organic response

THE ORGANIC RESPONSE USER GUIDE LITE

Part 2

V1.0_Aug 2024

DOCUMENT CONTROL

Version Number	Author	Month/Year	Comments
1.0	AC, TA, FL, LE, KK	Aug 2024	Initial Release

Disclaimer

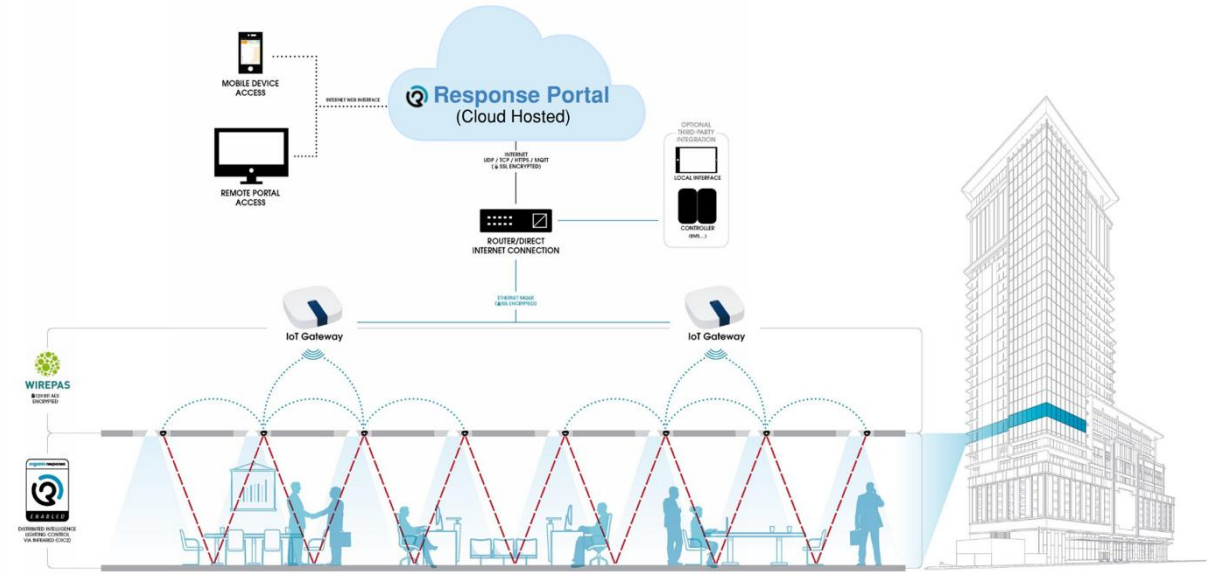
This document is meant for offline sharing and can result in outdated information once shared. Always refer to the online user guide and user guide light to get the most up-to-date information.

Contents

6.0. Response Portal

OR offers a cloud-hosted analytics & lighting control application called the Response Portal. It allows users to remotely monitor, control, test & configure their lighting assets. All sensor nodes installed continuously collect & communicate data on occupancy, luminaire performance & ambient sensing, which is then transferred & stored securely in the cloud.

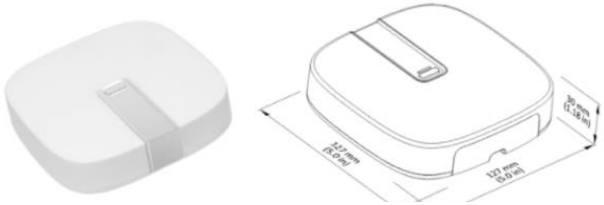
We previously shared that each sensor node communicates over IR for lighting control operations. In addition to IR communication, all nodes collect & report granular data using Wirepas 2.4 GHz RF mesh.



Connected Portal / Solution Topology

An OR Gateway can collect information from sensor nodes and securely publish it to the portal. This device is known as an IoT gateway and uses Wirepas to wirelessly collect and communicate with sensor nodes & The existing building IP network to publish this collected information to the portal securely.

The IoT GW has a standard power supply and supports PoE in powering up the device and providing an ethernet connection to the local network.



IoT Gateway (cascade model)

6.1. Portal Commissioning

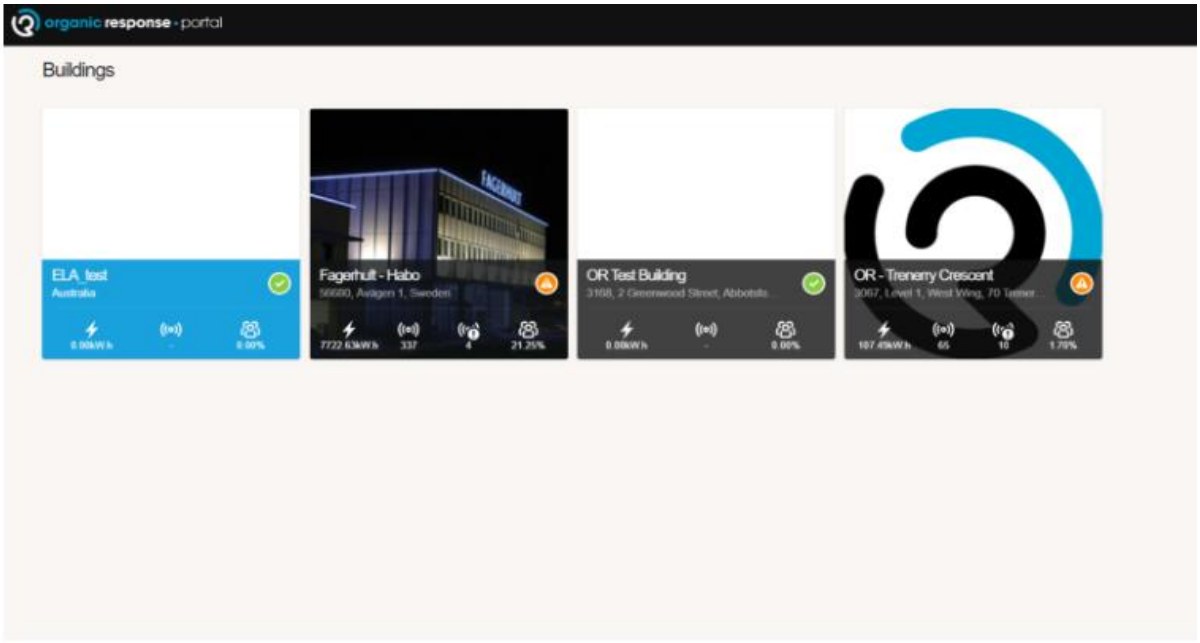
Every Response Sensor node can connect to IoT gateways automatically and start reporting to the Response Portal. However, there is a manual process of adding nodes and mapping them on floor plans called Response Portal commissioning.

A commissioning process consists of,

1. Creating a new building in the Response Portal.
2. Adding/assigning gateways to the Response Portal.
3. Adding Floorplans/Electrical Layouts as images.
4. Adding nodes on the floor plan.
5. Mapping each node to register their addresses in their installed locations.

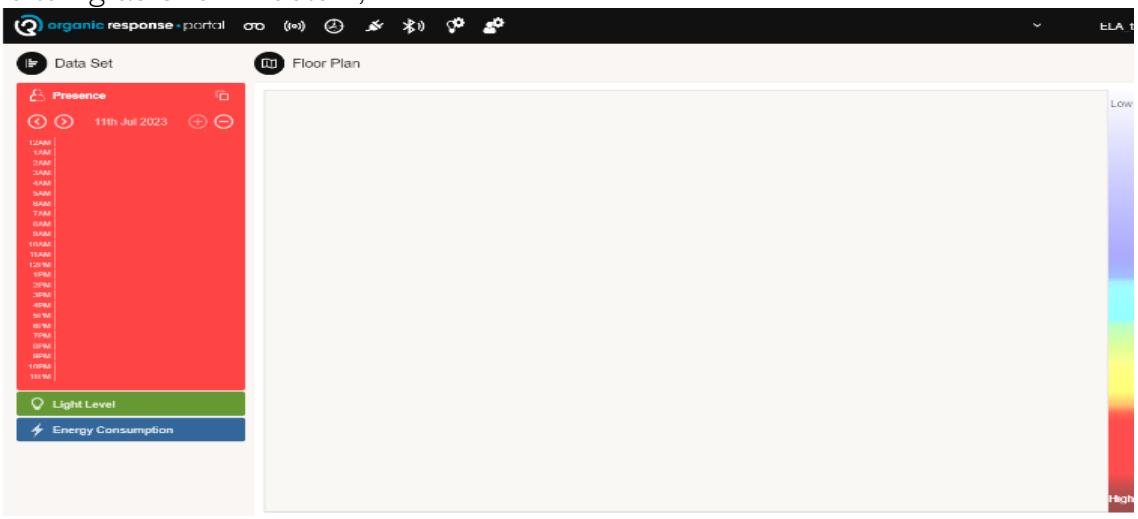
6.1.1. Setting up Building in Response Portal

The OR team is responsible for creating a Response Portal building upon request from our partners. We recommend contacting your luminaire manufacturer to get your project created. We provide admin rights to provided email addresses at the time of building creation, which can provide access to more users in a building. An example image below shows a user with access to 4 buildings,

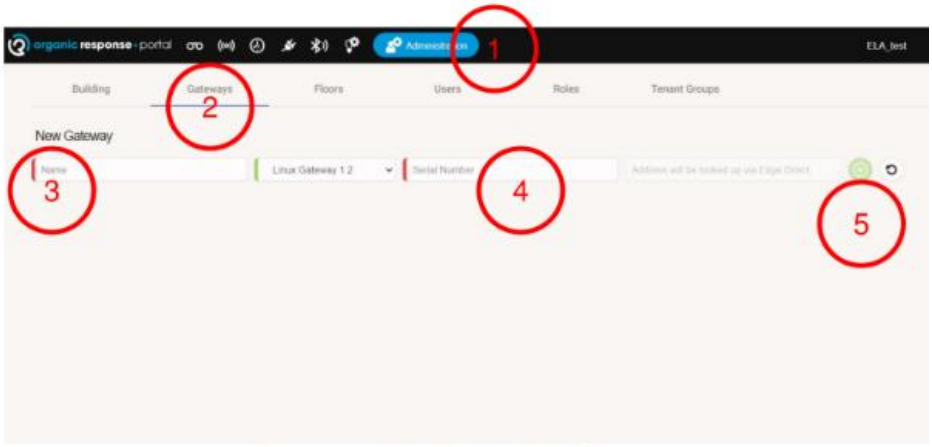


6.1.2. Adding Gateways to the Response Portal

When you select any building by default, you land on the analytics page of the building as shown below,



Analytics page when you open the Response Portal



Add Gateways

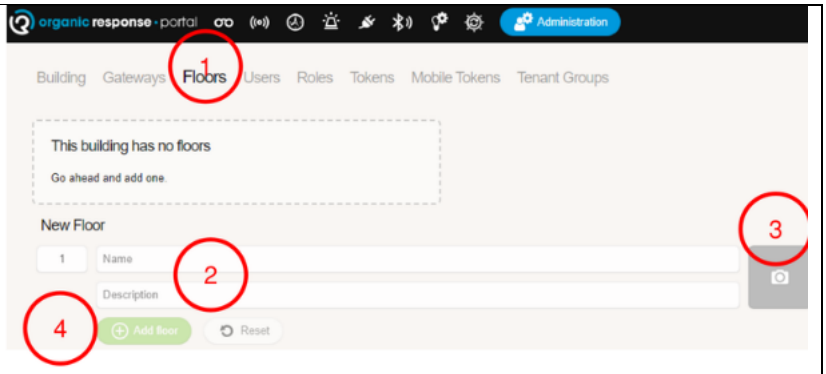
Since a fresh building is blank, you can start by adding gateways to the building.

1. Navigate to the blue highlighted Administration menu as shown on the right
2. Switch to the "***Gateways***" tab.
3. Start adding gateways by giving them a name/description (a good practice would be to name/number it based on floor plan location)
4. Now add the gateway serial number, usually found on the box or on the label of the gateway
5. Now click on the *PLUS* button to save it.

6.1.3. Adding Floorplans to the Response Portal

Once you have added gateways, you can start adding floors while in the Administration menu.

1. Switch to the "***Floors***" tab.
2. Add a name & Description.
3. Hover your mouse over this blank space to start uploading your floorplan as an image
4. Click on *Add Floor*

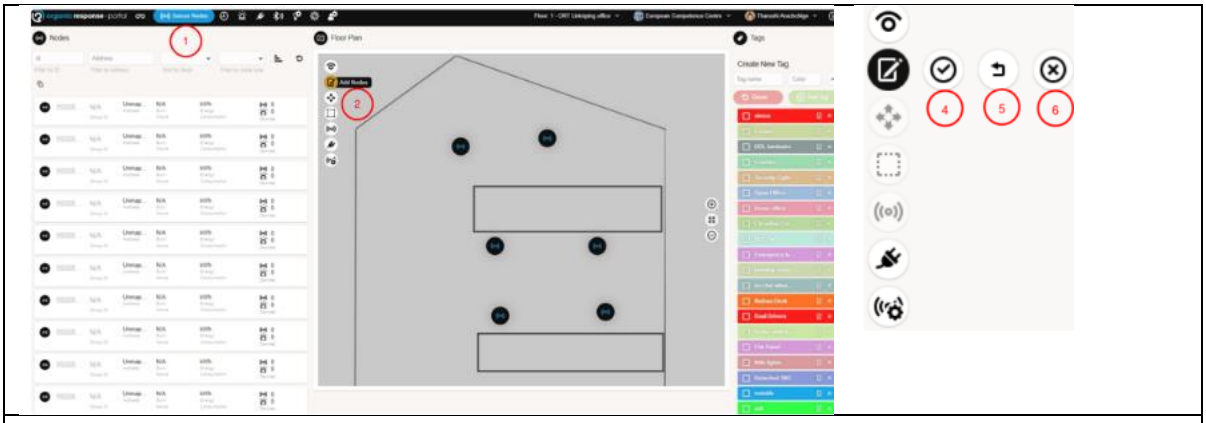


In addition to the above, some optional administration options that could be useful may include: if these are not required, please skip the next 3 steps.

1. Switch to the "*Users*" tab and start inviting other people to this Response Portal building as admins or with other roles.
2. When in the "*Roles*" tab, you can customize a role and control the access levels for existing or new users.
3. Section "*Tenant Groups*" will allow you to create different tenants within a single building.

6.1.4. Adding Response Sensor nodes:

Once you have added floor plans, you can start populating nodes in the floor plan by following the simple steps shown and explained below,



1. Go to the Response Sensor node page
2. Hover your mouse over the floorplan area, and you will see a tooltip appear. Click on "***Add nodes***" as highlighted.
3. When you click on the '***Add nodes***' tab, your mouse will start carrying a black Response Sensor node as you move it around on the floor plan. ***Click anywhere on the plan*** image to start placing Response Sensor nodes.
4. Once added, one or all nodes, click save.
5. Use "***Undo***" to clear the previously added nodes in sequence.
6. You can also click the "***Discard***" tab to clear all changes you made since the last save.

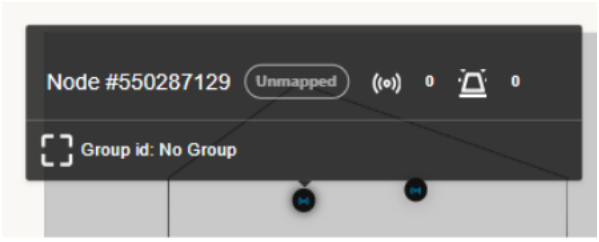
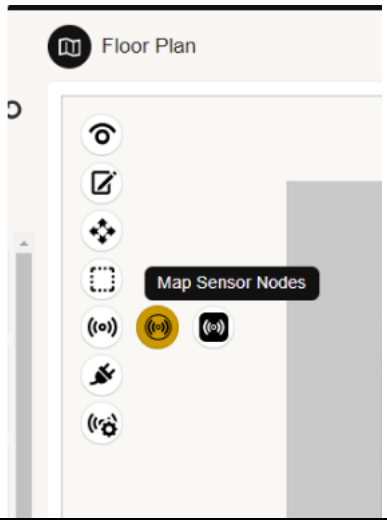
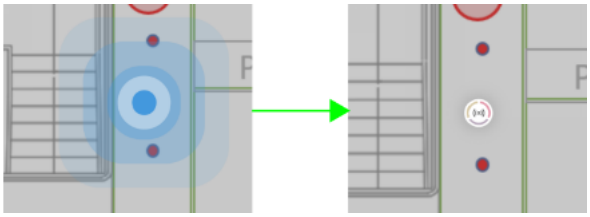
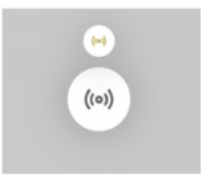
6.1.5. Mapping

6.1.5.1. Mapping A Response Sensor Node

To prepare for mapping, arrange to take with you a smart device (tablet/phone/laptop) that can

1. be easily carried while you go to each node to map it
2. open the Response Portal in a browser, and you can view the Response Sensor node page easily
3. has 3.5 mm audio jack that can have a charged dongle inserted to it.

The mapping process associates the installed Response Sensor nodes' address with the node you added above.

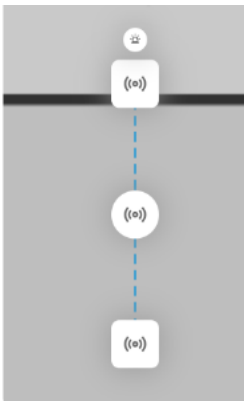
1. Insert IR dongle in the audio jack of a smart device 2. Navigate to the nodes page and select the relevant floor where you wish to map nodes	
3. Click anywhere on the floor plan if using a touch screen. When you see the tooltip appear, press on the 'Map Response Sensor node ' tab here to see 2 options 'map Response Sensor node ' icon or the 'Map Response Radio' icon.	
4. Click on the required node in the Response Portal and point the dongle with your laptop towards the Response Sensor node that you need to map at that particular location on the floor plan in the Response Portal . The red dome of the node should flash 3 to 5 times to indicate a mapping attempt is being made. You can only map the next node when the Response Portal flashing indicator settle for the first node you attempted to map. Now continue doing this for all nodes.	
5. Upon successful mapping the Response Sensor node icon would turn white and would indicate when mouse is hovered over it that it is "mapped".	 

6.1.5.2. Mapping a Response Radio Device

While response radio devices can be mapped using manual or automated mapping processes, we would only cover automated processes for this guide.

To get response radio devices automatically mapped, you will require them to be configured for a pub-sub group. The pub-sub group configuration makes the mapping of Response radio devices quite simple.

When you map a Response sensor node that is a publisher, all Response radio devices (2 square white icons) in its pub-sub group will also be mapped automatically. Response radio devices mapped this way will automatically show linked as blue dotted lines next to mapped Response Sensor nodes in random order.



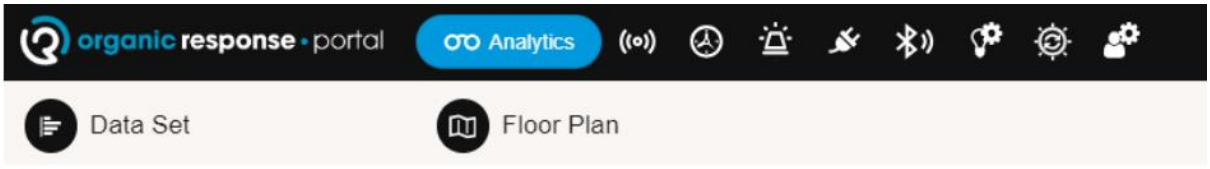
Emergency luminaires get automatically detected upon mapping because of emergency gear attached to them and reporting the status. Emergency luminaire may initially be mapped as standard luminaire first before it is detected as emergency gear due to the query process

6.2. Analytics & Node Management

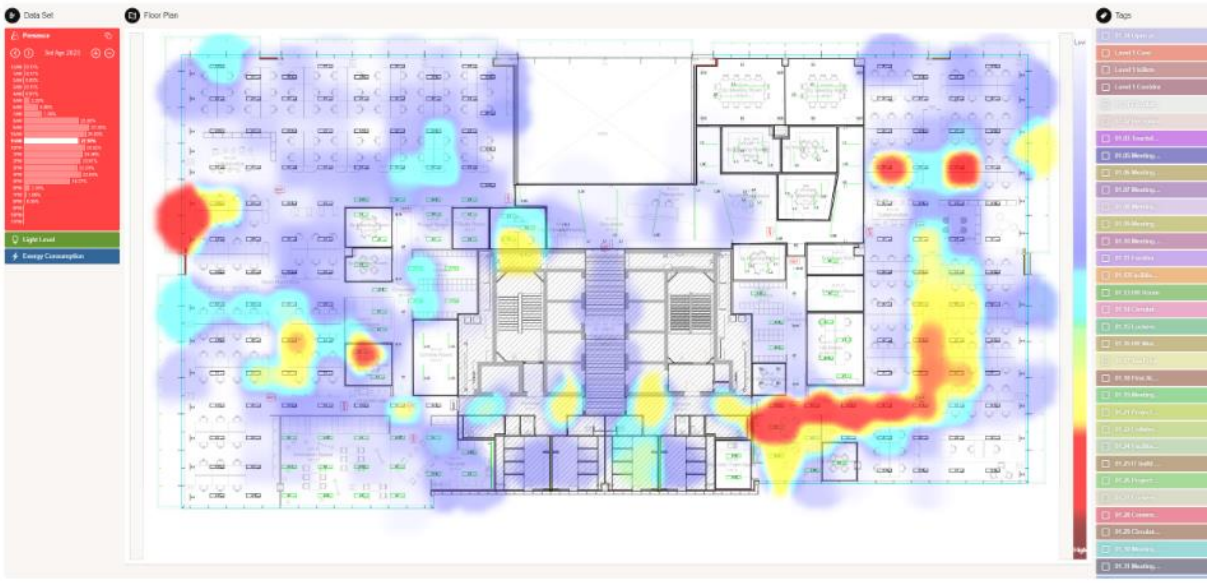
6.2.1. Introduction to Analytics

An analytics page is where data sets such as presence, light level, and energy consumption on a selected floor plan can be seen against time slots as well as through heat maps on floorplans. The default view of this data set will be for the present day, whereas you can,

1. Change the data resolution to look for each data set from yearly to 5-minute windows.
2. Access live mode to visualize the current space utilization if allowed by building admin.
3. Check your space utilization for different spaces when the nodes are tagged.



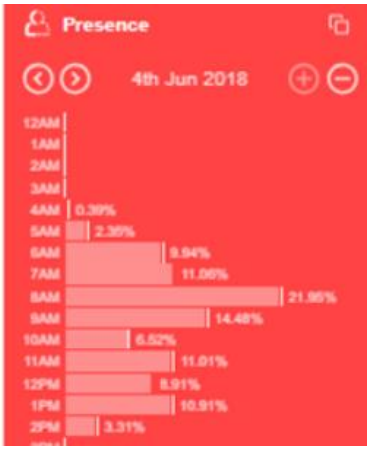
Analytics Menu Navigation



As an example consider 100 luminaires and a 50% presence is shown for 10 am window. Then it means that for whole one hour 10:00:00 am to 10:59:99 am 50 luminaires saw occupancy for this whole period.

6.2.1.1. Data Set 2: Light level

The presence data is shown as a percentage for every one-hour window accumulated for all nodes on the floorplan. To understand the percentage.

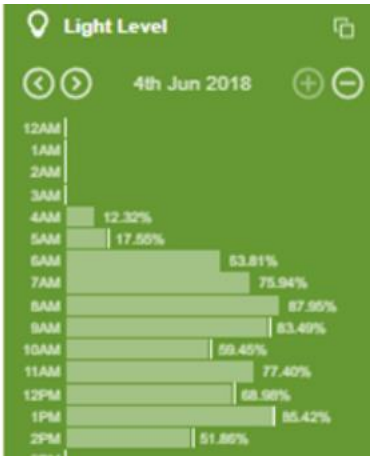


As an example, the light levels are showing up as 75%. This would essentially mean that out of 100 luminaires the luminaire output can be quantified (visualized) as;

1. EITHER 75 luminaires out of 100 were at 100% light output for that time
2. OR All 100 luminaires were on 75% light output for this one-hour window

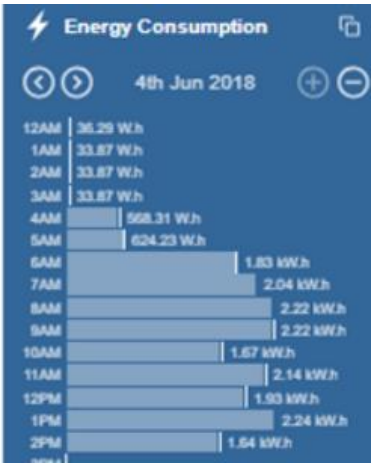
6.2.1.2. Data Set 2: Light level

Percentage levels achieved for a period of time averaged for all Response Sensor Nodes that are mapped on a floor.

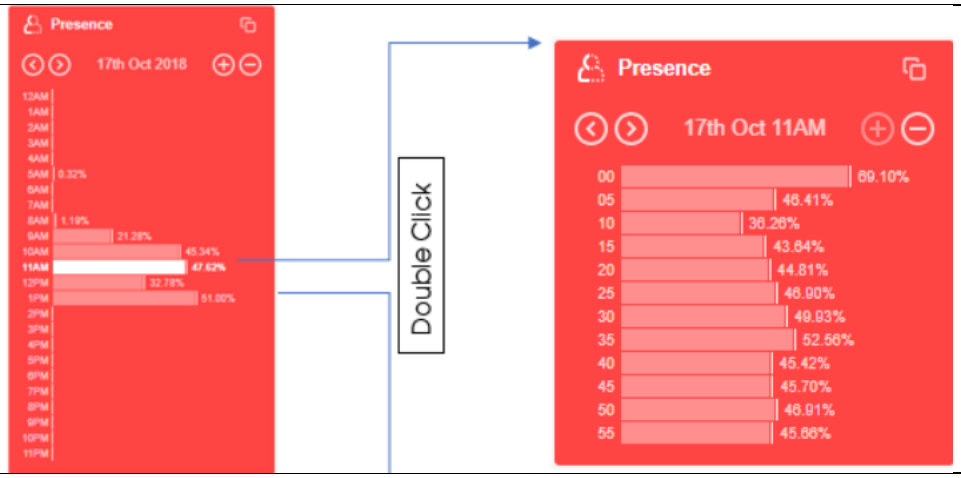


6.2.1.3. Data Set 3: Energy Consumption

Calculates the consumption for each Response Sensor Node in kW.h for any window of time to give a relative measure of energy consumption. The default calculation is normalized upon 40W luminaire.



6.2.1.4. How to Customize Analytics View



1. Selecting the time bar would update the heat map view to show relevant data on the floor plan.
2. Each window can be minimized or maximized to gain a more granular resolution of that time window. Double-click each time window to go as low as 5-minute timeslot and right-click to go as high as a monthly view in a calendar year.
3. You can also select a tag to see a particular space utilization for a time window.

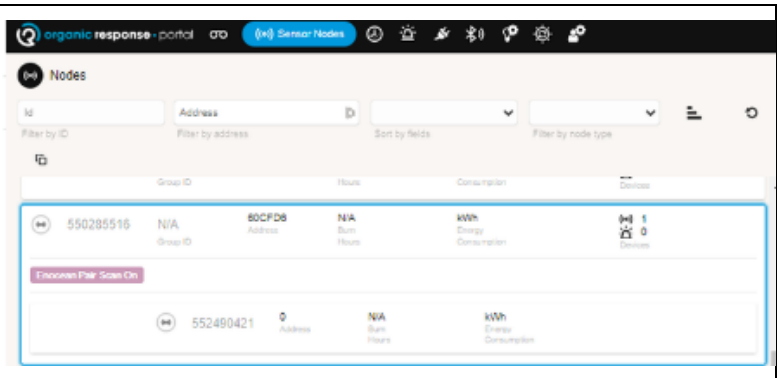
6.2.2. Response Sensor Node Management

Each response sensor node contains information that is visible in the response portal as soon as it is mapped. Users can manage the nodes using different Response Sensor Node page tools. Information and tools on the Response Sensor Node page include,

6.2.2.1. Response Sensor Node Information

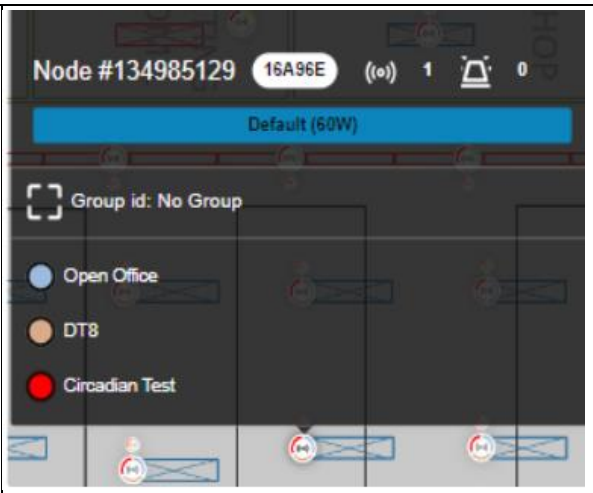
A few key pieces of information for a Response Sensor Node include,

7. Node ID - A Response Portal generated ID as soon as a new unmapped node is placed on the floor plan
8. Node Address – The physical address of the node.



9. Group ID - Pub-Sub group ID nodes have.
10. Burn Hours – calculated since the mapping while lights remained at non-zero light output
11. Energy consumption – calculated based upon various light output nodes take for 40W

This address matches the address you see in the OR Express app upon node selection.



12. Devices - showing numbers of EM lights & DALI drivers
13. Tags, if any, assigned to the nodes

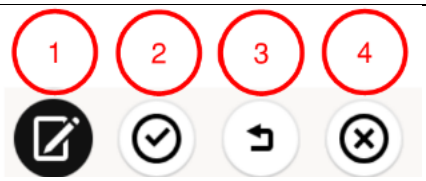
14. The node list allows you to filter, sort and export the nodes list using options as shown below

6.2.2.2. Tools in Floor Plan

The tools that become visible when you hover your mouse on a floor allow you to.

Select one or multiple nodes

1. Enable node selection bar
2. Area selection
3. Cumulative selection
4. Select all nodes int the floor plan
5. Clear selection
6. Delete selected nodes

Enable or disable the view of 1. All nodes 2. Subscriber connections 3. Attached devices 4. Faulty nodes 5. Mapped nodes 6. Unmapped	
Allows you to Add/Remove nodes 1. Add nodes 2. Save 3. Undo 4. Discard changes	
Move nodes in the floorplan 1. Move single node 2. Move all nodes relatively 3. Save 4. Undo 5. Discard changes	
Map Response Sensor node or Response Radio 1. Enable mapping icons 2. Map a Response Sensor Node 3. Map a Response Radio	
Reset / Unmap 1. Enable configuring icons 2. Clear attached devices for a node or group of selected nodes. 3. Unmap a Response Sensor Node	

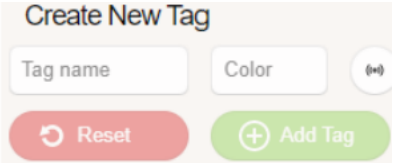
6.2.2.2. Tagging

Tagging a Response Sensor Node is simple and offers a means of identification but is also vital for features such as,

1. Running Emergency Test
2. Viewing analytics data for specific area (tagged) nodes
3. Circadian curve or other lighting control schedules

4. Distinguish nodes and addresses to enable BLE scanning and so on

The tagging of any node or group of nodes can also be done from the nodes' menu. Users are free to edit or add as many tags as required, whereas 4 tags are created by default in any building,

Creating a tag is easy. Navigate to the right-hand side tag menu on the nodes page. "*Create New Tag*" Name a tag, e.g. Board room, and assign a colour by clicking on the node icon and saving. Once you have created the tag select one or multiple nodes and then check (to add) uncheck (to remove) the tag.	

6.3. Control Schedules & Configuration (via Response Portal)

6.3.1. Control Schedules via Response Portal

While the OR control solution works independently, temporary, time-limited control/configurations are sometimes required. Such implementation is achieved by using lighting control schedules in the Response Portal.

In a lighting control schedule, you can implement time-specific changes to

1. Specific nodes, if they are tagged
2. All the nodes upon floor selection or
3. Entire building if no selection is made

6.3.1.1. Rules

A rule defines the intended control/configuration change. We recommend generating one configuration/control change per rule for a tag. Avoid using multiple tags within the same rule.

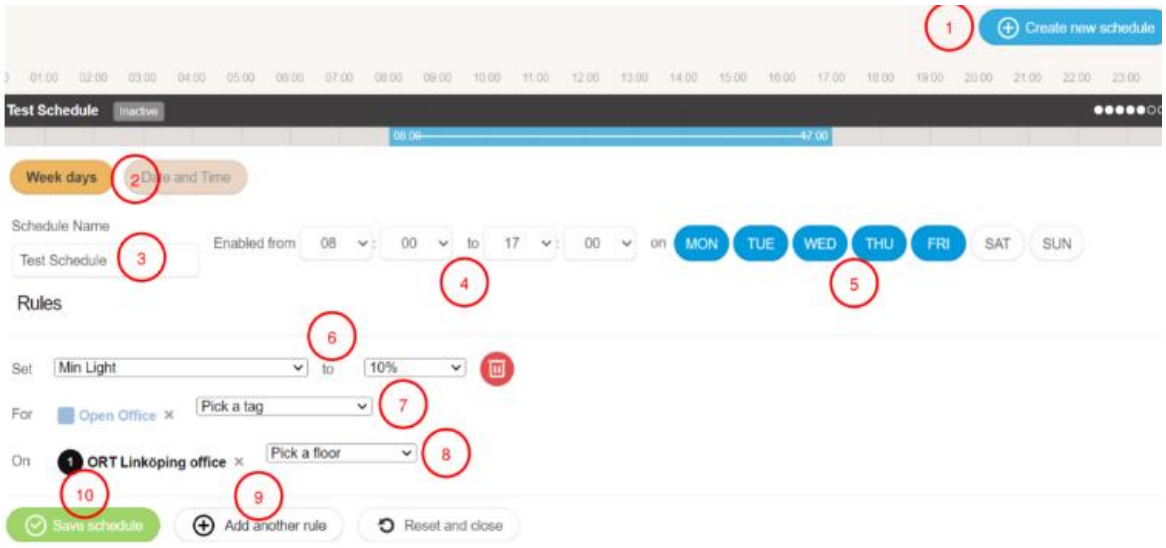
Each schedule can have as many rules as necessary. In rules, you can set,

- Max/Min/Low light to any values between 0% to 100% dimming percentages
- Dwell/Low light to a selective set of time values in minutes
- Personality to a whole range of profiles available to OR lighting control system &
- Scene to one of the eight scenes

6.3.1.2. How to Configure Schedules

Each schedule can be custom named to run these temporary time-based settings weekly or on a specific day and time in the future. You can add as many schedules as required to achieve intended outcomes.

6.3.1.2.1. Creating A Schedule



1. Click *Create New Schedule*.
2. Select *Weekdays* or *Date and Time*.
3. Enter the *Schedule name*.
4. Enter intended schedule running time in *from* & *to*.
    a. These fields will be replaced with *Start Date and Time* & an *End Date and Time* in the Date and Time type schedules.
5. Selected the required *days*.
6. Now define your *Rule*.
7. Click “For” to pick tags created & assigned earlier in the node’s menu. *Pick one tag in a rule only*.
8. Click on *Pick a floor* for tags on that floor to follow this rule.
9. Click *Add another rule* to more rules for other tags.
10. Click *Save Schedules* to save the schedules.

6.3.1.2.2. Enabling The Schedule

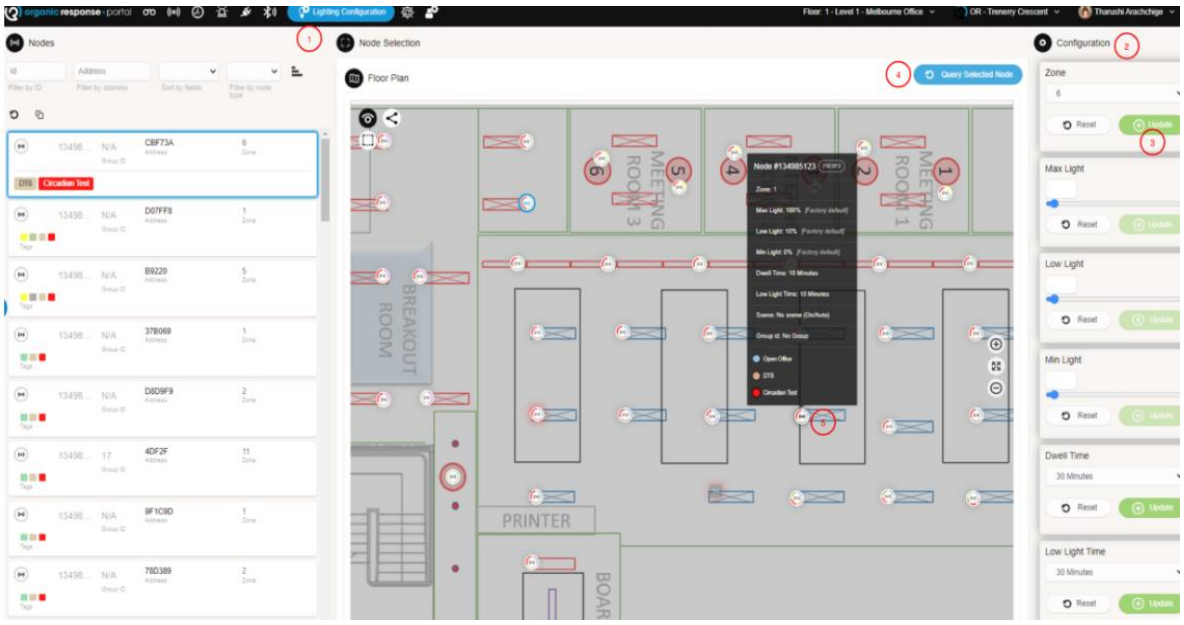
1. Click *Play* to enable a schedule.
2. Click *Pause* to pause an active schedule.
3. Click *Always Active* to force the schedule to start now and always run, irrespective of time.
4. Click on the *arrows* to prioritise the schedules. If there are conflicting rules for a tag, then the *rule on top* would take *precedence* over the ones lower.

6.3.2. Introduction To Configuration Via Response Portal

Configuration via Response Portal allows you to configure and query lighting configuration remotely. Once the necessary permission is obtained, you can configure the available parameters, such as zone ID, Max/Low/Min Light %, Dwell/Lowlight Time, and one of the 8 scenes.

Please obtain configuration menu page access permission from the building administration page by checking the option for “Lighting Configuration”.

6.3.2.1. How to Configure (via Response Portal)



To configure nodes successfully, proceed as below;

1. Go to the *Lighting Configuration* page and select a node by clicking it.
2. Kindly choose different values for the required parameters from the configuration panel.
3. Click *Update* to update the changes.
4. Click *Query selected nodes* after making changes.
    a. Hover your mouse over the configured Response Sensor nodes to see the current configuration status of the Response Sensor nodes.

When you hover the mouse over a Response Sensor node on the floor plan, the parameters of the nodes that haven’t been queried yet will show as N/A and once queried, will be replaced with actual values.

6.3.3. Introduction To Circadian Curves via Response Portal (Draft)

Circadian curves are 24-hour cycles a human's body follows as part of its daily operation. In terms of lighting, this can mean gradually changing a luminaire's colour temperature between warmer and cooler outputs throughout the day.

Circadian curves via the Response Portal aim to better align the lighting conditions with a human's internal body clock, thereby creating a more natural environment indoors. It can be easily achieved by enabling users to create 24-hour schedules while setting a colour temperature and light intensity curve.

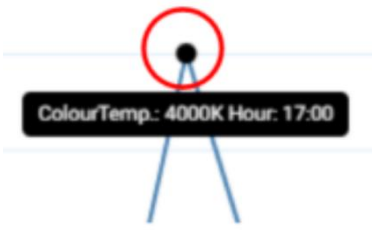
What is required?

1. DT8 (tunable white) drivers & luminaires
2. Compatible PIC firmware version (v184 or higher)
3. Response Portal connected installation
4. Necessary user-level access

Contact your building admin if you can't access the menu

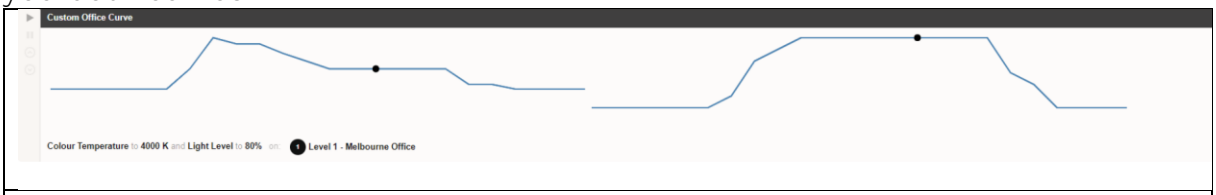
6.3.3.1. Step 1: Create a Curve

1. Click "Create new Circadian Curve."
2. Add a curve name
3. Click on "Pick a tag" to select from a list of tags (created & assigned earlier in the node's menu).
4. Click on "Pick a floor" to select a floor from the dropdown list.
5. Click on each dot & drag to choose the desired colour temperature values for the hour, e.g.



6.3.3.2. Step 2: Read & Verify

Upon saving a curve the editing window will shrink such that it will now show you both curves



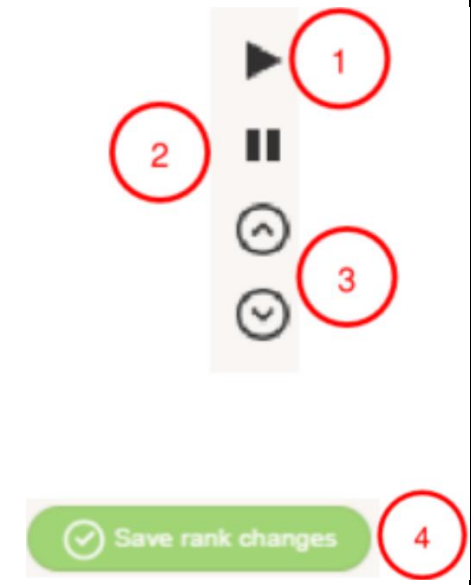
15. The first curve from the ***left*** represents the rise & fall in ***the colour temperature***.
16. The ***second*** curve represents different levels in the ***light output***.

The maxlight (light level) set by the curve is always relative to its saved maxlight e.g. if curve sets it to 80% and its saved max light is also 80% then the max output with curve enabled for this node would be around 64%.

6.3.3.3. Step 3: Applying the Curve

Hovering your mouse over the play icon to the left of the curve will show 4 options, as shown on the right,

1. Click "***Play***" to enable a circadian curve. It will turn blue to indicate that the curve is applied.
2. Click ***Pause*** to pause an active circadian curve.
3. Click on the arrows to prioritise the circadian curve. The *Curve on top* would take *precedence* over the lower curves.
4. Once you are happy with the priority, click on "***Save rank changes***" to save the new priority.



If you want to apply an active curve to newly mapped or remapped nodes, please deactivate and then activate the curve again after all mapping is completed.
When a curve is disabled the current firmware can take up to 2 hours before the Response Sensor node will stop following the previously configured curve changes.

6.4. Emergency Light Monitoring & Testing

6.4.1. Introduction to ELMT

The Response Portal automatically discovers emergency devices upon the mapping of connected Response Sensor nodes. The Response Portal offers automated and manual testing of DT1-type emergency (EM) devices. The tests that can be done include functional & duration tests.

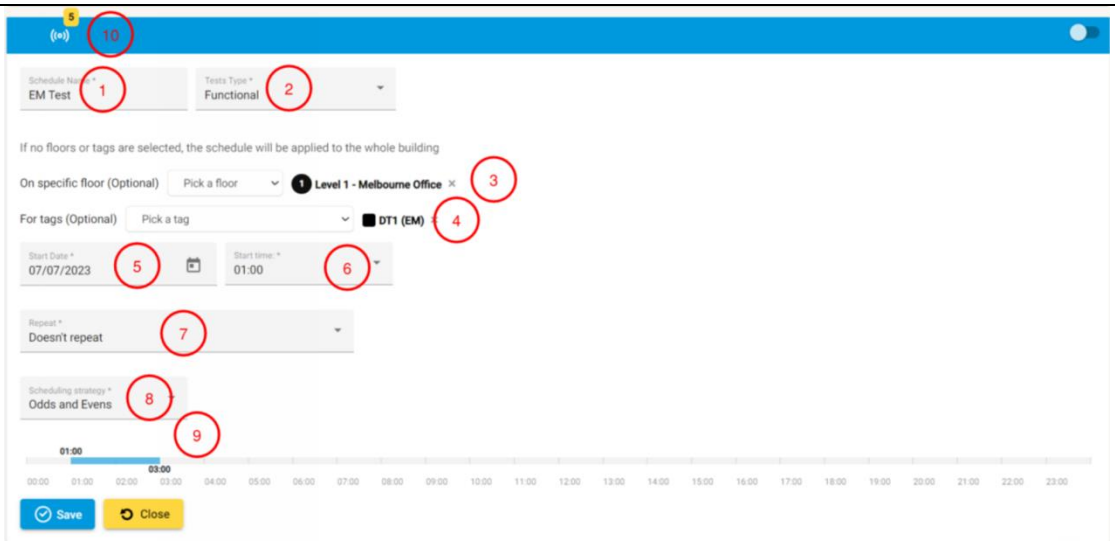
Once a building has an EM device detected, you can navigate to the Emergency Light Monitoring & Testing (ELMT) menu if your access level is appropriate. Your building administrator manages the roles and permissions. Contact your admin if you are unable to find the option.

Tagging plays a vital role to set up schedules that automate emergency testing. We recommend that you tag EM Response Sensor nodes to schedule different floors/areas at different times in multiple schedules.

6.4.2. Creating an ELMT Schedule

To automate running functional & duration tests, we create EM schedules. Navigate to ELMT page where can see a ***PLUS*** button at the bottom right corner of the page (scroll down if needed).

When you press on *PLUS* a blank schedule appears, let's look at the example with steps explained below.

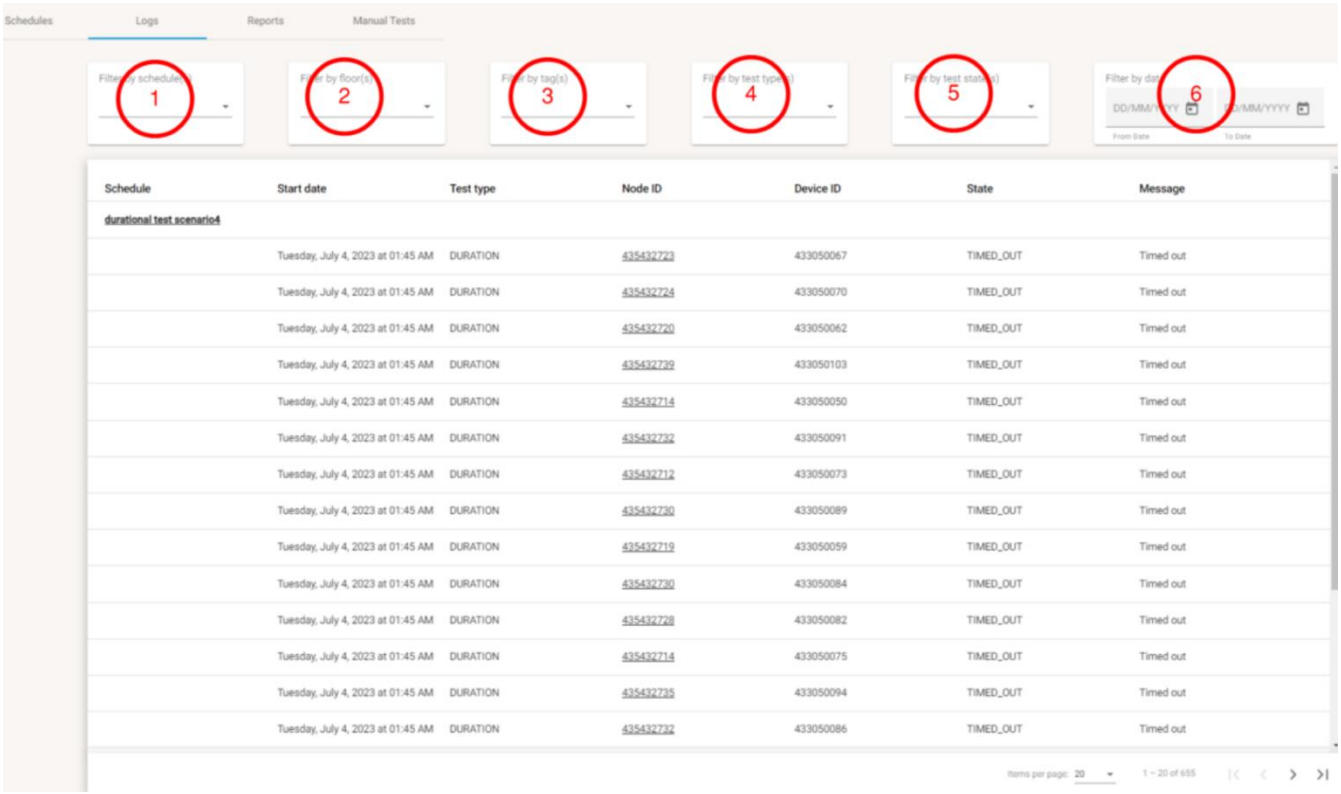


1. *Schedule Name* - naming the schedules can help you identify, e.g. Core Area-east, Level 3 North etc.
2. *Test Type* - enables you to choose a test type (Functional test or Duration test) from the drop-down list. *You CAN'T choose both tests in the same schedule.*
3. *On Specific Floor* - It is always recommended to choose a floor if you have multiple floors to run ELMT. *Consider splitting the building into multiple floor based schedules for best results if you have large quantity of nodes in a building.*
4. *For tags* - similar to floor selection an optional parameter but recommended. *Consider splitting the floor into tag-based schedules for best results large quantity of nodes in each floor.*
5. *Start Date* - Helps you select a calendar date for a schedule to run on when you click the calendar icon.
6. *Start Time* - Allows setting a particular time to start a test on your planned date.
7. *Repeat* - lets you define the repeat frequency of each schedule by choosing from several options such as *doesn't repeat or repeat weekly, monthly, yearly, or even customising it further* (click here to read more).
8. *Scheduling Strategy* - can be chosen to either 'odds and even' or 'simultaneous' from the dropdown.
9. *Time Window* - the finishing time is *automatically estimated* by the Response Portal and shown in the time window.
10. *EM node count* - displays how many nodes there are on the selected floors and tags.
11. *SAVE* - Please make sure to save the schedule by pressing the 'Save' button.
12. *Enable* - You can activate the schedule by moving the toggle button (given at the top right corner), to the right. The screen will refresh for a second and schedule will become active.
13. *Edit* - Once you saved a new schedule and you would like to edit the schedule later, please click on the schedule name tab (blue bar) to edit the schedule.

6.4.3. Check Logs (Results)

The logs page contains all historical test results manual or automated via schedule. The below image displays the latest test results in logs page followed by different options to filter out the results

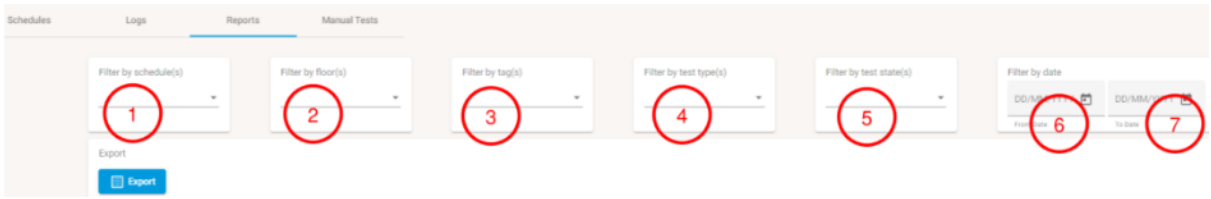
1. **Schedule Name(s)**	2. **Floors**	3. ***Tags***	4. ***Test Types***	5. ***Test Dates***	6. ***Date/Period***



You can filter the log by choosing different parameters to easily find specific results. All nodes will display their results in this page starting from the latest test to the oldest.

6.4.4. Reports

You can export the most recent tests for selective or all nodes using reports menu. The exporting is supported in an excel (.xlxs) format by clicking on the ***Export*** button shown in the below image. The filters are already explained in the logs above to export only specific results if required.

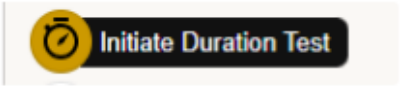


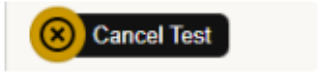
6.4.5. How To Run Manual Tests

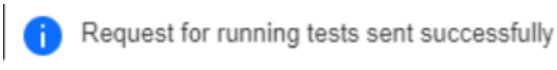
1. Select a node using one of the options shown on the right (you might also recognise these options explained earlier in the nodes page)
2. Once selected you can initiate a relevant test from options on the right to initiate that test or to cancel the test.

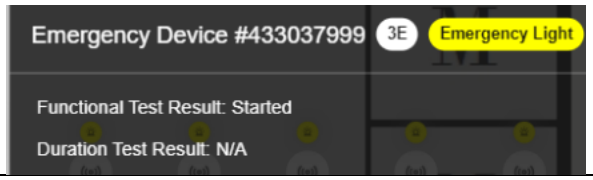
You can also click on the node ID from logs page to select a particular node/emergency device and it will take you to the manual test page with the device or node selected.

3. Once you click on to initiate a test, the popup window appears to confirm that you wish to run this test.
4. Upon confirmation, you can see the status as 'Request for running tests sent successfully' at the top of the screen.







5. Once the test has been initiated, you can see the selected emergency device will change to a blinking orange colour to indicate a test is in progress. 6. When you hover the mouse over the selected node, you can also monitor the live test result status, as shown in the image on the right	 

6.4.5.1. Different Colour Schemes and Results

The floor plan will give you a visual indication of the latest test result through four different colors explained below;

Color Schemes & Combinations		DT Status				
		Passed	Failed	Cancelled	Timed out	NA
FT Status	Passed					
	Failed					
	Cancelled					
	Timed out					
	NA					

Green -	Red -	Orange -	Yellow -