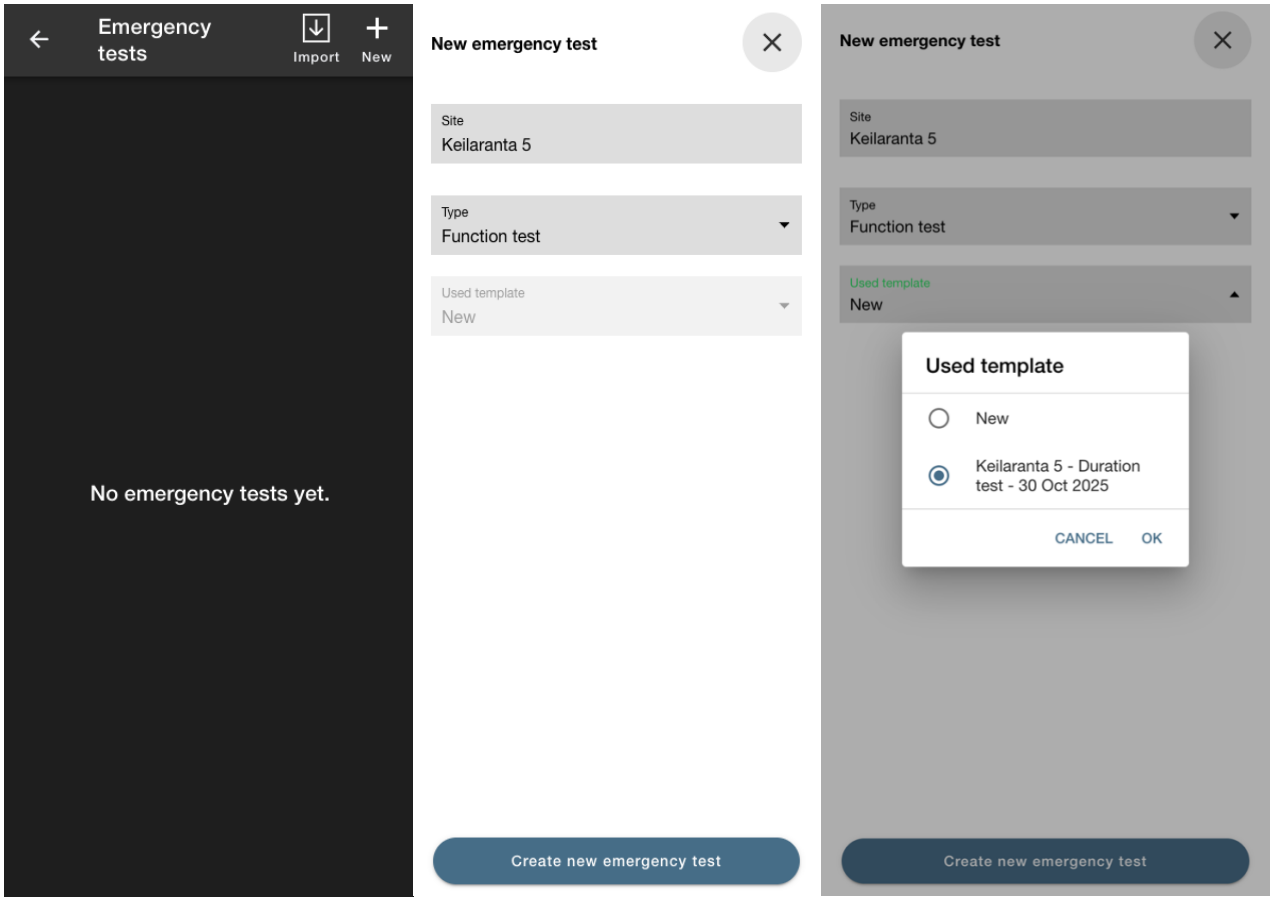
IMPORTANT: During testing new devices must not be connected nor DALI reset started on the Node Advanced under test.





CREATE A NEW TEST & IMPORT A TEST

Tap *Emergency tests* in the "*Home"* view to see the existing emergency tests in the "*Emergency tests list*" view. The tests are ordered by showing the most recent test first. If you want to continue from a test which someone else started, select "Import". The same test can be imported only once.



Select "New." if you want to create a new test. Write the site name and select the test type (function or duration). Next, choose a template if you have previously completed tests from the same site. This is how all emergency devices, which were found during the previous test, are transferred from the template to the new test. We recommended to use the most recent completed test as the template to ensure that every device in the site gets tested. Finally, press "Start a new emergency test".

RUNNING EMERGENCY TESTS

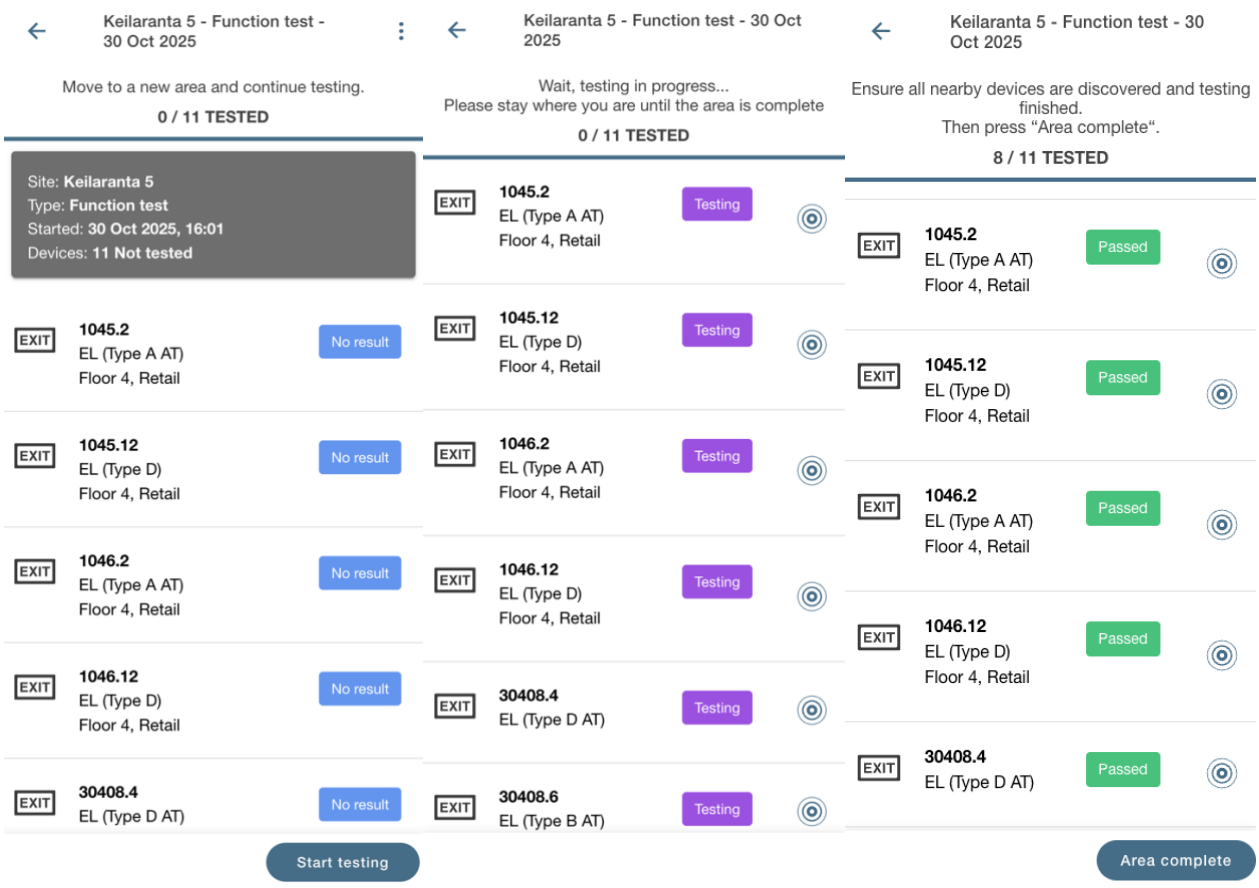
Press "Start testing" after creating a new test. The app starts scanning and connects to the nearest node, *proxy node*, in the ActiveAhead network.

Function test

The process for running the function tests is partly automated: the app will handle the work for starting the tests and gathering the results for all **nearby** devices. After starting testing, please wait until the app notifies you that the current area is ready and identify all listed devices to ensure no nearby device is missing. The non-discovered devices are marked with a grey background.



Finally, press “Area complete”, move to a new area and press “Continue”. Repeat the process until all devices in the site have been tested.



Note: Always keep the application at foreground during testing. Avoid moving since it may break the connection to the proxy node.

Note: Do not close the app during testing (progress bar moving and identify buttons visible) to avoid losing data.

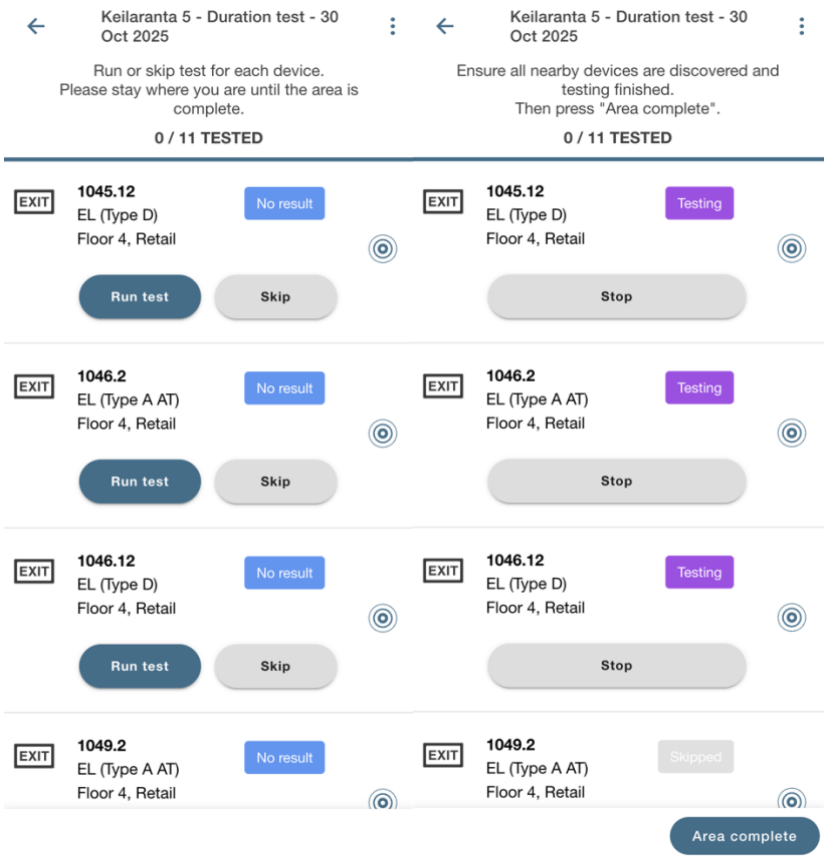
Duration test

In contrast to function test, the app does not start the duration tests automatically since the duration test drains the battery of the device. Running the duration test for all the devices at the same time could cause the whole building to be dark in case of a real emergency.

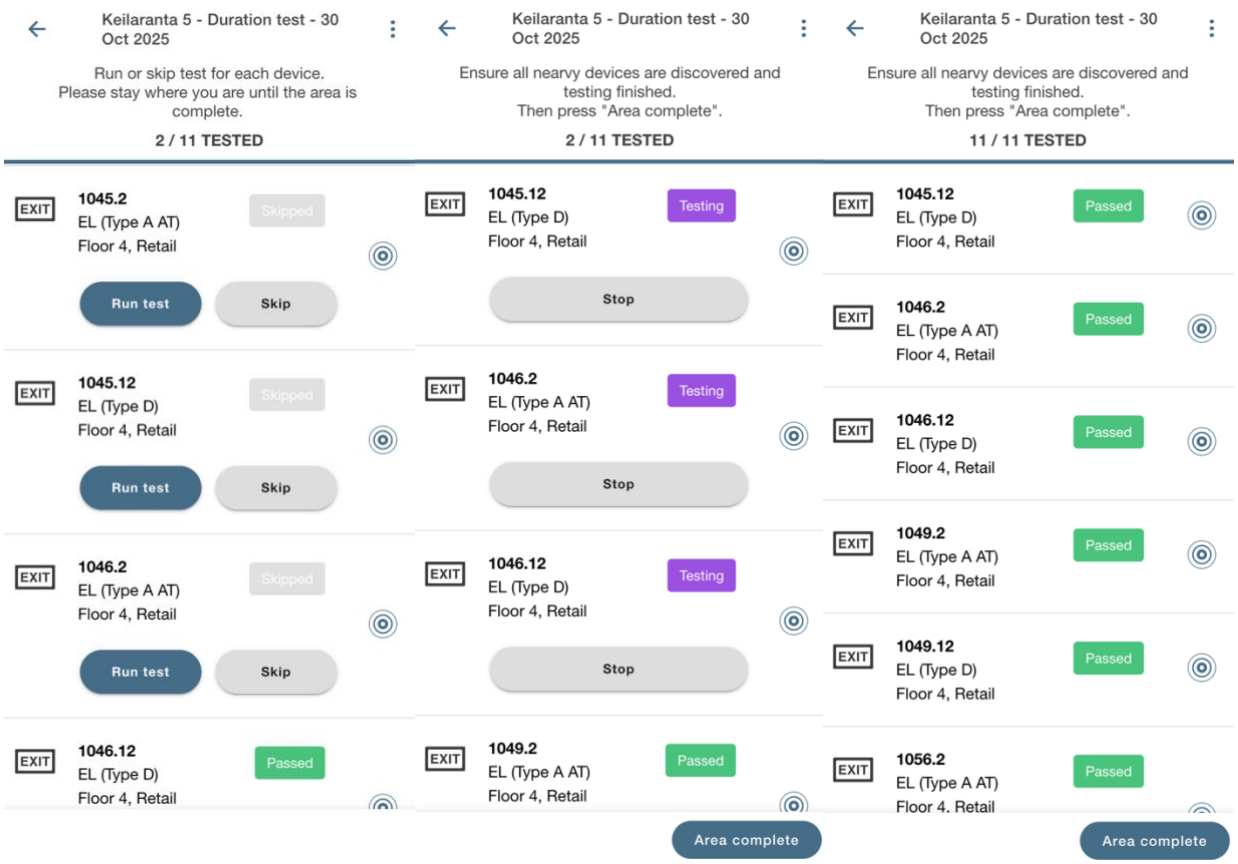
After starting testing, you will need to choose to either “Run” or “Skip” the test for each device. Select “Run” for the devices which you want to test now. Select “Skip“ if you want skip the duration test. Please make sure that you will not run the test for more than half of the devices on the site simultaneously.

After you have either started or skipped the test for all **nearby** devices, the app notifies you that current area is ready. Ensure that all **nearby** devices are discovered and press “Area complete”. Then, proceed to the next area.

After the duration tests have been started the App will show status “Testing” until tests are finished even if the app is not connected to the ActiveAhead network. Usually, the duration tests should not run for more than 3 hours but will take longer if the device battery was not full when starting the test.



When the tests have completed, you need to collect the results. To do that, use the same locations where you have started the tests if possible. Select the ongoing test from the “*Emergency tests list*” and press “Continue.” The app will automatically fetch the results for the nearby devices which have finished the test, but again you need to take care of starting the test for devices which were previously skipped.

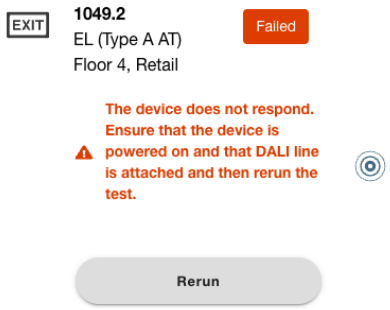


After the tests have run for the remaining devices, you will need to return to the site one final time to gather the results. At this point, all devices should be now tested.

Note: If you need to perform function test and duration test during the same site visit, always run the function tests first. Otherwise, function tests will not finish until the duration tests have been completed.

Handling failures

In case of a failure, read through the error message, solve the issue and rerun the test. Note that you will need to create and run a new test if the whole fitting needs to be replaced.



The table below lists possible reasons for the failure. The same table can be found from the generated emergency report.

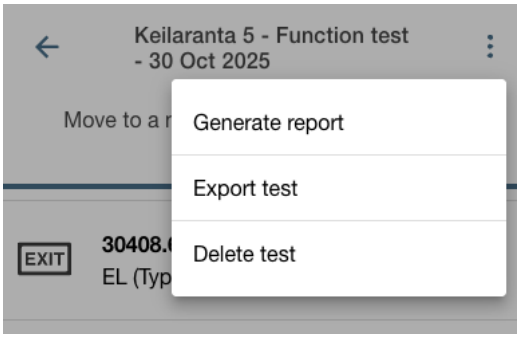
FAILURE RESOLUTION INFORMATION

The EL device does not respond.	Ensure that the EL device is powered on and that DALI line is attached and then rerun the test.
Control Node was powered off during testing	Control Node was powered off during testing and test results cannot be verified. Please rerun the test.
The emergency device is faulty.	Replace the emergency fitting, perform DALI reset with the control Node, create a new emergency test and run it.
There was not enough charge in the battery to complete the test.	Replace the battery, wait until the battery has been charged and then rerun the test.
The battery has failed.	Replace the battery, wait until the battery has been charged and then rerun the test.
The test was not able to complete due to the lamp not drawing any power from the battery.	Replace or reconnect the lamp and rerun the test.
The function/duration test has been running more than 48h.	Possible explanations: The battery charge level is low - Insufficient battery charge - Device is not in normal mode, e.g. Emergency, Rest, Inhibit. The test will be run automatically by the control Node whenever possible.
Unable to determine the failure.	Check the device and then rerun the test.

GENERATE A REPORT, EXPORT AND DELETE A TEST

After you have finished testing at a site, you can generate and share the test PDF report from *Home -> Emergency tests -> Open test -> 3 dots -> Generate report*. We recommend having a specific place, for example a cloud storage service, for storing the reports since the tests will be removed if you uninstall the app from the mobile device.

The test can be exported and removed from the same view.



AFTER INSTALLING AND CONFIGURING THE SYSTEM

After the installation is ready and configurations have been done, we recommend running the function test to create a template for the future emergency tests on this site. Template can be exported and shared with the people who will run the tests regularly, such as the facility managers.

First run after the installation (Commissioning engineer)

1. Create a new emergency test run.
2. Run a function test and walk through each area on the site. Ensure all installed devices are discovered during testing and pass the test.
3. Export the test and send it to Facility Manager.

Maintenance run (Facility Manager)

1. Create a new emergency test. Use the previous test as a template to ensure all the devices in the site will be discovered and get tested.
2. Run the test. In the case of a failure, resolve the issue if possible and rerun the test.
3. Proceed through the site until every emergency device has been tested.
4. Finally, generate the test report and export it to a place you see fit.

EMERGENCY TESTING FAQ

Why can I not run the tests for all the devices from the same place?

The large installations may have gaps in the network in which case it is unlikely that all the emergency devices can be reached from a single location. However, running the tests from one location for a small site could be possible.

I needed to connect new emergency devices to a Node Advanced. Can I still use the previous test run as a template?

Yes. First, run DALI reset. Then ensure that the new devices are visible in *Connect -> Node List -> Node Details -> Devices*. Finally, create a new test using the previous test as a template. The app will query the new emergency devices when the Node Advanced is discovered for the first time during the test.

Can someone else fetch the results for a duration test I started?

Yes. Export and share the test with the person who is going to visit the site and fetch the results. This person needs to import the test and then they can fetch the results.

Why do I always need to physically be present at the site?

Remote scheduled emergency tests are available via the *Helvar Insights* cloud solution. If the site is not connected to the Helvar Insights, the tests must be run locally using the mobile app.

The function test has been running more than 5 minutes. What do I do?

Ensure that the devices under test have mains power on. It is also possible that the device is already running a duration test in which case you need to wait until the current test has finished. The function test will run when there is enough charge in the battery. Node Advanced will clear potential inhibit mode automatically.

The duration test has been running more than 48 hours. What do I do?

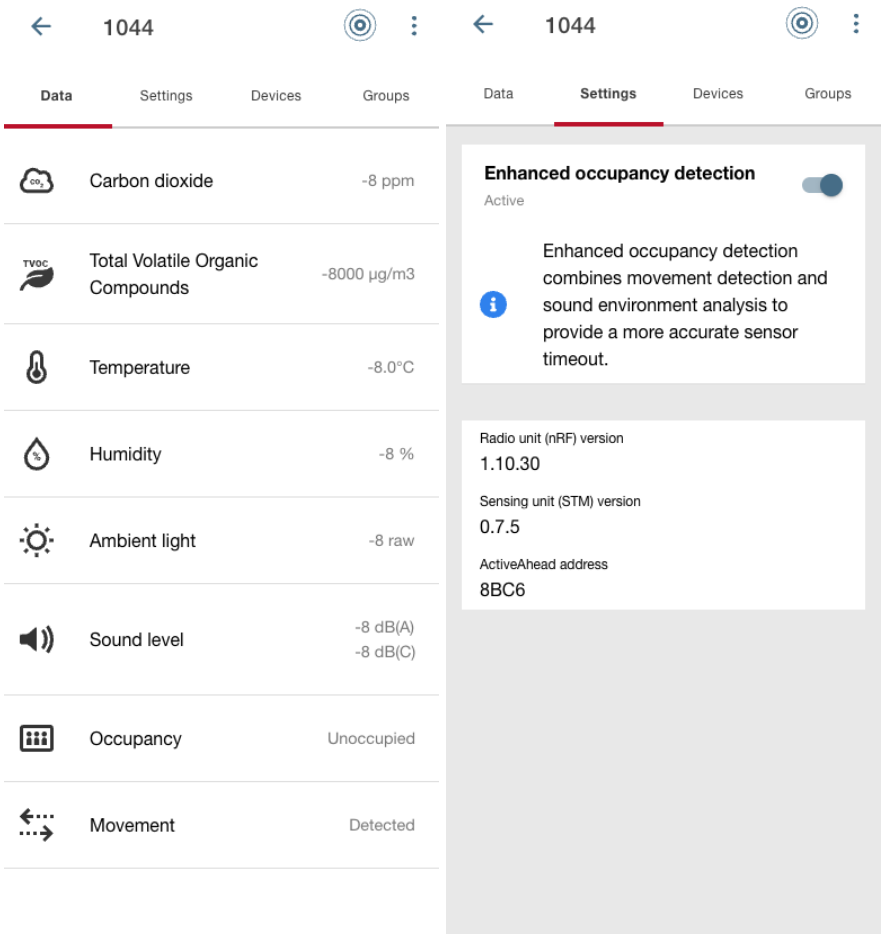
Ensure that the devices under test have mains power on. Duration test can be performed only when the device battery is fully charged. Node Advanced will clear potential inhibit mode automatically.

Helvar Senses (Environmental sensor and Extension sensor)

Environmental sensor is a key device in Helvar Senses system. It provides data about movement, light, temperature, humidity, TVOC, eCO2 and noise in the space. You can see this data via Mobile App, and more analytics in Helvar Insights.

Note: If all sensor readings don't fit to the mobile phone screen you may scroll the page up and down.

In "Settings" tab you can find information about versions of the firmware installed and disable enhanced occupancy detection (possibility to use sound analysis to detect presence and extend occupied time).



Environmental sensor can be added to a group of ActiveAhead nodes and notify the group about movement when it is detected, so the group lights can react. This is only ActiveAhead grouping, not related to Imagine system. Environmental sensor cannot be used for Daylight Harvesting yet.

To extend the solution either by increasing location coverage, improve accuracy or adding new sensing capabilities add Extension sensors. For example, if Environmental sensor is mounted on the ceiling you may want to locate Extension sensor near you.

COMMISSIONING THE EXTENSION SENSORS

You can link one Extension sensor via "Devices" tab and follow the additional sensor readings from it. This can only be done on the ActiveAhead Gen2 Android app and the feature is currently not supported for iOS mobile devices.

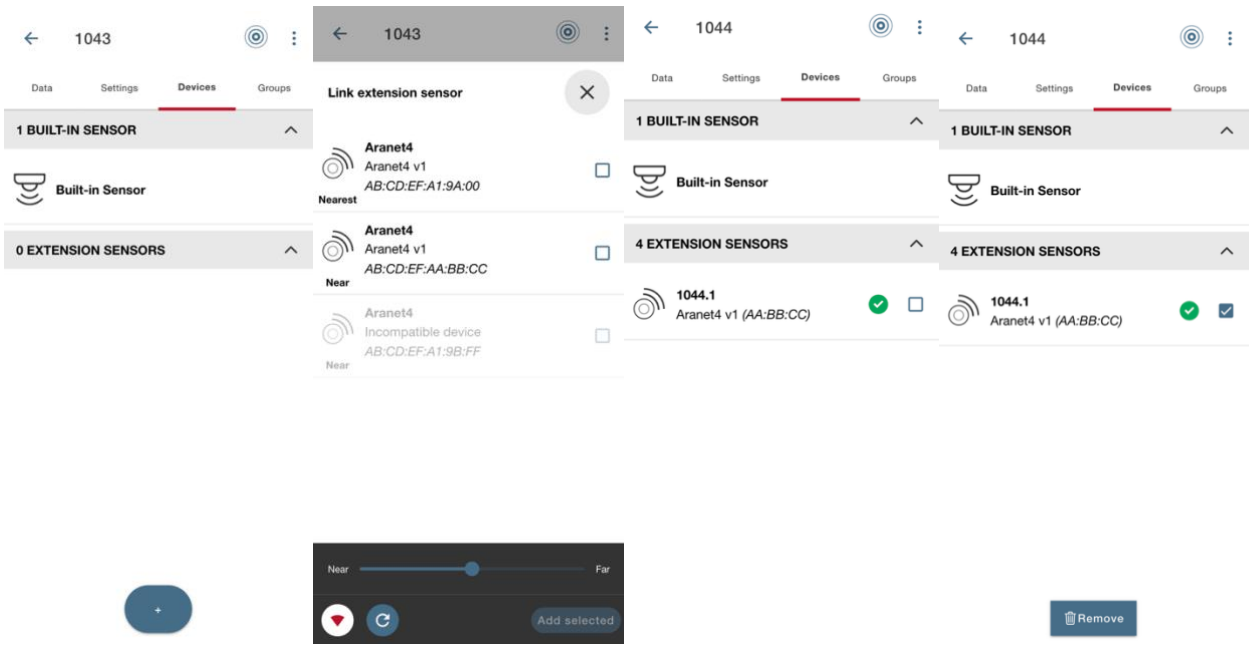


Currently only one type of extension sensor is supported – Aranet4. To link it to Environmental sensor, open the Environmental sensor page in Mobile App.

Take the Extension sensor in your hand and hold it close to the phone. The app shows the closest device on the top of the list.

Select the Extension sensor you want to link from the list, make sure that the id on the screen of Extension sensor matches the id you see in the app while linking it.

Press “Add selected”. Currently number of extension sensors you can add is limited to one. You can also remove and then add another one.



Appendix 1

Whenever a security PIN code is set, it is recommended to store the PIN code to a secure place where trusted people have access to it. Such a place may be with the facility manager or in an electrical cabinet. The below sheets can be printed out and used to store the relevant information.

