



# Citygrid App Manual

The Citygrid App is used together with a dongle to install and configure street luminaires with the Citygrid smart control system.

Go to [seneco.dk](https://seneco.dk) for more information about Citygrid systems.



# Content

<b>Terminology</b>	<b>2</b>
<b>Key numbers</b>	<b>2</b>
<b>Ikons</b>	<b>3</b>
<b>1. Download app</b>	<b>4</b>
<b>2. Log in</b>	<b>4</b>
<b>3. Connect to dongle</b>	<b>5</b>
Dongle range	5
<b>4. Create site</b>	<b>6</b>
<b>5. The two modes</b>	<b>7</b>
Settings mode	7
Installation mode	7
<b>6. Install luminaires</b>	<b>8</b>
Add luminaires	8
Adjust position	9
Remove luminaire	9
Add note	9
<b>7. Set motion control</b>	<b>10</b>
Motion groups	10
Motion graph	13
<b>8. Connected systems</b>	<b>15</b>
Add gateway	15
<b>9. Edit settings</b>	<b>16</b>
Predefined configurations	17
Manual configuration	18
Lamp	18
Motion settings	18
Motion groups	19
Light Scenes	20
Dimming Schedule	22
Installation	22
Advanced	22
<b>10. View luminaire info</b>	<b>23</b>
Device information	23
Measurements	23
Uptime stat. current power cycle	24
Uptime stat. last power cycle	24
Uptime statistical total	24
D4i data	25
<b>11. Troubleshooting</b>	<b>25</b>

## Terminology









Dongle	Device used for linking between smartphones/tablets and luminaires (via Bluetooth).
Unit	A luminaire or a gateway.
Link	Define connections between luminaires.
Autolink	Automatically generates all links; can be edited manually.
On Pole Controller	Retrofit unit for mounting on luminaire pole.
PIR sensor	Sensor installed in Citygrid controller detecting motion.
Project and sites	A customer (typically a municipality) has a citygrid project. Within that project they can have numerous sites. A site is an area with linked luminaires.
User key	Code for signing in to a project and site on the Citygrid App and/or Dashboard.
Luminaire	Street light with citygrid system.
Gateway and connected systems	Unit for connection of luminaire installation to cloud service. A site with a gateway is a connected system.
Motion events	A registered motion.
LMS	Light Management system. Go to <a href="http://citygrid.dk">citygrid.dk</a> .
Low Intensity and Idle Scenes	Low intensity and Idle Scene is used to describe the light provided in the scenario of no motion / traffic.
Motion Intensity and Motion Scenes	Motion intensity and Motion Scene is used to describe the light provided in the scenario of motion events / traffic.

## Key numbers





Max. units per site	500
Max. units per gateway	128
Gateways per site	Typically one, but depends on number of units and distance between units
Dongle range (bluetooth)	10-20 m
Luminaire range (radio)	Location dependent but minimum 100 meter and often up to 250 meters

# Ikons



## Luminaires in map view

-  Selected
-  Selected and with note
-  Linked
-  Incorrect linked
-  Last added
-  Luminaire that is not linked
-  Gateway
-  Gateway with error



## Luminaires in groups view

-  Belonging to one motion group (default group)
-  Belonging to two motion groups
-  Belonging to three motion groups
-  Belonging to four motion groups





## Modes switch

-  Settings mode
-  Configuration mode




## Zoom

-  Your location
-  Site overview

## Motion control

-  Autolink (motion graph)
-  Save and distribute motion graph
-  Save
-  Switch from motion graph to motion group

## Edit luminaire

-  Move to trash
-  Copy settings
-  Paste settings

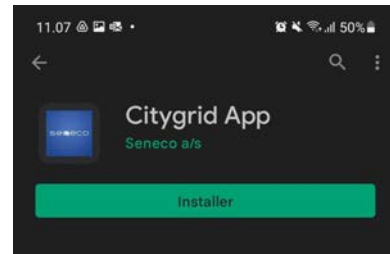
## Other

-  Network mode

## 1. Download app

Download the **Citygrid App** from Google Play on your android device.

Note that there are other citygrid apps available by slightly different names.



## 2. Log in

When you open the app you will be asked to **sign in with your user key**.

The user key is obtained from either the Citygrid system provider or the luminaire supplier that delivered the specific installation



Sign in.

### 3. Connect to dongle

**Turn on the dongle** by pushing the center button for one second. The LED will have a constant white light followed by a sequence of colors. The dongle is ready for connection when the LED is blinking blue.

**Click the dongle icon in the app and select the dongle from the list.** The dongle can be identified by looking at the ID on the back of the dongle.

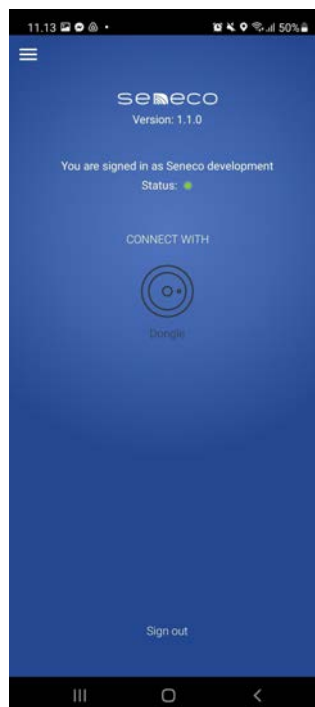
When your smartphone/tablet and the dongle are connected, the LED on the dongle will go from flashing blue to constant blue.

A dongle can be connected to one android device at a time.

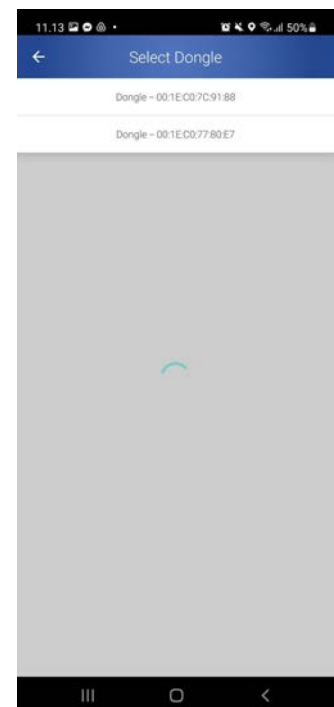
Check battery status by clicking the button. The LED will indicate the battery status with a green light = full charge, yellow light = medium charge, or red light = low charge. If the battery is nearly discharged the LED turns red. You will also get a warning in the Citygrid App.



Dongle



Click to connect dongle.

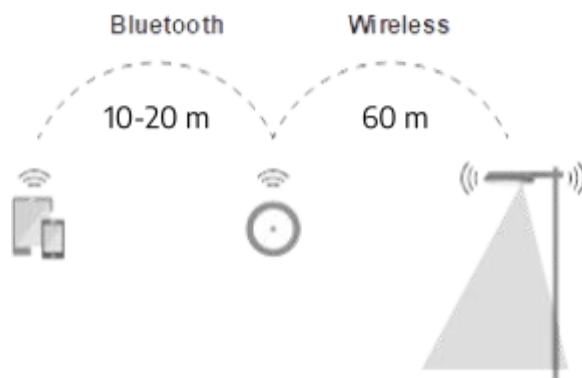


Select dongle.

### Dongle range

Keep in mind that the connection between the smartphone/tablet and dongle is with Bluetooth. The range is no more than about 10-20 metres. When programming, always have the dongle nearby to avoid connection issues.

For the maximum range of wireless communication between the dongle and a luminaire see page 3 but onsite operation is best up to around 60 metres.




## 4. Create site

The luminaries will be installed on a site which in turn is part of a project. A project can contain many sites.

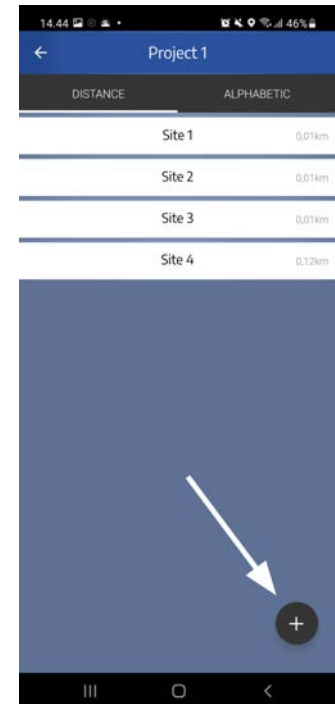
**Select the project your new luminaires will belong to.**

A list of sites belonging to the project (if any) will appear.

**Create a new site** by tapping the plus icon  in the bottom right corner.



Select project.

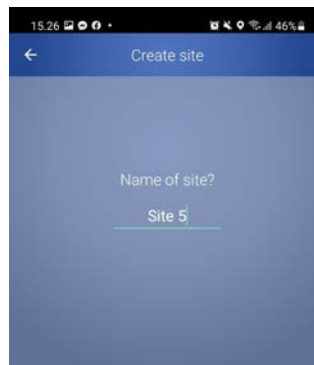


Create new site.

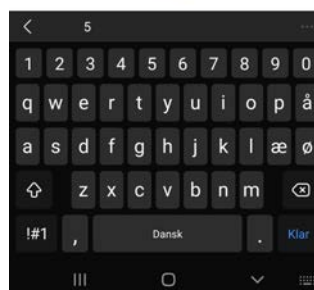
**Give the site a name** of at least four characters.

**Change name or remove site** by pressing the site name until a dialog box is visible. A site can only be removed if all luminaires are removed.

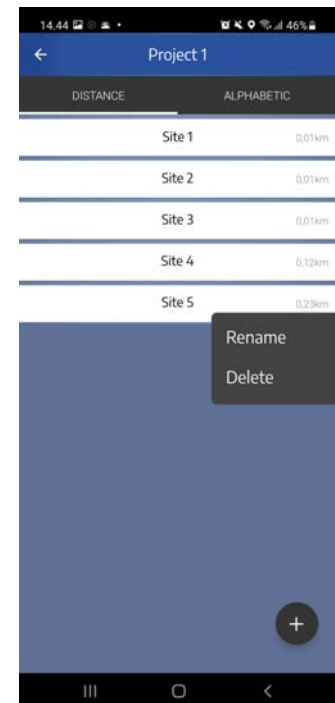
**Sort the sites** by distance from your device (default) or alphabetically in the top menu.



Name site.



Name site.




Rename or delete site.

## 5. The two modes

When clicking on a site you will see a map with your position and installed luminaires if there are any.

There are two app modes when looking at a site. The settings mode and the installation mode.

**Shift between the modes** by clicking on the lock icon  in the menu on the right.

### Settings mode

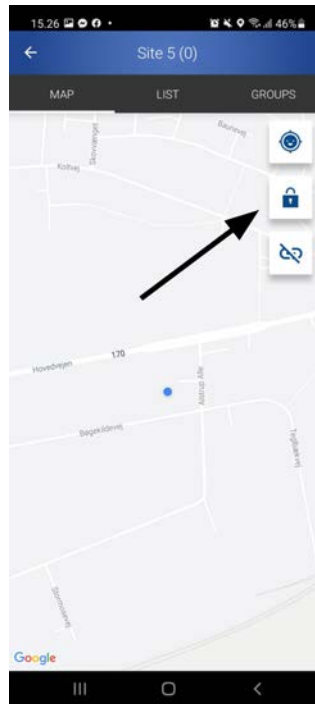
The settings mode (default) allows you to view information about installed luminaires and configure their settings. The lock is closed indicating that you cannot add or remove anything from your site.

**Select between map view, list view and groups view in the top menu.**

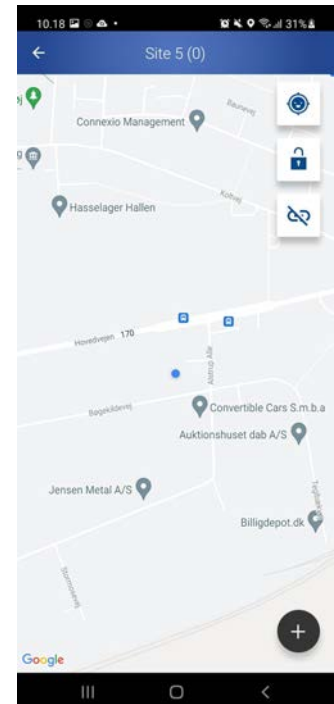
Groups show which motion groups (see section 7. Motion control) each luminaire belongs to. In this example they all belong to one group, the default motion group green.

### Installation mode

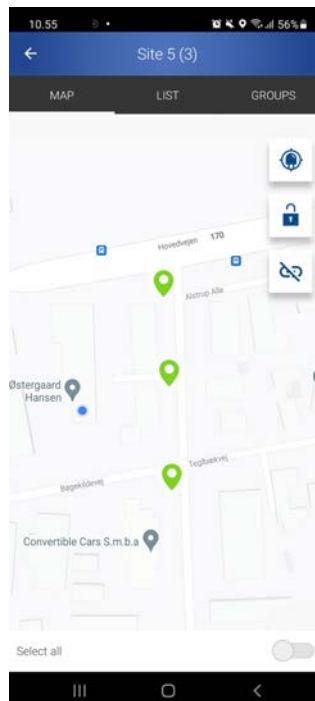
The installation mode allows you to add, move, remove and link luminaires and gateways.



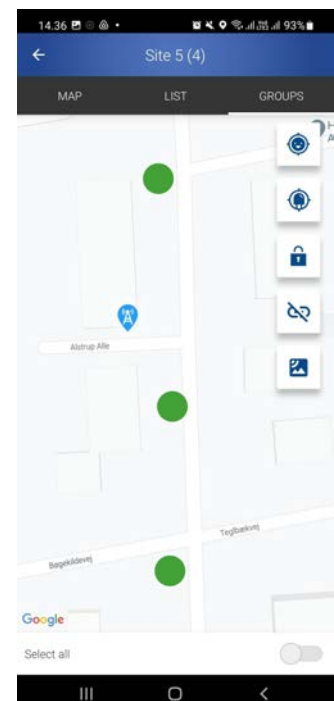
Go to installation mode.



Installation mode.



Settings mode- map view.




Settings mode - groups view.



## 6. Install luminaires

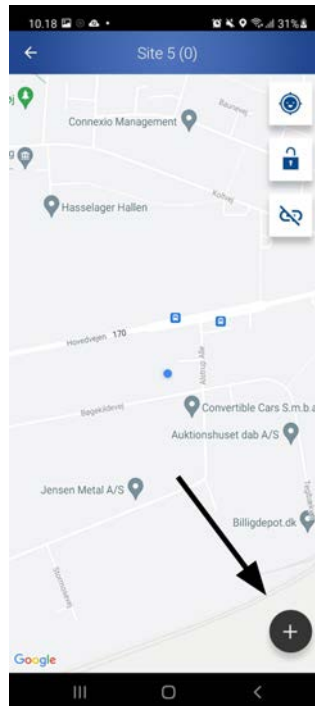
Go to **installation mode** (see section 5. The two modes)

### Add luminaires

Tap the **plus icon**  to add a luminaire  to the site.

A list of luminaires are shown ordered by signal strength between the dongle and the luminaires.

In the bottom you find a toggle which allows you to see all luminaires, also the ones that are already installed.



Add luminaire.



List of found units.

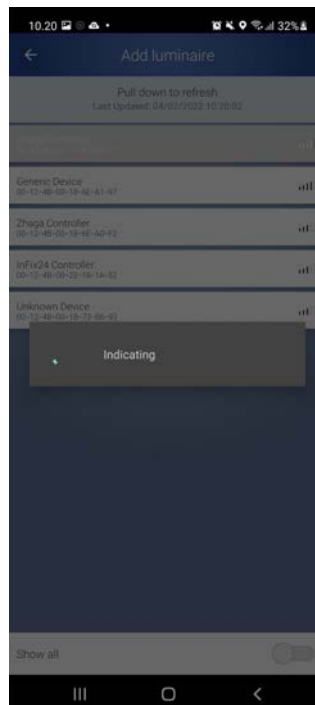
Select the luminaire from the list.

The luminaire will flash several times to indicate that it has been selected and you can check that you have selected the right one.

Click **ADD** in the top right corner once you have identified the correct luminaire.

The luminaire will appear near your location on the map with a pin icon (see next page).

Add up to 500 units to the site.




Indicating - luminaire blinks.

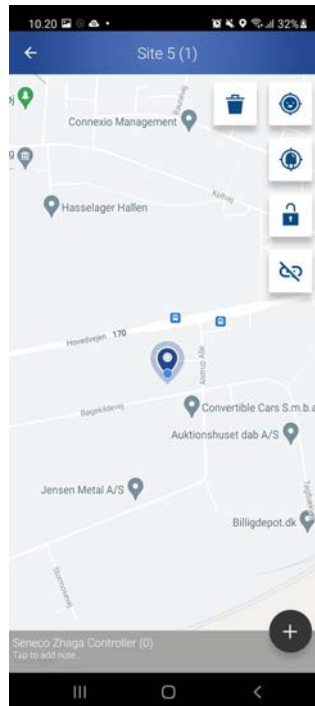


Add luminaire.

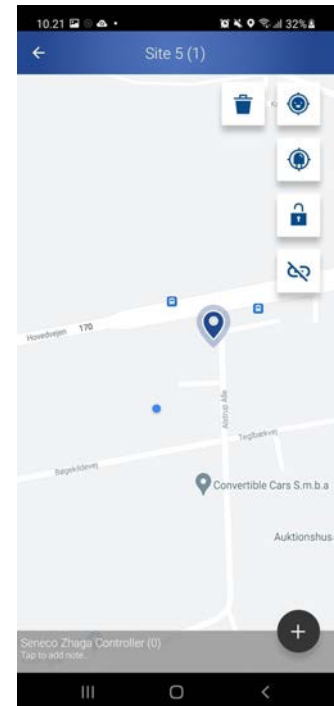
## Adjust position

Click and hold the luminaire's position pin for about 2 seconds until it turns blue .

Adjust the luminaire's location by dragging the luminaire to the correct position.




Luminaire appears on map.




Move luminaire to position.

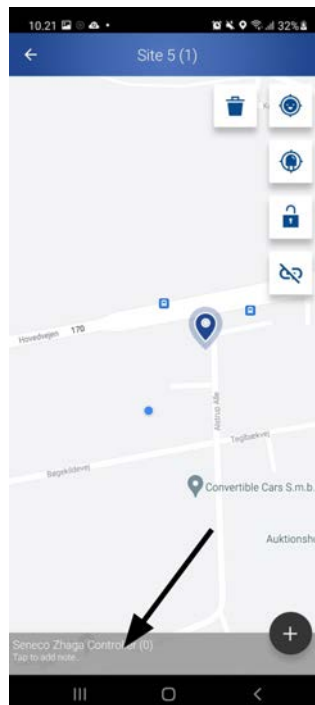
## Remove luminaire

Remove luminaire by clicking the trash icon  or drag the luminaire to the trash icon when the luminaire is selected.

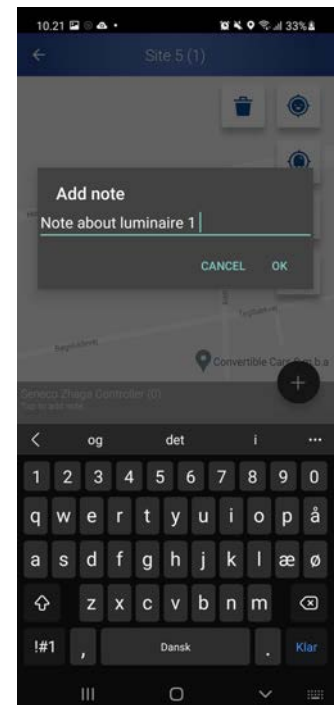
## Add note

Add a note by selecting a luminaire and clicking the banner. Write the note and click OK. This can be done in both installation mode and settings mode.

The circle in the position pin  will be filled in when the luminaire has a note.



Add note to luminaire.



Add note to luminaire.

## 7. Set motion control

There are two systems for motion control; Motion groups and Motion graphs. Both control the activation of nearby luminaires when a motion is detected.

With motion groups all luminaires in a defined radius belonging to the same motion group will, if not otherwise configured, light up.

With a motion graph the signal will follow a defined route between the luminaires.

The systems will most commonly be used separately, motion groups being the new standard, but can be combined in special cases. Motion groups are a new system released in March 2022.

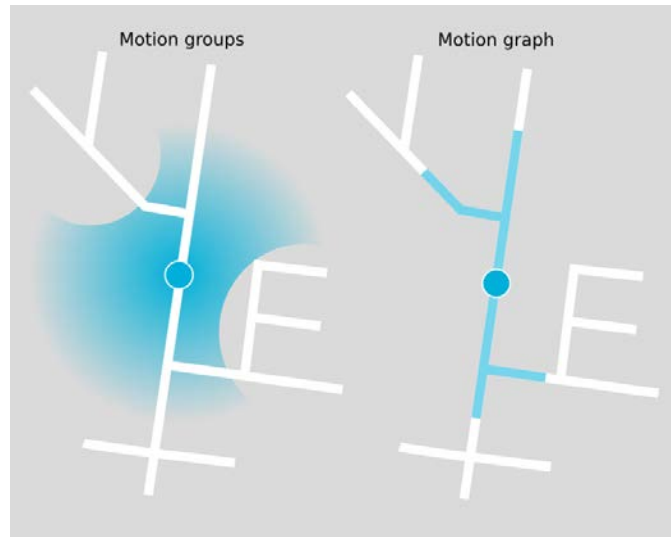



Illustration of motion groups (left) and motion graph (right).

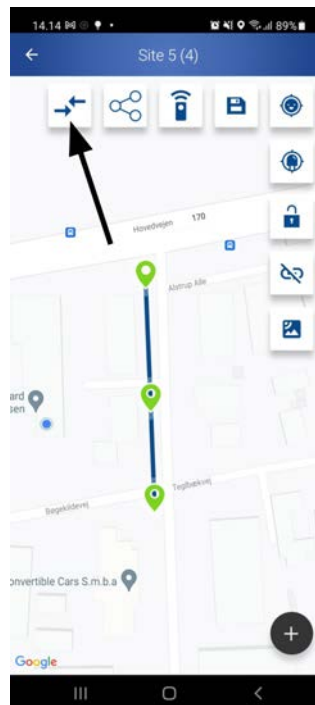
### Motion groups

A site can have up to four motion groups.

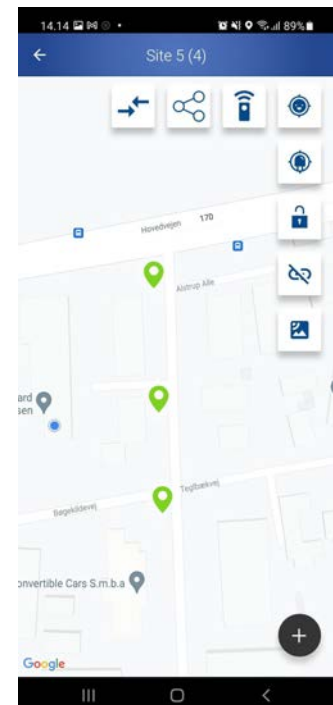
A motion group defines which luminaires will react to motion events. Individual configurations for each luminaire can be made for distance, whether the luminaire reacts to an input (use) or communicates to the group (send).

**Apply the default motion group (green) to an existing site** by clicking

the switch to motion group icon  in installation mode. This will remove the motion graph and create a motion group.



Switch from motion graph to motion groups.



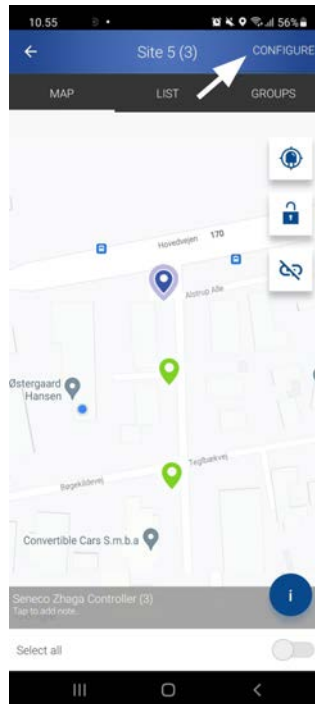
Motion graph removed and motion groups installed.

Newly installed luminaires will automatically be assigned to a default motion group (green) with a default range of 80 metres.

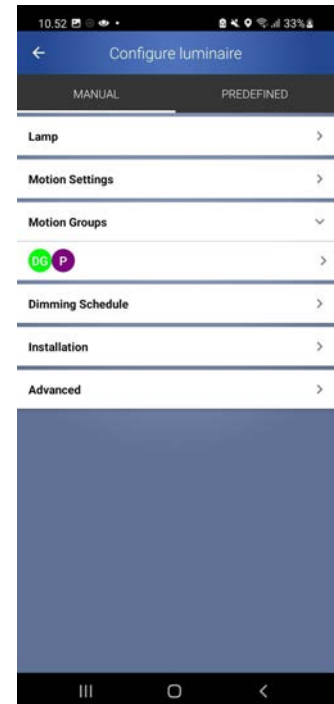
To change configuration, go to settings mode (see section 9), select a luminaire/luminaires, tap CONFIGURATION in the top right corner and select the motion groups menu.

The submenu shows which groups the luminaire(s) belongs to.

**Press the submenu to see and edit the motion group settings** for the selected luminaire(s)




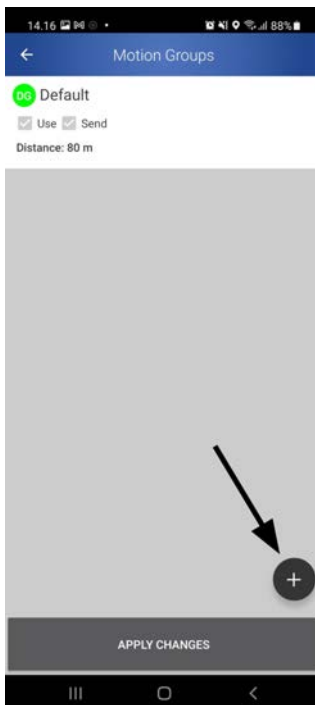
Go to configure.



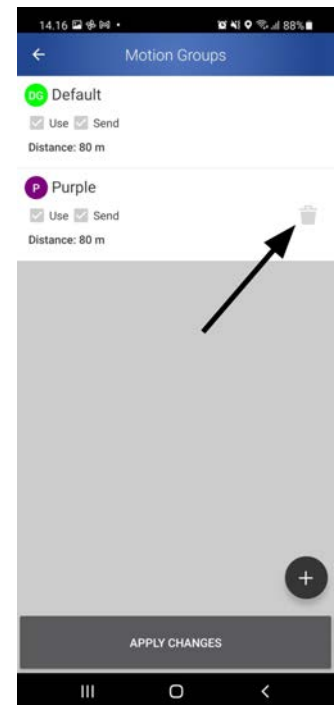
Select Motion Groups.

**Tap the plus icon**  to add luminaire to another motion group.

**Tap the**  **icon to remove the luminaire from the group.**



Add to motion group.



Remove from motion group.

**Tap the distance to edit the activation radius.** When receiving a signal from another luminaire in the same group, the distance to that luminaire is checked, and if it is within the defined distance and the USE setting is checked the luminaire will react to the signal.

**Check/uncheck use** to enable/disable whether the luminaire reacts to its group members' motion events.

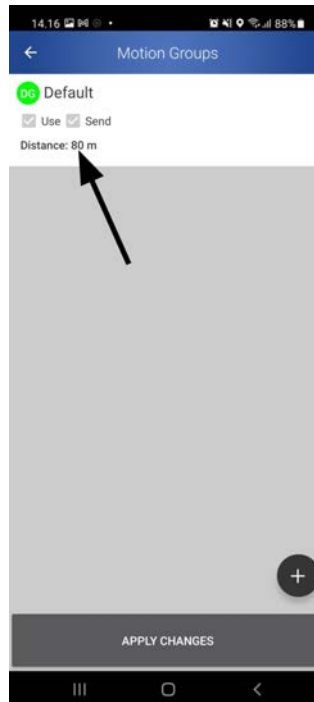
**Check/uncheck send** to enable/disable communication about motion events to group members within the defined distance.

Remember that the luminaires only receive/send information from/to group members within the defined distance.

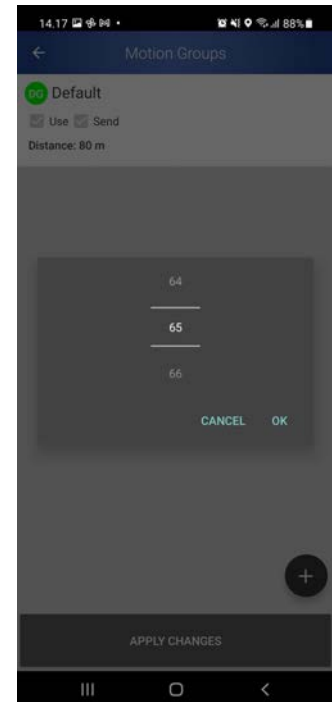
**Tap apply changes to save.** If you leave the page without saving you will be reminded to do so.

**Get an overview of which groups the luminaires belong to** by going back to settings mode (see section 5. Two modes) and then to groups view in the top menu.

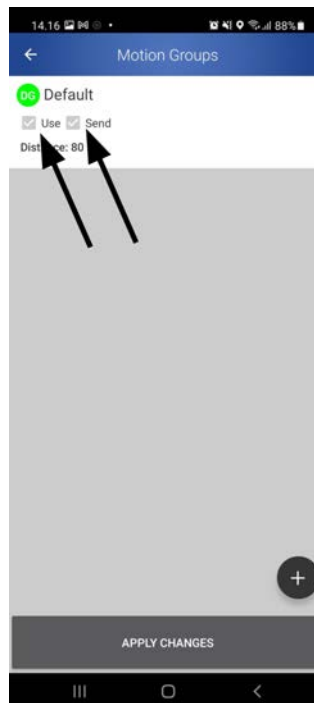
In the picture on the right, each luminaire belongs to a different number of groups to demonstrate what the markers look like.



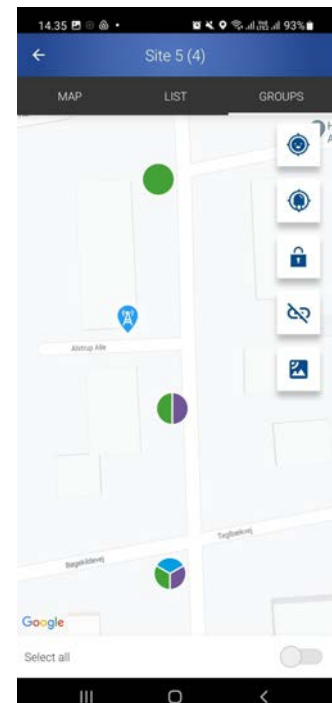
Edit distance.



Input distance.




Check/uncheck use and send.



Groups view with markers for different amount of groups.

## Motion graph


Links define the **motion graph** - in which order should the luminaires activate each other.

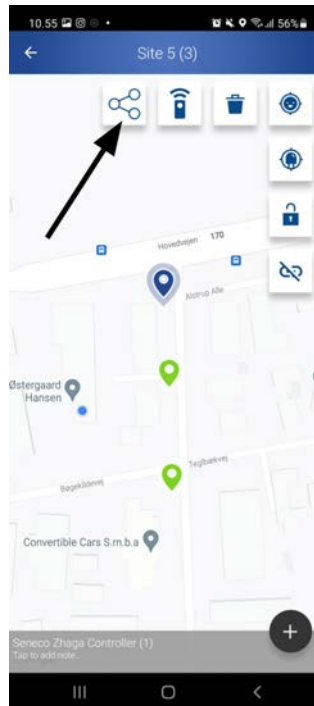
**Click the link icon**  followed by ok to automatically link all the luminaires and the gateway.

Or

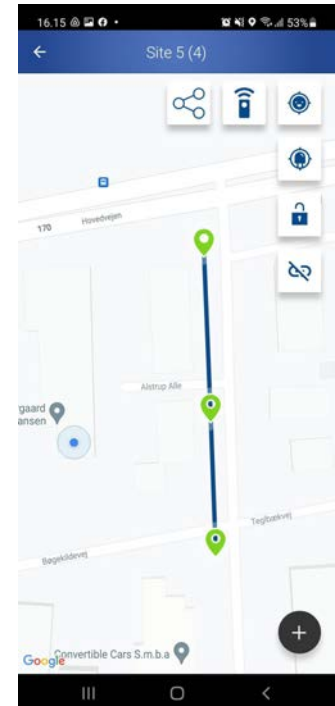
**Tap the luminaires** (and the gateway) in the order you want them to be linked.

A blue line between two location pins indicates a link. Tap two pins to delete the link between them.

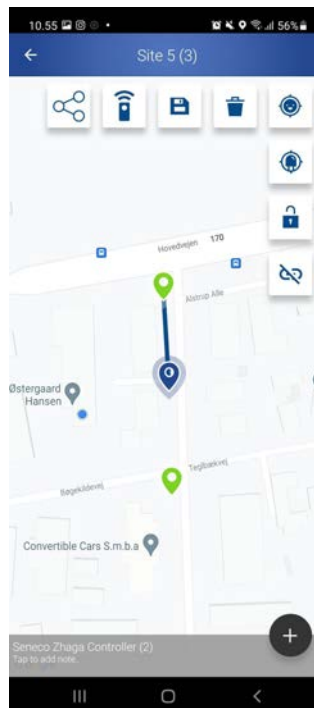
**The gateway should not be linked.** A linked gateway will count as a unit in the motion graph, but apart from that it does not cause problems. It is linked by default when using automatic linking . This can be removed manually by tapping the units or ignored.



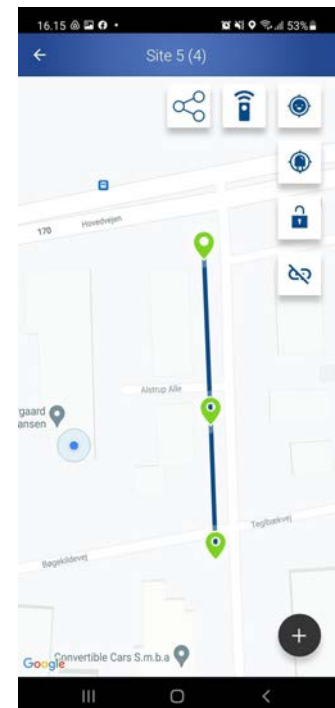
Auto link luminaires.



Auto link luminaires.



Manually link luminaires.

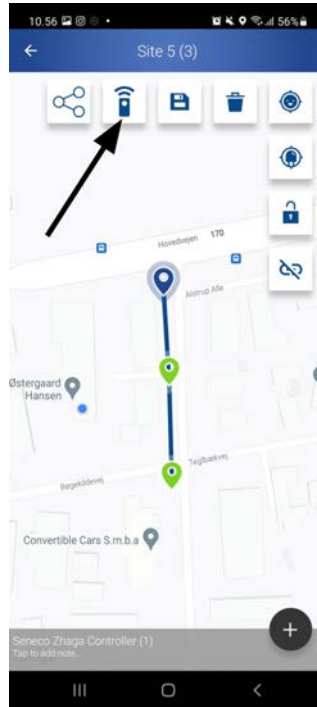


Manually link luminaires.

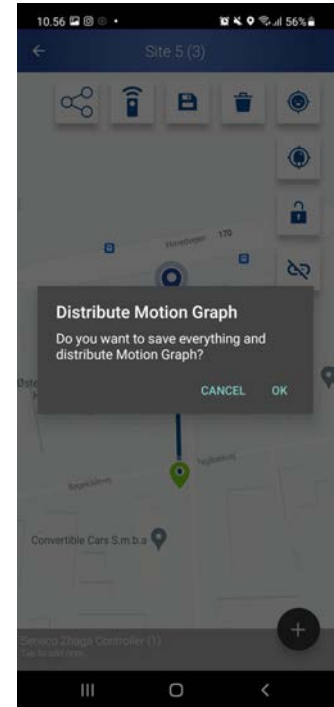
## Save and distribute link

Once all luminaires are positioned and interconnected, it is time to save and distribute the linking to the luminaires.

Click the **Save to database and distribute links icon**  followed by OK.



Save and distribute link.




Save and distribute link.

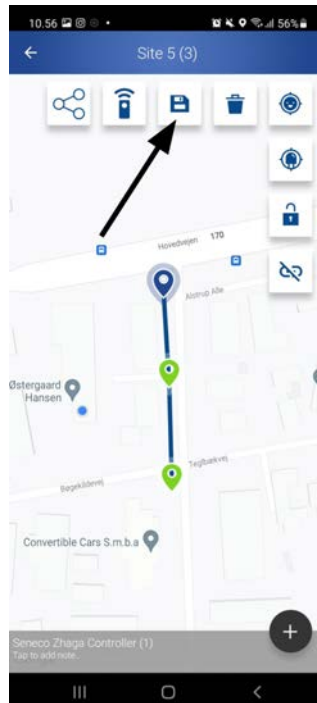
## Save changes

Because installation of a project can span several days, previously made settings can be saved.

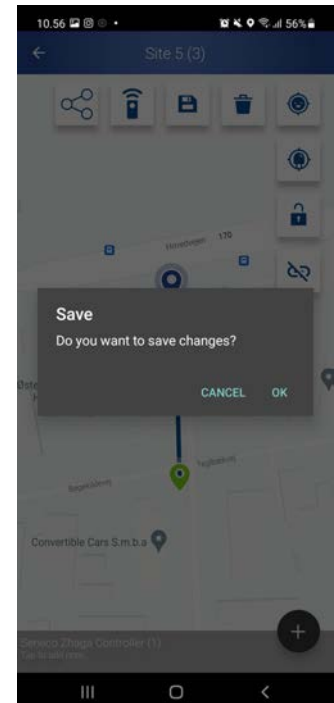
If the luminaires are correctly positioned and links are created, a temporary save is made.

Click the save icon  followed by OK. Installation can continue at a later date with no loss of information

If you try to leave the installation mode without saving, you will be asked whether you would like to save your changes.



Save changes.



Save changes.

## 8. Connected systems

All installation information and data given in the app will be instantly visible in the site dashboard as well. These data are static and will only change if the App/dongle is used on site again.


**You need a gateway on your site to make the system connected.**

If you have a connected system, everything except installing luminaires and distributing the links can be done in the dashboard at a later time as well as instantly in the app.

**If your site is not connected all configurations need to be done on-site.**

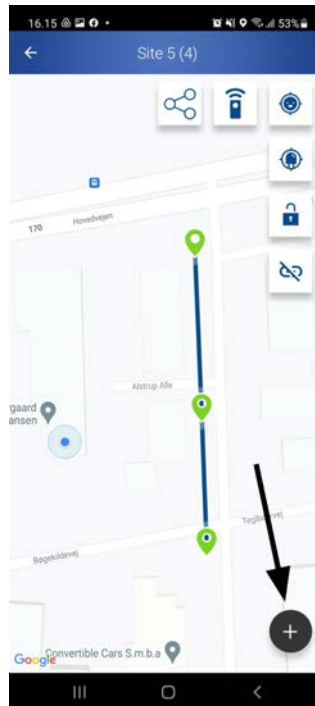
See the site dashboard for connected sites at [citygrid.eu](http://citygrid.eu).

### Add gateway

Adding a gateway  to a site is identical to adding a luminaire (see section 6. Add luminaires and gateway to site).

**Place the gateway near the center of the site.** A single gateway is enough for a site with up to 128 units, unless the site has distances exceeding the luminaire range as described on Page between units, then more gateways can be necessary.

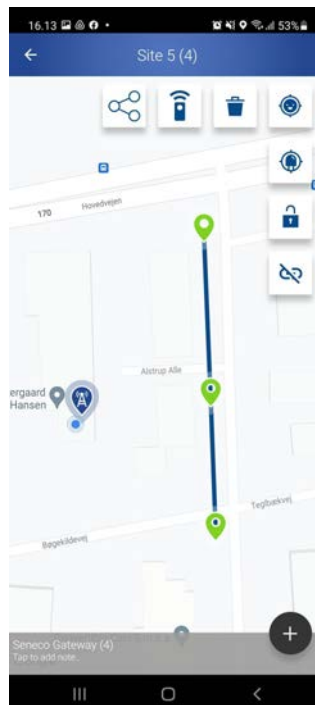
Unlike luminaires, the Gateway cannot blink. Read the MAC address of the device if you are unsure which device is the right one.



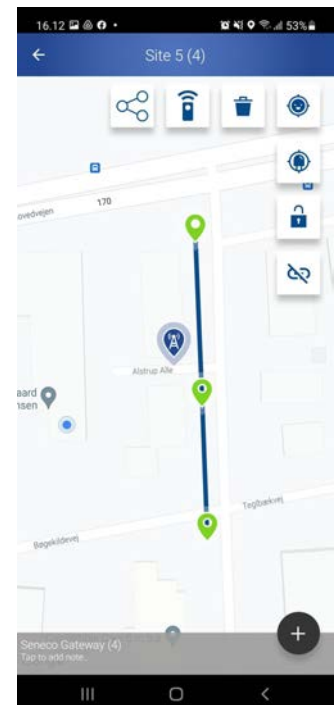
Add gateway.



Add gateway.



Place gateway.




Place gateway.

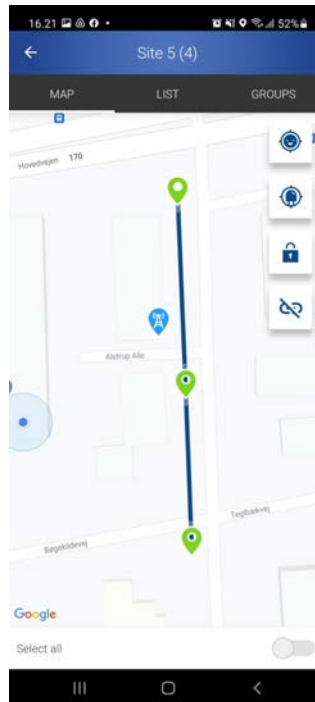


The gateway will be treated equally with luminaires in the final configuration of the facility.

## 9. Edit settings

Go to **settings mode** by clicking the lock icon  .

Select between **map view**, **list view** or **groups view** in the top menu.



Settings mode - map view.

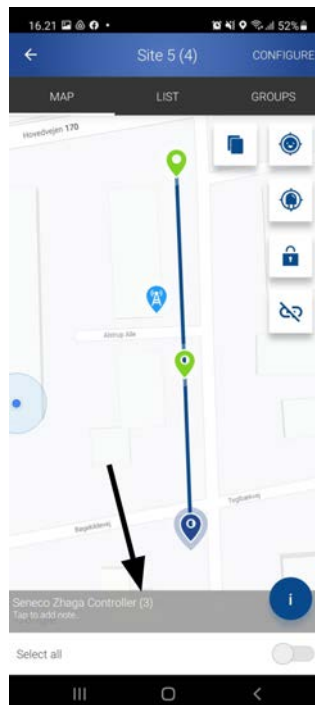


Settings mode - list view.

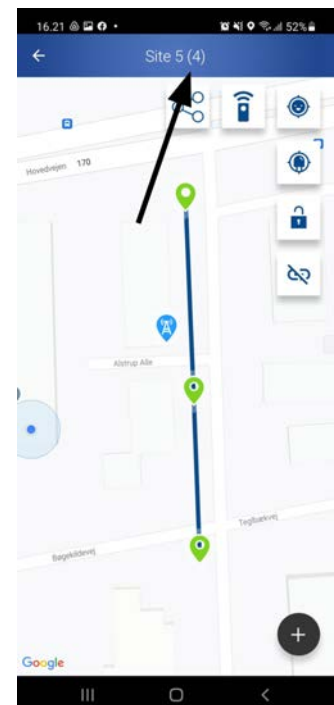
The **unit ID** e.g. (3) of each luminaire is shown in the bottom banner when a luminaire has been selected or in the list view next to the name.

Both luminaires and gateway have a **unit ID**.

The total amount of units are shown next to the site name in the top banner.



Unit ID.




Total amount of units on site.


Select luminaire(s) to be configured.  
 Select all using the toggle in the bottom or select the luminaire(s) manually.

Click **configure** in the top right corner to access the configuration menu.

Only the luminaires, not the gateway, are configurable.

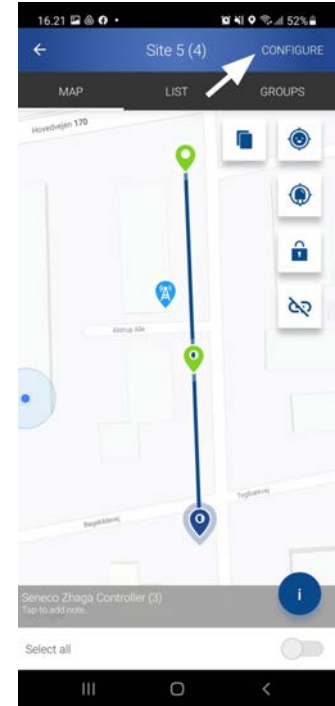
Configurations can be copied from one luminaire to another.

Tap the copy icon  when the luminaire with the desired settings are selected, select the receiving luminaire

and tap the paste icon .



Select all units.



Configure luminaire/ luminaires.

Select between using predefined settings or manually configure the luminaires in the top menu.

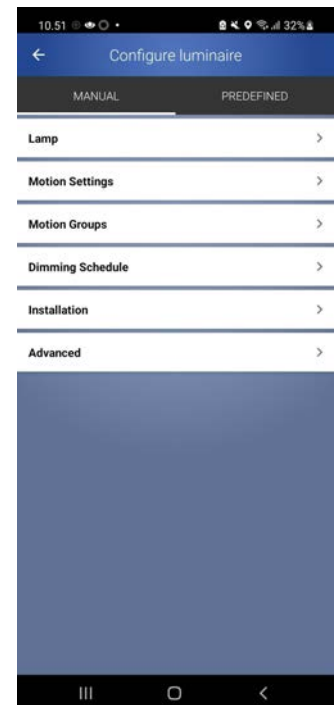
## Predefined configurations

The predefined settings are made by the luminaire manufacturer.

Predefined configurations helps you to quickly configure settings for both a single luminaire and all luminaires at a site.



Predefined configurations.



Manual configuration.

## Manual configuration

The manual configuration has six drop down menus; Lamp, Motion settings, Motion groups, Dimming Schedule, Installation and Advanced.

### Lamp

**Set the low intensity** of the luminaire (%). This is for the normal/unactivated state. Tap SEND in the top right corner.

**Ask the luminaire to indicate.** The luminaire blinks to let you identify where/which one it is.

### Motion settings

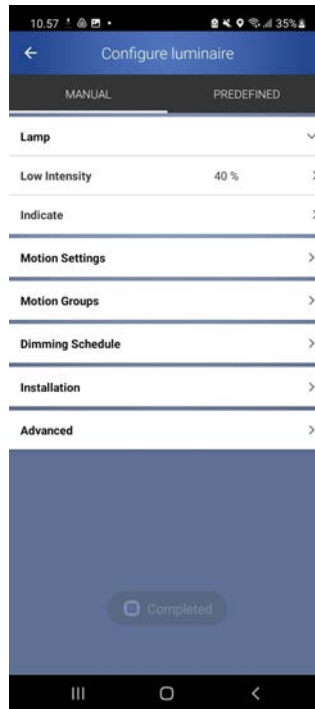
Adjust the settings for what the luminaire should do when motion is detected.

**Enable sensor** using the toggle.

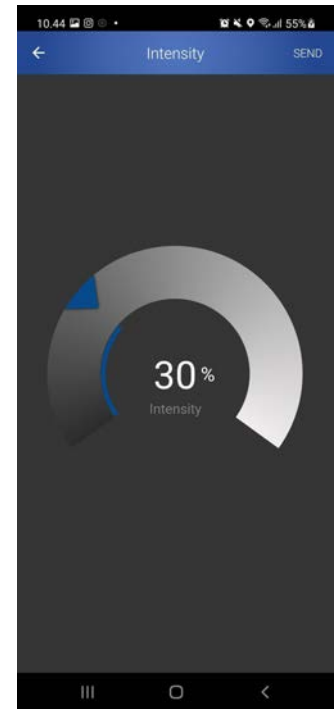
**Set the sensor sensitivity to high or low.** Tap SEND in the top right corner.

**Set the motion intensity** - the intensity of the light (%) when the sensor has been activated. Tap SEND in the top right corner.

**Set the motion time** - the time span between activation (dim up) and dim down. Scroll or tap to manually input value. Tap SEND in the top right corner to save.



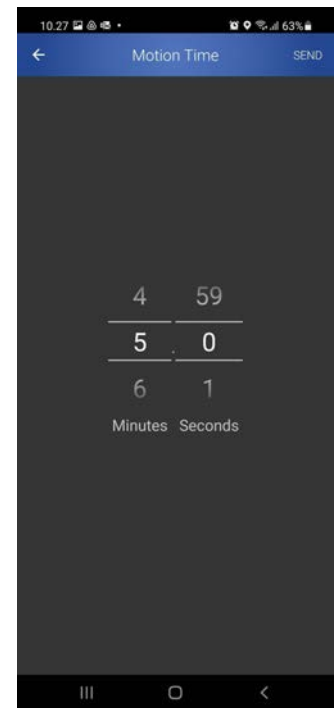
Manual configuration menu.



Lamp - Set intensity.



Motion settings - enable sensor.

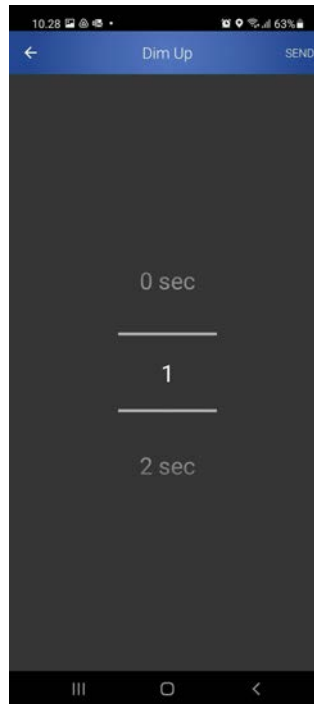


Motion - set motion time.

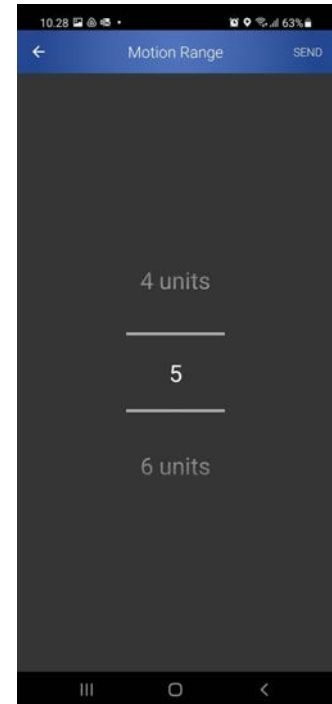
**Set dim up time** - the time it takes for the lamp to reach motion intensity. Scroll or tap to manually input value. Tap SEND in the top right corner to save.

**Set dim down time** - the time it takes for the luminaire to dim down after the motion time has passed. Scroll or tap to manually input value. Tap SEND in the top right corner to save .

**Set motion range for motion graph** - the number of luminaires in any direction (following the motion graph) that will be activated. Scroll or tap to manually input value. Tap SEND in the top right corner to save.



Motion setting - set dim up time.



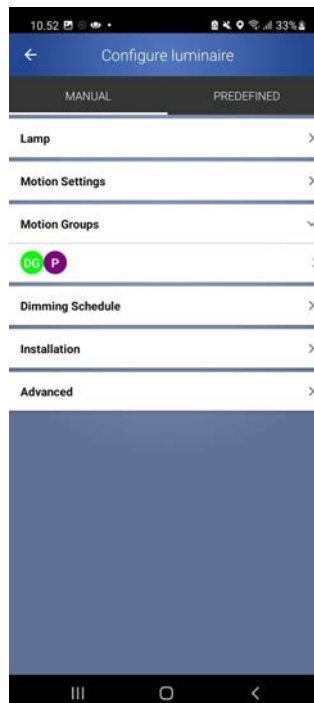
Motion setting - set motion range.

## Motion groups

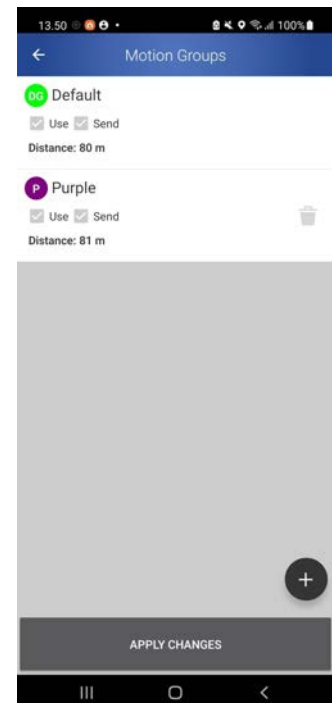
The motion groups menu allows you to change motion group settings for the selected luminaires.

**Luminaires in a motion group can communicate with each other, but do not necessarily share settings for distance or whether to use or send motion events.**

The configuration options for motion groups are explained in section 7 configure motion groups.



Motion groups.



Motion groups.

## Light Scenes

Some LED luminaires have both warm, cold, colored, and/or amber LEDs.

**Light Scenes utilizes the different LEDs to provide light with customized warmth or color.**

In Lamp and Motion settings, values were set for low intensity and motion intensity. Assigning Light Scenes overwrites these values and dimming schedules (see page 22).

**Enable light scenes** by clicking the toggle button. If there are Light Scenes assigned, the names of the light scenes are visible in the Light Scenes menu, in this case named “warm” and “cold”.

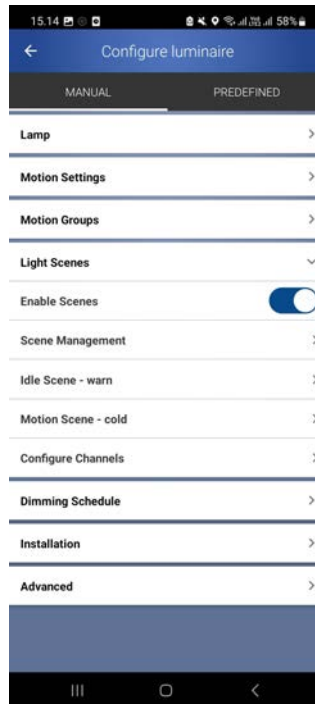
In some cases it can be a good idea to **make sure the channels correspond to the right color**. Go to Configure Channels in the bottom of the menu and click the color the luminaire is showing one by one.

**Create, edit or delete scenes** in Scene Management. Existing scenes are shown in the list.

Press the plus icon in the right bottom corner to **add a new scene** and give the scene a name.

If you instead want to edit a scene, select it from the list and click the pencil icon to edit. You need to reassign edited scenes to the luminaire.

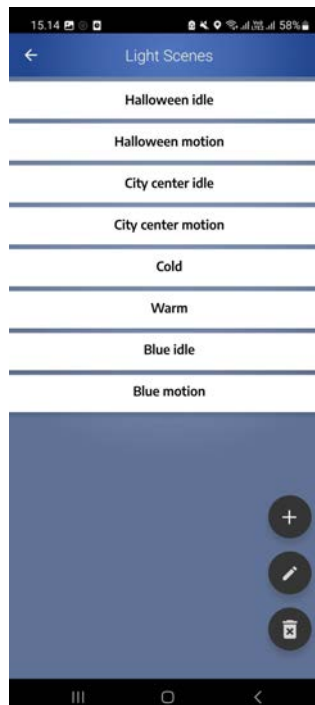
To delete a scene select one or more scenes and click the trash can icon.



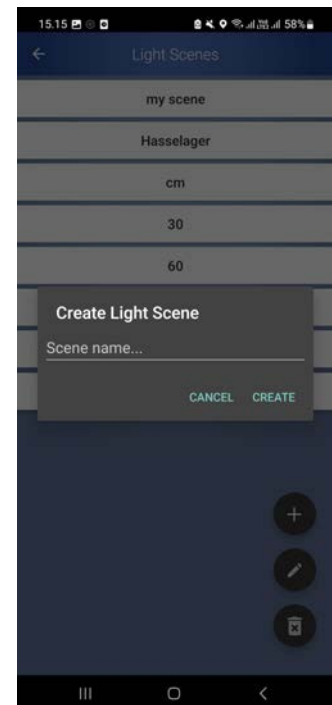
Motion setting - set dim up time.



Configure channels.



Manage Light Scenes.



Create Light Scene.

**Edit the settings** of the created Scene. With the luminaire preview box selected, the settings will show real time on the luminaire.

The Intensity slider controls the lumen for warm and cold light. The share of warm and cold light is adjusted right below.

In the middle there is a color wheel controlling the hue setting. The center dot is a representation of the color you get from adjusting hue, saturation and value.

The amber slider adds an amber white to the color mix.

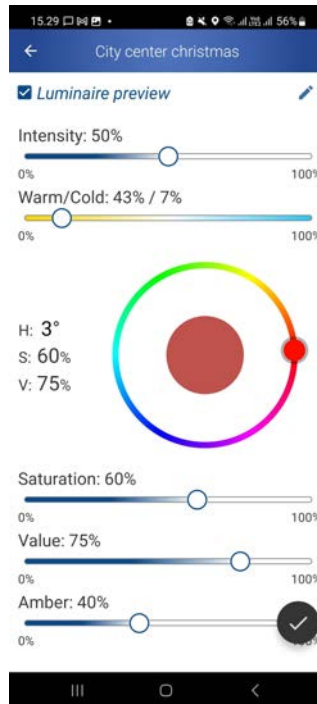
Click the pencil button in the top right corner to type in values instead of using the sliders.

When satisfied with the settings, press the icon in the bottom right corner.

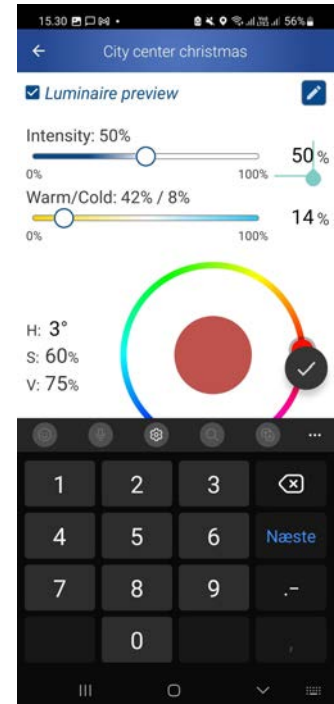
**Assign the created Light Scenes** to the selected luminaire(s).

The luminaires have two scenes or modes: Idle and Motion.

Idle Scenes is the case of no motion/traffic and is typically a scene with a softer, less bright light. Motion Scenes is when a motion has been detected and is typically a scene with a brighter light.



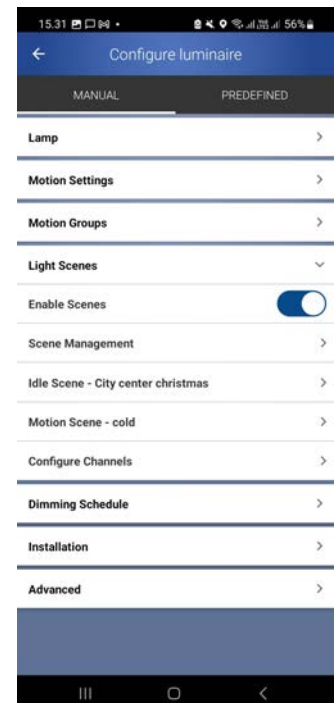
Edit scene settings with sliders.



Edit scene settings by typing in values.



Assign Light Scene.



Light Scene City center christmas assigned to Idle Scene

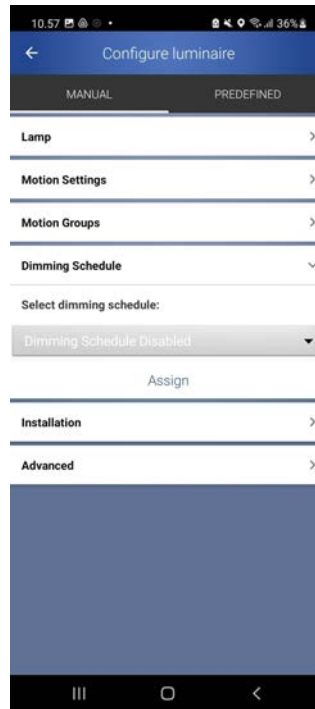
## Dimming Schedule

Select a **dimming schedule** from the list and tap **ASSIGN**.

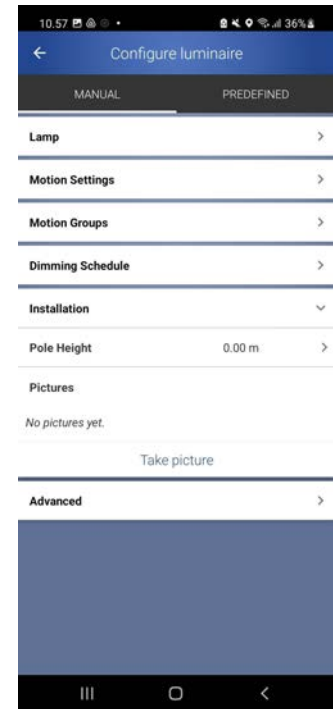
Dimming schedules are timetables over light intensity during a day. Typically you turn off the lamps during daylight, have them at a high intensity during commuting hours and dim them down in the quiet hours of the night.

The dimming schedules are made in the Light Management System on the citygrid.eu webpage where you sign in using your user key.

Without a gateway this feature is not available.



Dimming schedule.



Installation - set pole height.

## Installation

**Set the pole height** - the height of the luminaire pole. The unit of measurement is meter, with 6 00 meaning that the pole is 6 metres high. Scroll to the right height and then tap **SEND** in the top right corner.

**Add pictures** of the installation.

## Advanced

**Calibrate lamp** to get a graph of the intensity (%) vs. power consumption (W).

**Check for firmware update (FOTA).** Follow the instructions on screen. The FOTA process takes about 1 hour




Advanced.

**Fetch diagnostics data.**

Only to be used when instructed so by Seneco.

## 10. View luminaire info

View product and statistical information about the luminaire.

**In Settings mode, map view, select a luminaire and then the information icon .**

The information page has five drop down menus; Device information, Measurements, Uptime statistics current power cycle, Uptime statistics last power cycle and Uptime statistics total.

A power cycle is the period where a lamp is turned on. Street luminaires are commonly powered off during ending a cycle in the morning and a new cycle begins in the evening when they are turned on again.

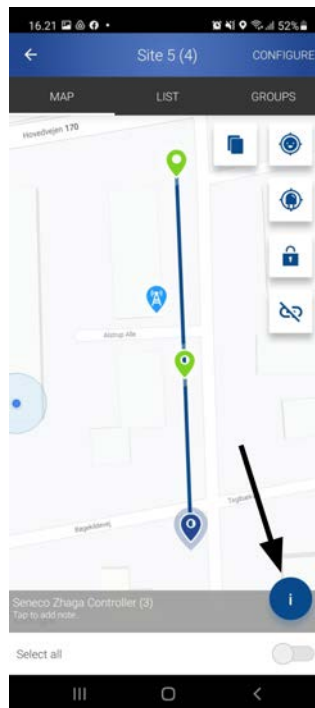
### Device information

View manufacturer, model, unit ID, Mac address, firmware version, COM firmware version, hardware version and FOTA.

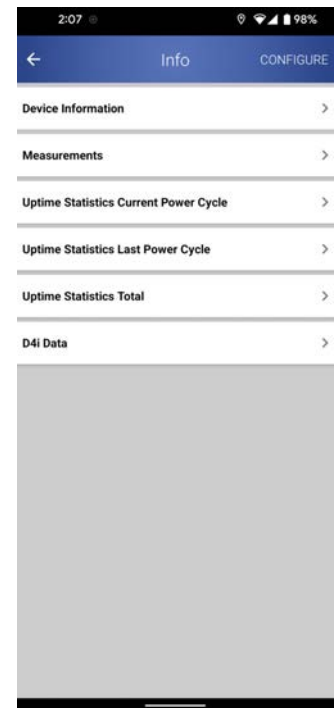
FOTA is given as a percentage and indicates how far along a current firmware update is.

### Measurements

View voltage, current, power and power factor. These measurements are only available if the luminaire supports it.



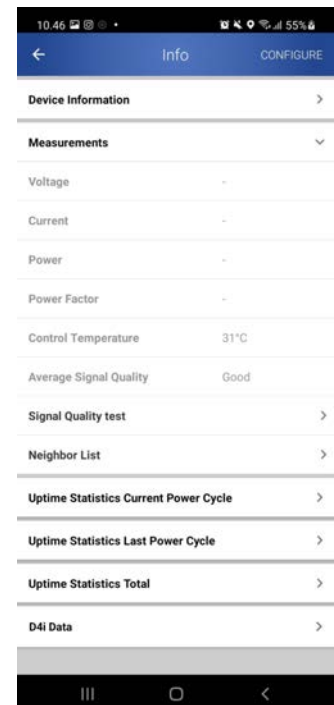
Go to information.



The information menu.



Info - Device information.



Info - Measurements.



**View the control temperature.** The control temperature is the current controller temperature.

**View average signal quality** or test the current signal quality.

**View the reachable units** under the neighbor list.

## Uptime stat. current power cycle

**View the Control On Time.** The total time of the current power cycle.

**View the number of motions detected** during the power cycle.

**View the device temperatures** (minimum, maximum and average) for the power cycle.

**View the power consumption** of the unit in kWh.

**View the number of cycles** the luminaire has had.

**View number of hours the luminaire has been turned on** during the current power cycle.

## Uptime stat. last power cycle

The same as the above section, but for the previous power cycle.

## Uptime statistical total

The same as the above two sections, but for the total lifetime of the luminaire.

Uptime Statistics Current Power Cycle	
Control On Time	47 h
Motions	0
Min. Temperature	27.0 °C
Max. Temperature	33.0 °C
Avg. Temperature	30.9 °C
Power Used	0,00 kWh
Lamp Cycles	1
Lamp On Time	2 h

Uptime stat. current power cycle.

Uptime Statistics Last Power Cycle	
Control On Time	0 h
Motions	0
Min. Temperature	24.0 °C
Max. Temperature	31.0 °C
Avg. Temperature	28,4 °C
Power Used	0,00 kWh
Lamp Cycles	1
Lamp On Time	0 h

Uptime stat. last power cycle.

Uptime Statistics Total	
Control On Time	298 h
Motions	1989
Min. Temperature	1.0 °C
Max. Temperature	34.0 °C
Avg. Temperature	15,8 °C
Power Used	24,04 kWh
Power Cycles	19
Lamp Cycles	134
Lamp On Time	1470 h

Uptime stat. total.

## D4i data

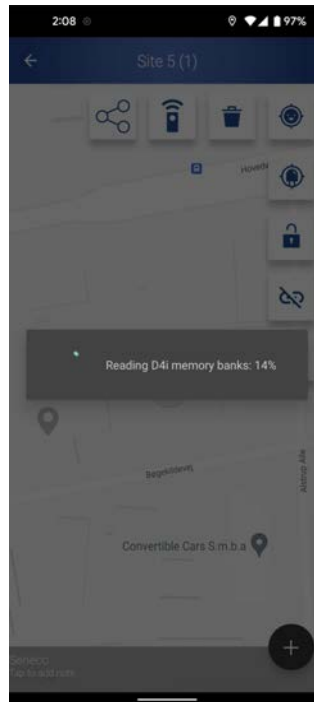
### View D4i data.

If the LED driver is D4i compatible and the firmware on the controller and dongle is 1.7.0 or newer, D4i data will be available. D4i is a Dali standard.

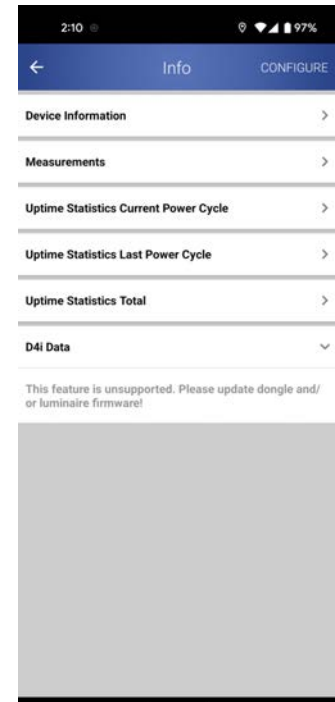
D4i data is fetched from the luminaire when installing a luminaire to a site. It is refreshed when opening the info menu in the Citygrid app. The D4i data can be displayed in both the Citygrid app and in the Citygrid dashboard.

The following D4i data is available:

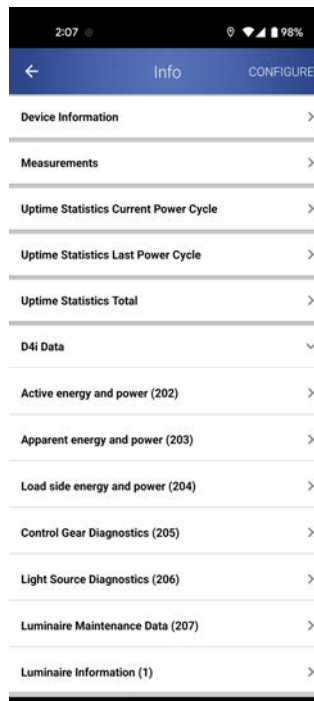
- View Active energy and power (202).
- View Apparent energy and power (203).
- View Load side energy and power (204).
- View Control Gear Diagnostics (205).
- View Light Source Diagnostics (206).
- View Luminaire maintenance Data (207).
- View Luminaire information (1).



Fetching D4i data.



Empty D4i menu.



D4i sub-menus.

## 11. Troubleshooting

### **Connection to dongle**

Ensure that the dongle is charged and ready for connection via Bluetooth. If the dongle battery is nearly discharged, the LED will flash red instead of blue. Click the dongle once to view battery status. For more information, see the manual for the dongle.

### **Download the Citygrid app**

At present, there is only a Citygrid app for Android devices (not available for iOS). Download the app from Google Play. Internet connection For the app to work correctly, a connection to the Internet is required.

### **Activate Bluetooth**

Bluetooth must be activated.

### **Activate GPS**

GPS function must be activated.

### **Problem discovering luminaires**

If the app doesn't discover any luminaires, click the back arrow and then click again. A new search begins. You can also refresh the list by swiping down.

### **Programming incorrect**

When building the installation and uploading to the system and database, all devices are highlighted in green when programming has been correctly executed. If one or more units are highlighted in red, it means that the RF signal cannot be reliably relayed to the next unit. This may be due to the distance between the units, physical barriers or other problems with information transfer.

When uploading the system, do not take any other actions, such as turning off the programming unit. Wait until the system has finished loading.