System Guide

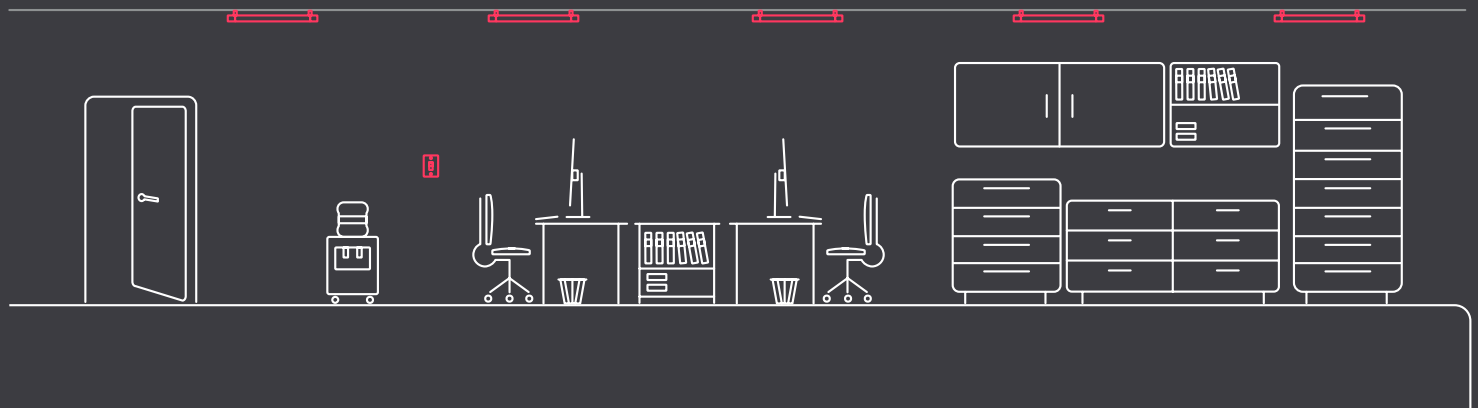
Interact Office
Interact Industry

Rel. 4.0

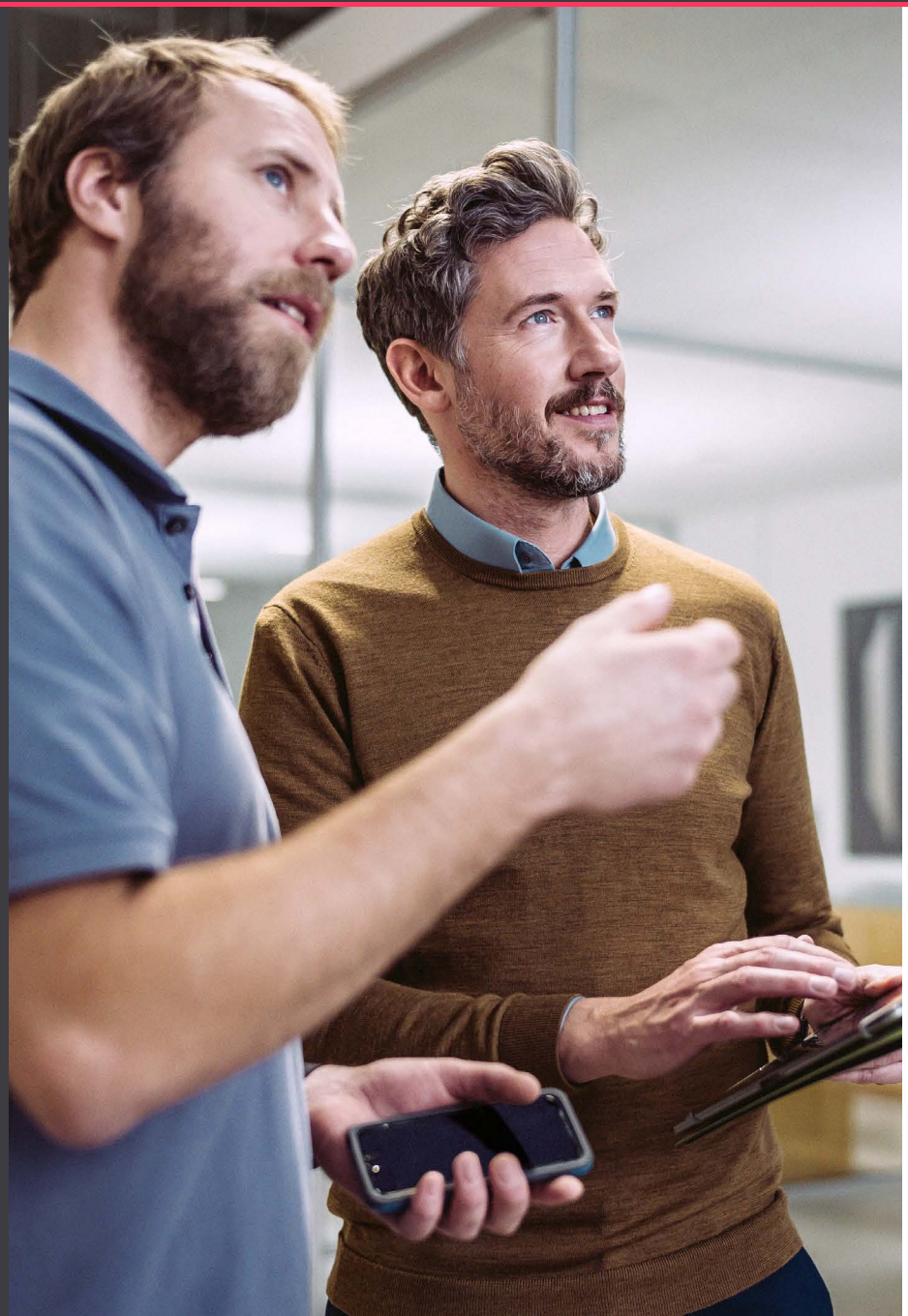
interact

www.interact-lighting.com

Contents



01 Introduction



1.1 About the document

This document relates to both Interact Office and Interact Industry, these are wireless cloud-based propositions sharing the same system architecture, features and cloud, the only difference is on the luminaires portfolio and the sensors which are designed specifically for office or industry applications.

1.2 Target audience

This document is addressed to the following audiences:

- System Centers
- Application Engineers
- Customer IT Departments
- Specifiers

1.3 Purpose of this document

This document describes the architecture, requirements and underlying design choices of the Interact Office (IAO) and Interact Industry (IAI) Connected Lighting Systems. It is created to provide guidance on all aspects during consultative selling by describing the flexibility offer by the system architecture.

1.4 Abbreviations

The following abbreviations are used throughout the document:

Abbreviation	Explanation
BCB	Building Connectivity Bridge
DDR	Daylight Dependent Regulation
IAI	Interact Industry
IAO	Interact Office
WG Pro	Wireless Gateway Pro
ZGP	ZigBee Green Power device: • ZGP Switch • ZGP Sensor
PIR	Passive Infrared sensor
QR	Quick Response code
SR	Sensor ready
RF	Radio Frequency
UI	User Interface
LED	Light-emitting diode
API	Application Programming Interface
NFC	Near-field communication
IoT	Internet of things

1.5 Terms and definitions

The following terms and definitions are used throughout the document:

Term	Definition
Access port	A switch or router port which is used to connect to an “end device”. An end device in this context is for example the BCB or the WG Pro.
IPv4	Internet Protocol version 4; IPv4 consists of a set of protocols that together enable communication of packets between network interfaces that are identified by 32-bit IPv4 addresses.
IPv6	Internet Protocol version 6; IPv6 consists of a set of protocols that together enable communication of packets between network interfaces that are identified by 128-bit IPv6 addresses.

02 System architecture

The following sections give a brief overview of the setup of the system and the process flow that is defined.

2.1 Architecture

The Building Connectivity Bridge (BCB), connected to the cloud via the internet, is the basis of the lighting system. The IP backbone between the BCB and the several wireless gateways (Wireless Gateway Pro) in the building enables communication between the luminaires and the cloud. The wireless gateways connect with the luminaire sensors by means of ZigBee.

The system is operated by applications via the cloud. The applications all have their specific field of operation, for example: design, installation, commissioning, operation, or management.

02 System architecture

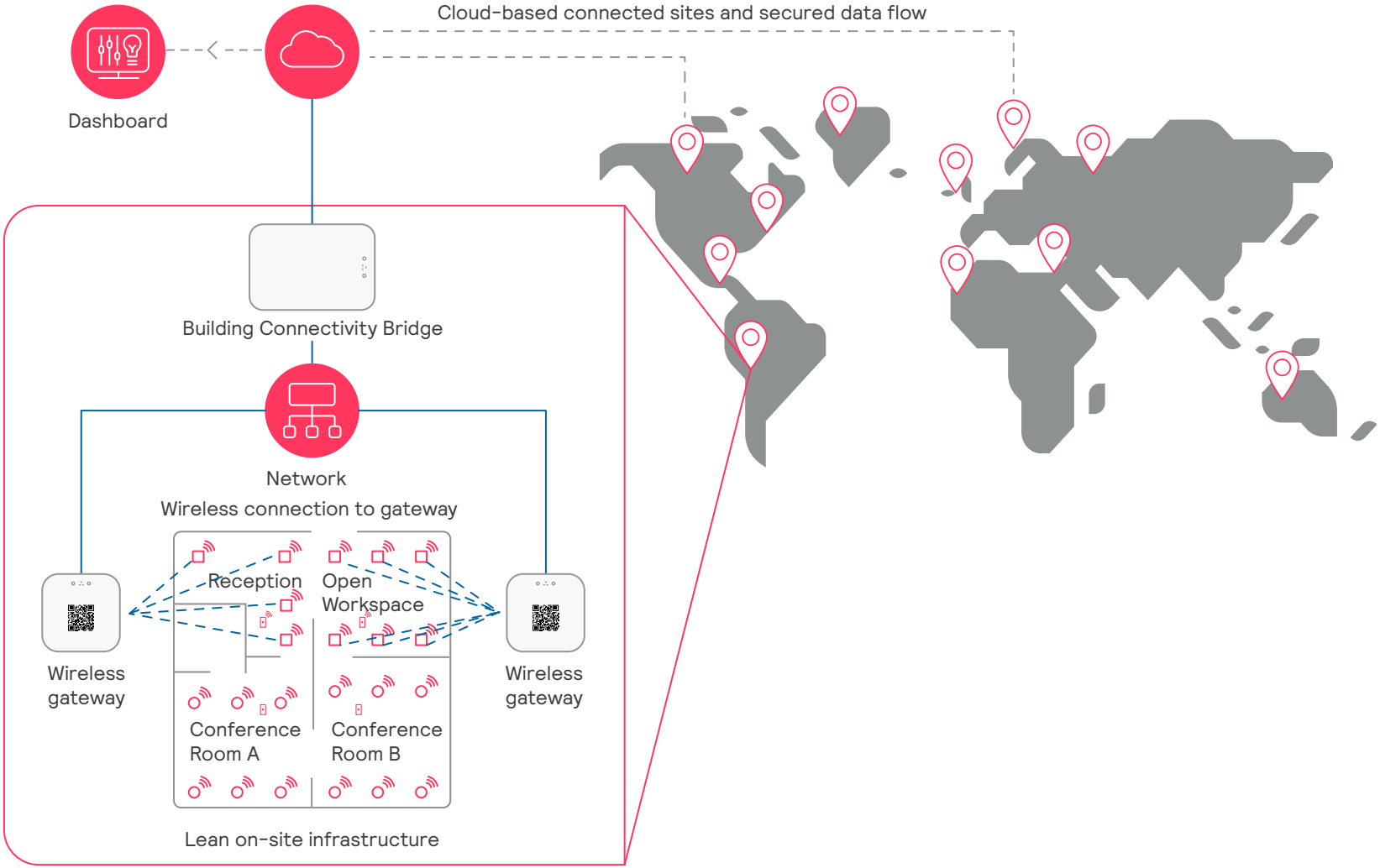


Figure 1. A scalable lighting system that connects multiple buildings to the cloud

02 System architecture

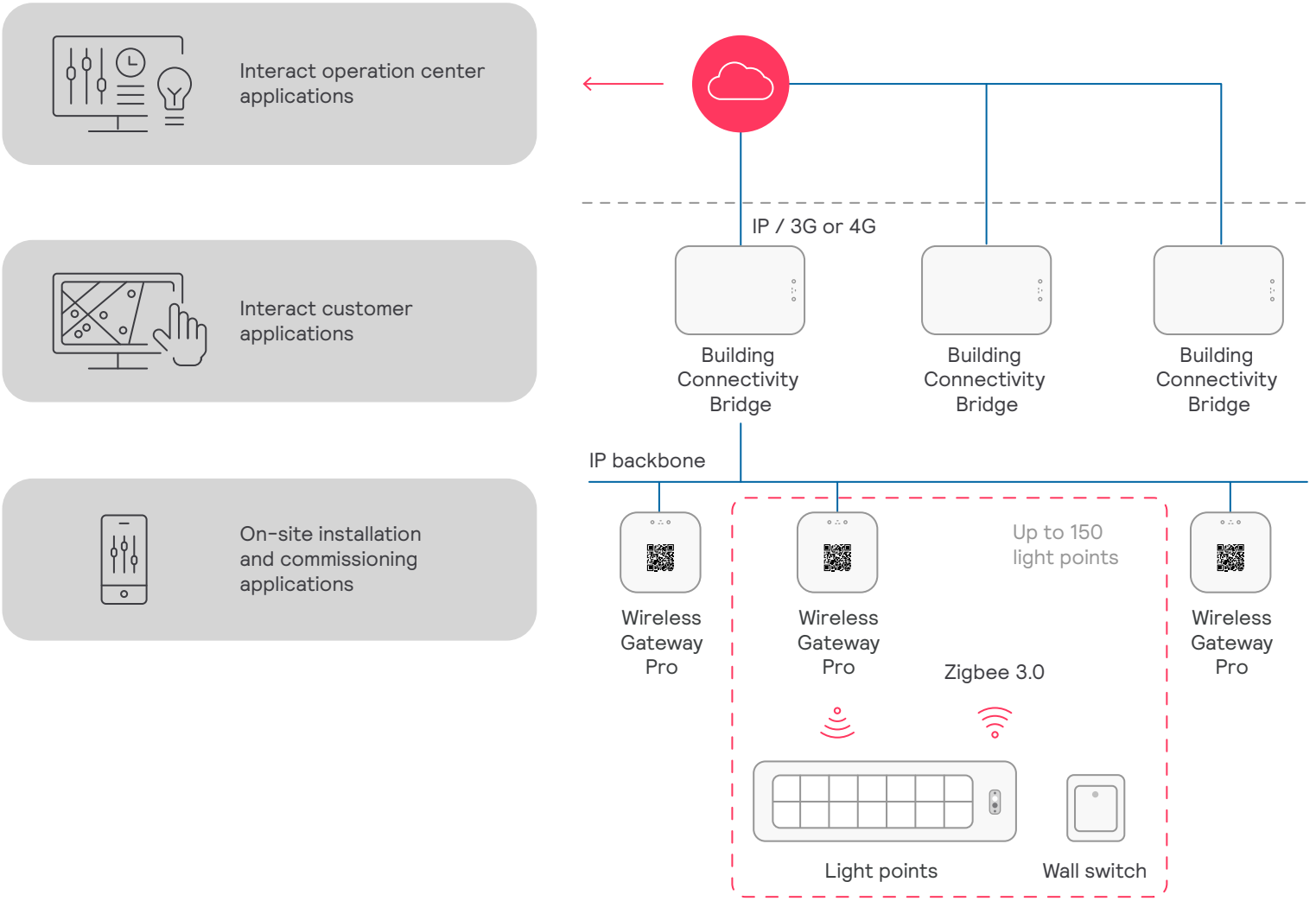


Figure 2. High level system architecture of the IAO system

2.2 System properties and limitations

Interact Office / Interact Industry system	
Per system	• Router/Switch • 1 Building Connectivity Bridge • WG Pros – number dependent on total of light points • Up to 15,000 light points (RF nodes)
Per WG Pro	• Up to 150 wireless nodes (average) • 50 ZGP devices per area

Note

- A WG Pro must cover all light points in an area to prevent unwanted behavior.
- Each wireless light point connecting through RF to the WG Pro counts as a node.
- Luminaire equipped with, or connected to a SR sensor.
- Each MasterConnect LEDtube; a luminaire equipped with two tubes counts as two nodes.

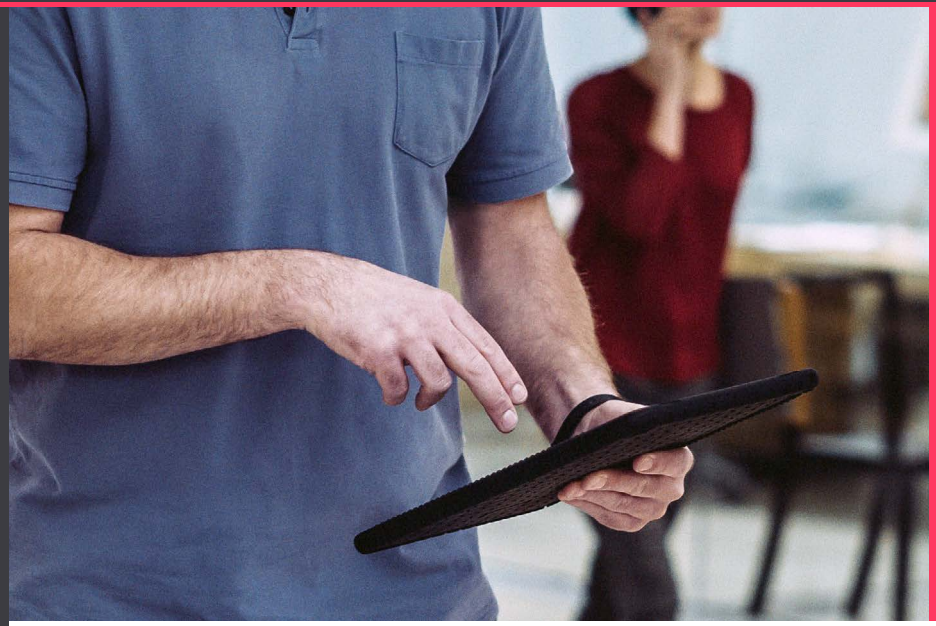
2.2.1. Cable lengths

The maximum cable length between the switch and both the BCB and WG Pro is 100 m (328 ft). The advice is to use Cat5 cables minimum AWG24.

2.2.2. Operational distance of Zigbee devices

Wireless ZigBee devices (WG Pros, sensors and ZGPs) are guaranteed to work up to a distance of 15 meters (49 ft) between the devices. Larger distances often work depending on the environment but are not guaranteed.

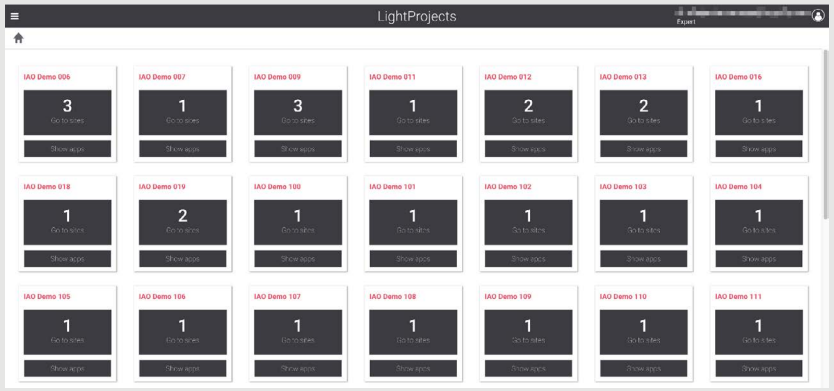
03 Cloud apps



This section details the cloud system permissions for each user role and application. Also, each application is briefly explained.

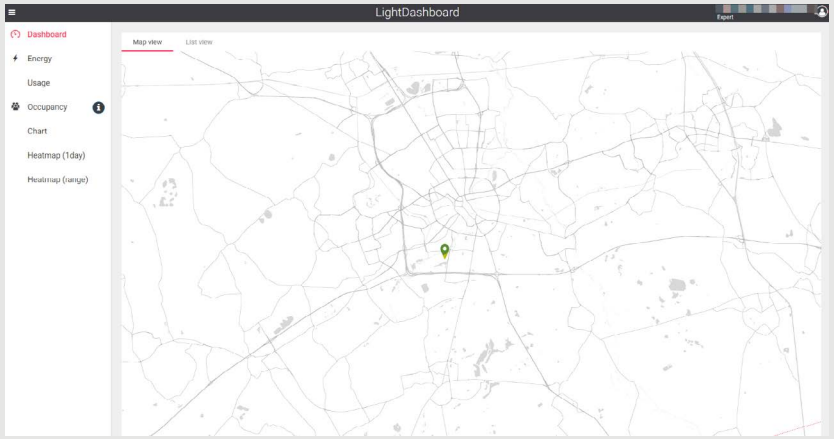
Toolbox app / Role	Intake	Installer	End-user	Operator	Facility Manager	Expert	Admin
LightProjects View	✓	✓	✓	✓	✓	✓	✓
LightProjects Create/ delete project							✓
LightDashboard			✓		✓	✓	✓
LightUsers						✓	✓
LightIntake	✓					✓	✓
LightMap		✓				✓	✓
LightOperations				✓	✓	✓	✓
LightControl			✓		✓	✓	✓

03 Cloud apps



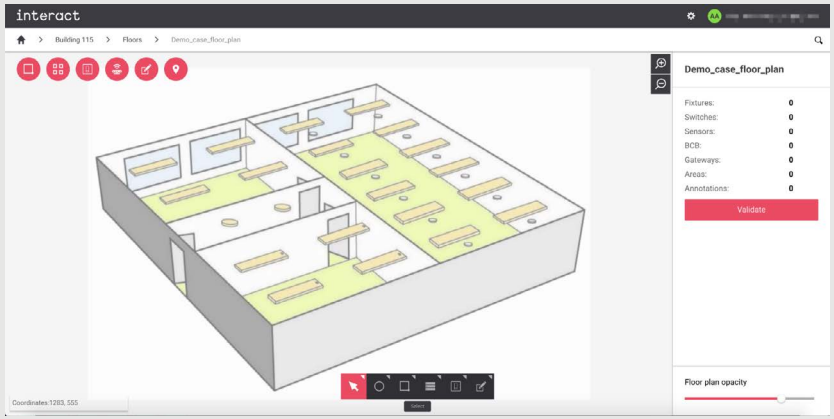
3.1 LightProjects

LightProjects is the entry point that bind all other applications together. It manages projects, sites and buildings and their respective data. One project can contain multiple sites and buildings.



3.2 LightDashboard

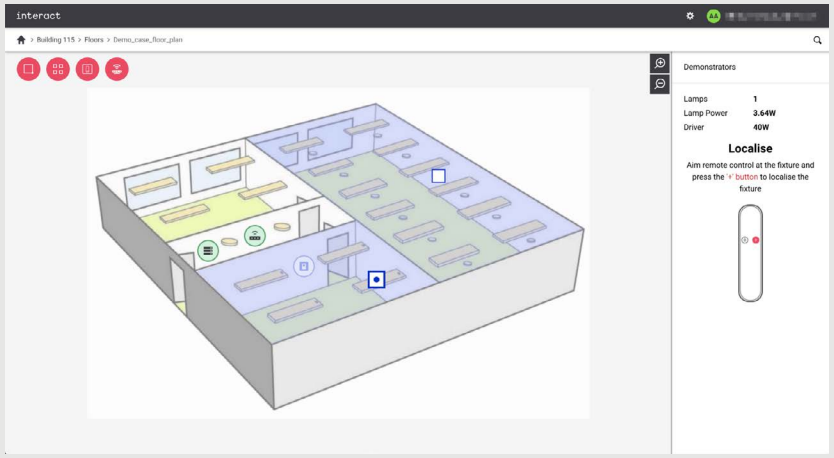
LightDashboard enables user analysis of energy consumption, this energy is metered by the SR Driver with a 4% error, and then reported to the cloud.
It also enables occupancy reports or heatmaps based on the PIR motion sensor. Each second the sensor takes a sample, and if there is at least one occupancy trigger on that minute it reports as occupied, afterwards, the system reports in 15 minutes segments.



3.3 LightIntake

LightIntake is the tool used to prepare before the onsite commissioning.

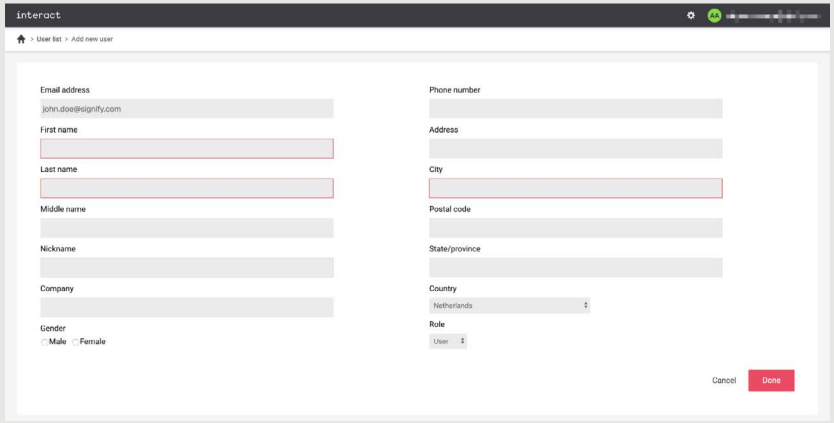
It creates a graphical representation of the system, areas and luminaires that are assigned to one or multiple gateways. All the light behavior based on templates and custom behavior can be set here, this step does not require a physical connection to the devices. LightIntake validates the design to avoid issues such as creating more than 1 BCB per building or leaving luminaires without a logical area or gateway assigned.



3.4 LightMap

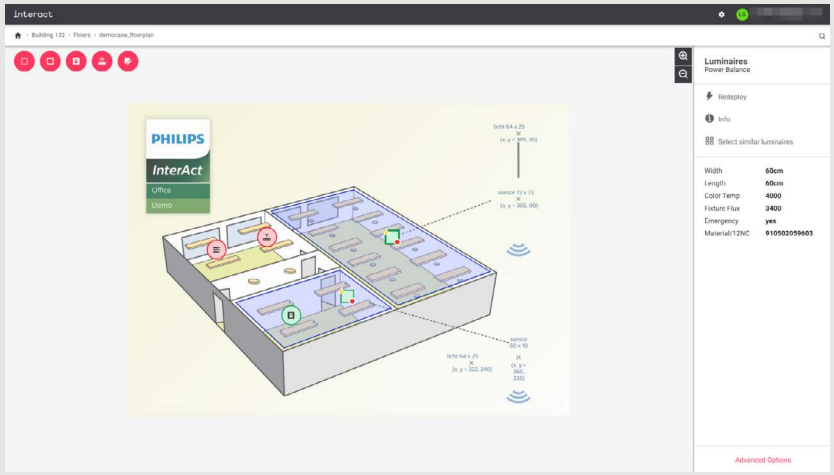
LightMap is the application used to do the commissioning of the system, so in other words to link all the digital representation of luminaires and devices to the real hardware installed on site. BCB and Gateways can be localized to the physical device using QR codes, and luminaires can be localized using a trigger from the IR remote for every SR sensor-based luminaire, or by flashing in case of wireless drivers.

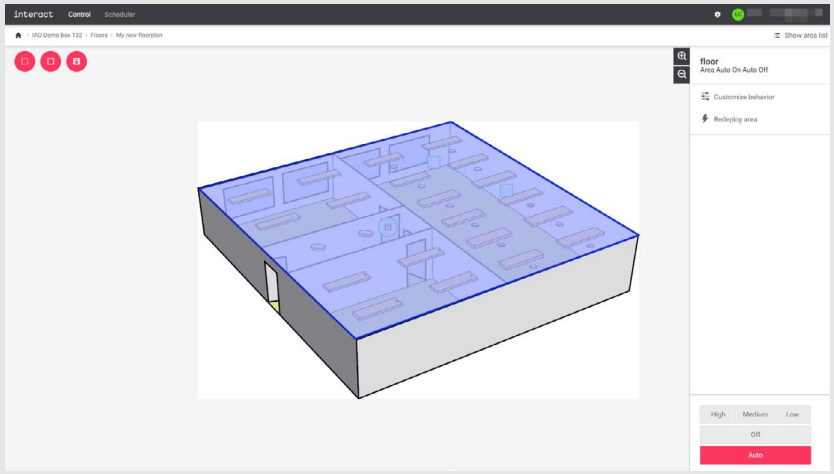
This Apps needs the system to be installed, energized and connected to the cloud.



3.5 LightAccess

LightAccess is the application used for user management, as well as user rights and roles.





3.6 LightOperations

LightOperations provides system health status, by retrieving luminaire or gateway/BCB status. It displays all failures while also performing operational tasks.

3.7 LightControl

LightControl is your cloud-connected switch. It controls lights over floors and areas from a central override. It can also manage schedules with predefined or custom profiles.

04 Features

4.1 Light control and behavior

This section covers sensors, light behavior templates, schedules and manual light control.

4.1.1 Sensors

Motion detector and daylight harvesting sensors are supported for energy savings.

Motion sensor

The motion sensor is based on PIR technology, allowing the system to detect slight movements by sensing changes in infrared light. PIR sensors need direct line of sight to detect a moving object and the detection pattern varies based on the installation height.

Daylight Dependent Regulation (DDR) or daylight harvesting sensor

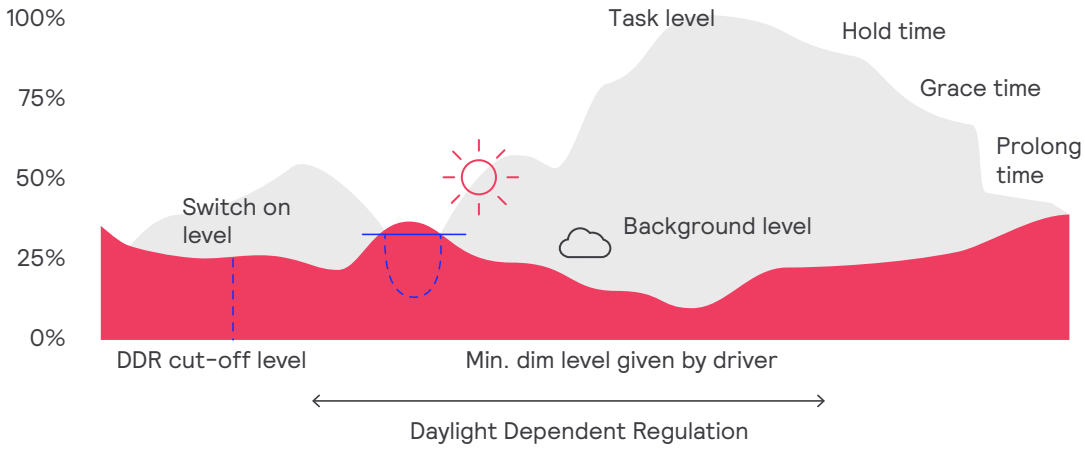
The light sensors are integrated in the same body of the other sensors, which means it is located on the ceiling, facing down, and they measure illuminance levels (amount of light on a surface, measured in lux). The measured value is coming from the reflections of the working area, which are illuminated by the luminaires plus any external source of light which is coming from the sun through the windows or transparent ceilings.

This type of control is known as closed loop, as the sensor is measuring both the controlled light plus the external source at the same time.

With daylight dependent regulation, each luminaire dims its light individually to meet the task level on the work surface. The regulation algorithm is adapted to prevent other luminaires from influencing each other too much. This type of regulation is called granular dimming. In case of a failure of the wireless network and/or WG Pro, the wireless luminaires operate as usual. If the failure persists, the cloud reports the loss of connection as an alarm.

Important

Open loop sensors are not supported in the current system architecture.



Daylight calibration

Daylight calibration is performed on floor level on-demand via the dashboard and uses all sensors. The sensors measure the maximum value of all luminaires which is stored as 100% of the task level. The process turns off the luminaires and measures the values again.

Then it repeats the process to test if the expected level is met and takes more samples to improve the calibration.

Note

This process takes about 7 minutes and cannot be interrupted.

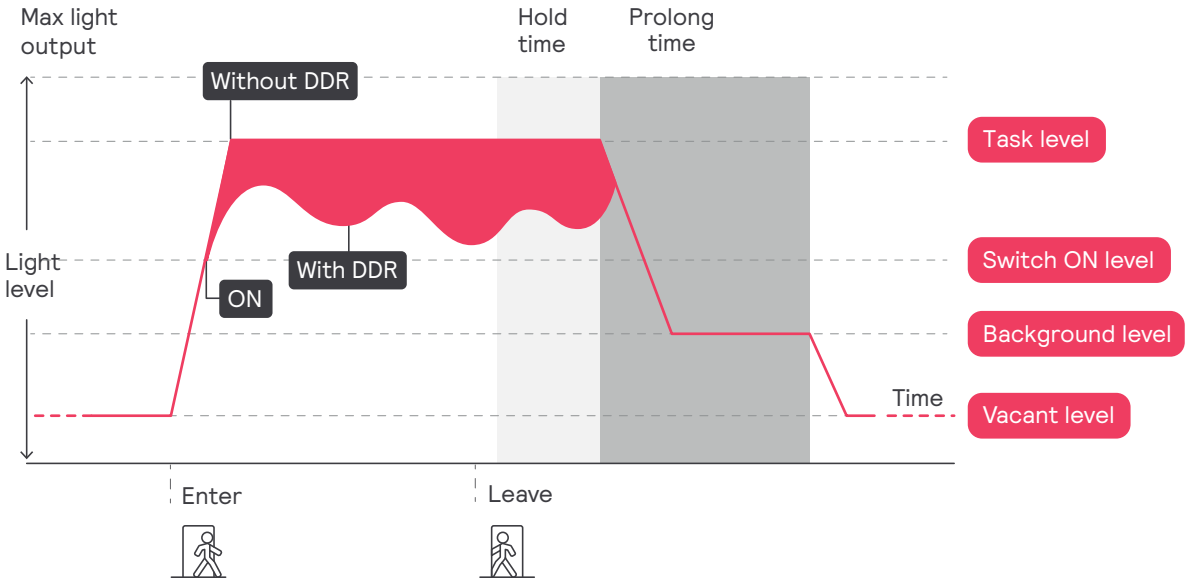
It is extremely important the light calibration is done without external sources of light other than the controlled luminaires, meaning it is highly recommended to do the process at night, due to constantly turning on and off the luminaires.

If the desired level for an area is lower than the initial light output of the luminaires, the system allows you to change the task level to a different percentage and adjust the final light output of the area.

4.1.2 Light behavior templates

The Light behavior templates are a set of pre-configured parameters that match the average system requirements. If a template is selected when an area is created, all the luminaires inside that area get their light behavior based on the configured template.

In case it does not match the desired requirements, the system also allows to edit the light behavior parameters one by one to achieve the desired behavior.



Vacant level 0-100%
0%

Background level 0-100%
0%

Task level 1-100%
100%

Hold time 5-60 min
10 min

Prolong time 0-30 min
0 min

The light behavior templates are:

Area Auto On Auto Off
When occupancy is detected in the area, all luminaires go to task level. The luminaires are switched off if the area is vacant for longer than the hold time.

Area Auto On Auto Off with DDR
When occupancy is detected in the area, all luminaires go to the user selected “Switch on level”, which is explained later, and starts dimming up or down until the task level is matched. Daylight regulation is done per individual luminaire. The luminaires are switched off if the area is vacant for longer than the hold time.

Area Manual On Auto Off
The luminaires are turned on manually via a switch. They automatically switch off when no occupancy is detected.

Area Manual On Auto Off with DDR
The luminaires are turned on manually via a switch. All luminaires go to Switch on level and start dimming up or down until the task level is matched. This daylight regulation is done per individual luminaire. After no occupancy is detected they automatically switch off.

Area Manual On Manual Off
The motion sensor and light sensor are disabled and the only way to control the lights is using a switch, APIs (custom applications), schedules or the LightControl app.

The custom parameters that can be edited per area are the following:

Hold Time
The time it takes for the sensor to wait for occupancy until it determines to change to a vacant state. If a background level and time are defined, it goes to this level, otherwise it goes directly to vacant level which is usually off.

Prolong Time
The time the sensor maintains the background level after the regular hold time of the sensor.

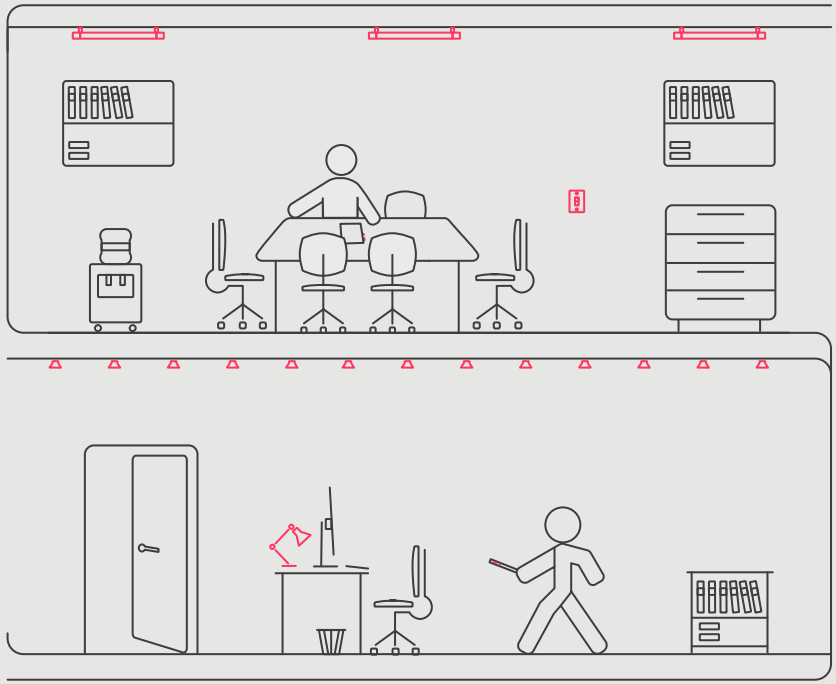
Switch On Level
Switch on level is used only when DDR is enabled, as soon as the area is on instead of always going to 100% and dim down to the correct level, the lights go to switch on level, allowing the user to adjust an initial light level to start the light regulation to the desired task level.

Task Level
When a template without DDR is used, this is a percentage of the light output of the luminaires. If DDR is enabled the task level represents a percentage of the lux level which it was initially calibrated.

Take in to account the light output does not behave in a linear projection, meaning if 50% is set as task level it might not match exactly 50% of the light output. If a precise lux level is required, it is advised to measure with a lux meter and adjust the task level until the correct level is achieved.

Background Level
The light level used during the prolong time. This background level is used as a warning level before the lights turn off completely.

Vacant Level
The light level used when the sensor is in vacant mode. This level is maintained until the next movement is detected. This light level is often used to prevent the lights to switch off completely.



4.1.3 Schedules

There are two options while using schedules.
The first option is to directly set high, medium, low or off options. This disables the motion and light sensors, leaving the system at the selected level until another schedule changes it back to automatic mode.

The second option is to edit the automatic behavior of the areas by changing parameters, for example if the task level is changed with a schedule, the light level changes but the sensors still work as defined in the template.

Schedules run from the LightControl app, on a recurrent weekly basis. The user can easily select the time, weekdays, light behavior and the scope, which could be for one or multiple areas, one or multiple floors or the complete building.

4.1.4 Manual light control

There are 3 ways to control the lights from the user perspective, via the following:

- wireless switch
- an application using the APIs
- LightControl app

Wireless switch

The wireless switches supported by the system are Zigbee green power (ZGP). This is a standard protocol which enables light control.

Currently a 2-button switch is supported. A single press turns on/off the lights, and a long press dims up or down.

Application using APIs

The light control API can be used to control the lighting areas via third-party applications.
Only fixed dim levels are supported and both manual and central override are possible. No dim up or down functionality is supported.

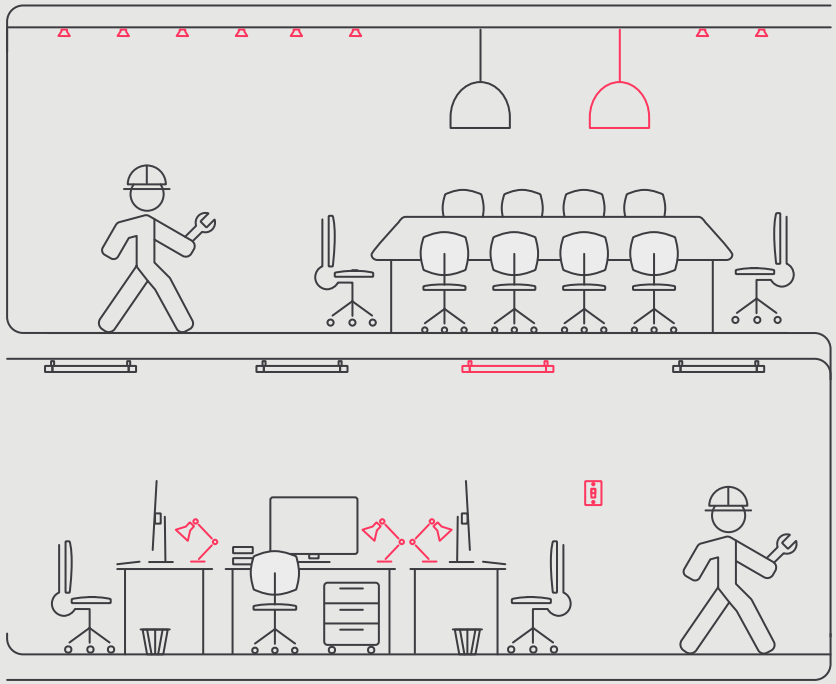
LightControl app

Note

Only certain users have access to the LightControl app.

The LightControl app features central override commands, such as high, medium, low, off and auto, to control the lights. The app features both floor and area level control.

The application has live feedback only on the commands sent from the dashboard to the system. On floor level, if all the areas are on the same central override status, that button is highlighted completely, otherwise be a red dot is displayed on the buttons if at least one area on the floor is in that status.



4.2 Maintenance

4.2.1 Failures

Failures are reported via LightOperations. There are 2 type of failures represented by a full red luminaire or a red dot on the corner of the luminaire.

On a full red luminaire, the system supports the following failures which can be filtered to only see the desired one:

Firmware upgrade failure
This relates to errors due to poor Zigbee communication or power cycles during a firmware update. Follow the firmware update recovery procedure on the commissioning guide to recover luminaires in this state.

Deployment failure
A deployment happens when the light behavior template and parameters are saved in the sensor. This problem can occur due to poor Zigbee communication or power cycles during the deployment. You can manually re-deploy after conditions are better to solve the issue.

Driver failure
A driver failure means the driver is broken, meaning it can no longer power the LED board, but it is still able to report the failure to the sensor. To recover from this failure, a repair or replacement of the driver is required.

Light source failure
Often known as lamp failure, this failure type refers to a failure in the LED board. This could be related to a broken or disconnected LED board. To recover from this failure, correct the connection from the driver to the LED board or replace the LED board in case it's broken.

No metrics/luminaire offline
A red dot at the corner of a luminaire means there are no metrics reported from that sensor for the last 30 minutes to the cloud.

This could be due to multiple causes, such as:
- a luminaire without energy
- a broken sensor
- an unintended reset
- a firmware upgrade in progress
- no communication possible to the gateway

The only way to verify if the luminaire is not connected or energized is by sending a sign-on command via the dashboard.

4.2.2 Replacing devices

The system allows for an easy replacement of devices using the graphical dashboard.

On-site commissioning is still required to replace luminaires.

4.2.3 Remote firmware updates

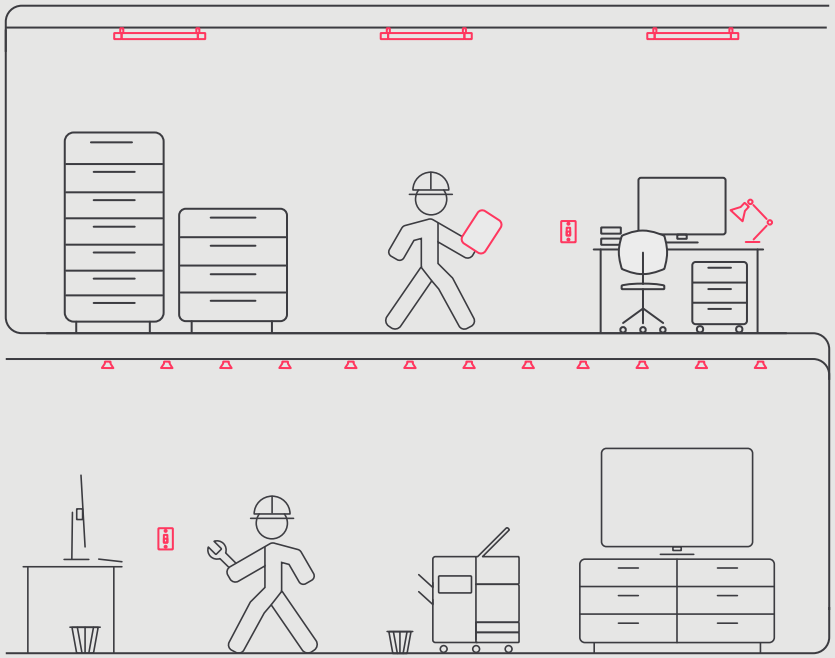
Firmware updates are performed remotely via a push of a button via the cloud. Each updated is required to improve compatibility with the cloud system or push new functionality, as well as security or performance updates.

BCBs, gateways and sensors are updated automatically. The process takes a long time due to limitations in the Zigbee network bandwidth. Since it's a broadcast process, it is more scalable, without any difference between upgrading 1 or 200 sensors in parallel.

Note

If a luminaire is unreachable or not powered during the update process, the update needs to be repeated.

During the process, all luminaires are turned to 100% and light behavior is disabled.



4.3 Commissioning and setup

4.3.1 Remote preparation

Using the LightIntake app for a selected building, the floors of that building are created.

For each floor, a graphical representation of the project added and saved in the cloud. This representation includes a floorplan image, all luminaires, sensors, gateways, switches and devices placed on the floorplan.

All the logical areas are drawn with a selected light behavior template and linked to a gateway. The system validates the design per floor to avoid issues during on-site commissioning.

Luminaire or device localization or mapping
The localization or mapping process is required to link the physical devices to their digital representations in the cloud. This allows the system to display information based on the input from the real devices on the floorplan created via the dashboard.

As soon as a luminaire is localized, the icon on the dashboard changes from white to blue, meaning it joined the network.

4.3.2 Flash commissioning

This is the conventional way of localizing a luminaire by flashing, or repeatedly turning on and off to visually identify which luminaire it is and correlate with the graphical representation on the software. This process is fully random as there is no practical way to pre-select in which order the luminaires join the network.

4.3.3 IR commissioning

IR mapping takes advantage of the IR receiver of the sensor. Since Interact Office and Industry Wireless is a sensor-based system that commonly has one sensor per luminaire, the IR remote can identify a single luminaire.

4.3.4 QR Code commissioning

Gateways and BCBs are mapped by reading the QR code printed on the device with a PC or mobile device. As an alternative, the MAC address, serial number and 12NC can also be manually typed in.

4.3.5 Service button or button combination commissioning

Devices that lack an IR receiver, such as switches and sensors are mapped by physically pushing a button or a combination of buttons for it to be identified in a certain time slot.

4.3.6 Deployment

The deployment process starts after the all devices are localized. The process saves all light behavior, areas and properties from the cloud to the sensors. The luminaire representation in the interface is blue while the process is running and turns green as soon as it is finished.

A green luminaire represents a fully functional luminaire with all configuration saved to the device which already works as intended.

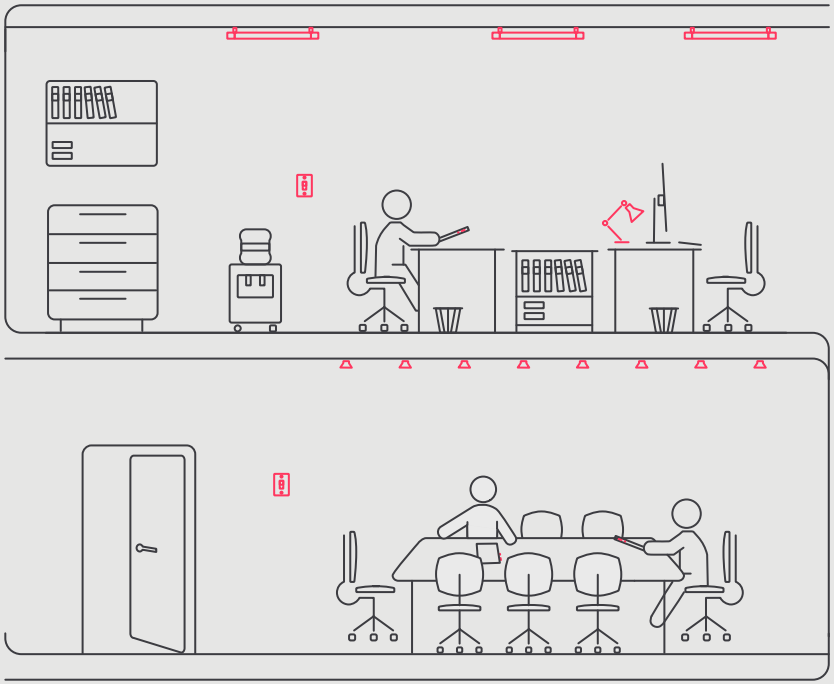
4.3.7 Simultaneous commissioning

It is not recommended to commission the same building with two or more IR controllers and dashboards opened simultaneously. This is because when localizing luminaires, the gateway opens the network for a couple of minutes. If two persons are commissioning luminaires within the network's reach, there is no way to guarantee they join the correct gateway or are mapped to the correct luminaire.

The only way to simultaneously commission in the same building is when the mesh networks of both gateways are out of reach from each other.

Note

A mesh network can reach adjacent floors of the same building. It is only possible to do a simultaneous commissioning by making sure to work on different gateways which can not affect each other, meaning it is not possible for a luminaire to join the incorrect gateway.



4.4 IoT apps

This section covers applications which go beyond traditional light control and energy savings and provide additional benefits and value.

4.4.1 Space management

Space management is an extended (optional) web application which uses the Interact cloud system and supports the following features:

- Cloud-hosted application with enterprise scalability.
- Intuitive user interface and flexible navigation menu allowing users to quickly switch between areas and choose real time or historical data.
- Rich visualization including various data representations and occupancy heatmaps.
- Integration with PIR and People Count sensors.
- Detailed insights into historical space utilization.
- Real time occupancy with color coding indication for occupied and unoccupied spaces.
- Real time people count information per area.

Note

Only feasible with People Count sensors.

- Meeting room analytics.
- Option to download data in CSV format for further analysis.

4.4.2 Kiosk Application

Kiosk application is a software app designed to run on a fixed spot of the office, working as a touch interface for users to achieve the following benefits and features:

- Easy to deploy cloud-hosted application.
- Enterprise scalability.
- Map view of the office inclusive of all Points of Interest (PoI) located in a floor such as desks, meeting rooms, lifts, fire exits, and so on.
- Interactive map with flexible location navigation menu and option to search for a PoI.
- Integration with PIR and People Count sensors.
- Real time occupancy information allowing users to see at a glance if, where and what desks and rooms are available.

Note

Desk availability only possible with people counting sensors.

- White-label.

4.4.3 Workspace app

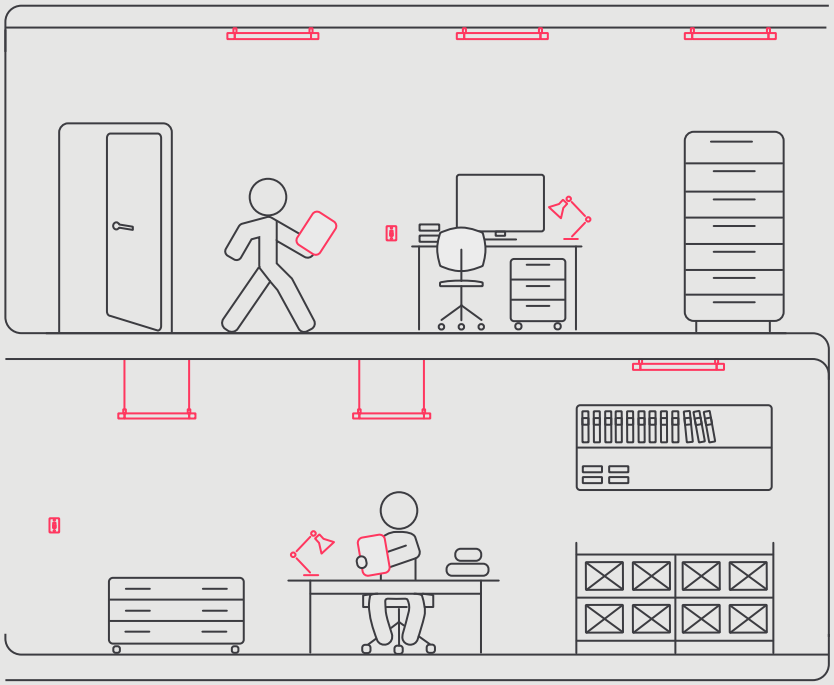
Workspace app is a smartphone application which can be used to interact with the system, providing the following benefits and features:

- Cloud-hosted application with enterprise scalability.
- Personalized greeting.
- Map view of the office inclusive of all Points of Interest (PoI) located in a floor such as desks, meeting rooms, lifts, toilets, and so on.
- Interactive map with flexible location navigation menu and option to search for a PoI.
- Integration with PIR and People Count sensors.
- Real time occupancy information allowing users to see at a glance if, where and what desks and rooms are available.

Note

Desk availability only possible with people counting sensors.

- Integration with Microsoft Outlook to check room availability, make reservations and synchronize room reservations between Kiosk and Outlook.
  - Company newsfeed.
  - White-label.



4.5 Cloud and remote services

Interact Office and Industry Wireless are cloud-based systems.

The Software-as-a-Service (SaaS) license includes the following features and services:

- Storage of energy data with a granularity of 1 metric/minute/light point derived from accumulated power usage in driver.
- Storage of occupancy data metrics: occupancy data/1 minute/sensor. 2 min for ZGP sensors.
- Visualization of historical lighting energy usage per building.
- Visualization of historical occupancy usage per floor.
- Visualization of driver or system component failures per floor.
- Comparisons of lighting energy usage between buildings.
- Heatmap of occupancy usage on a floorplan.
- Remote firmware updates to sensors and gateways.
- Enabling override control of lighting areas.
- Enabling central control via schedules.
- Enabling lighting parameters by area.

- Credential management.
- Quarterly report.
- Yearly remote system health check.
- Helpdesk and ticketing service.

A light point is defined as a single luminaire with sensor, a single tube (MasterConnect) or an SR Bridge with a sensor.

Note

Zigbee Green Power switches don't count as a light point.

4.6 System integration

4.6.1 API's

Interact Office and Industry Wireless support Application Programing Interfaces (APIs).

The following APIs are supported by the system:

- Occupancy reports – live data and streaming
- Light control
- Building model

For technical and reference documentation about APIs, check https://www.developer.interact-lighting.com/.

05 System components

This chapter details the system components used, their placement and functionality of the larger system.

5.1 IT and lighting network components

This chapter covers the following lighting network components:

- Routers and switches
  Responsible for routing network traffic between segments of the lighting network and isolating the lighting network from other networks.
- Building Connectivity Bridge (BCB)
  Provides network connectivity between the cloud and the lighting network.
- Wireless Gateway Pro (WG Pro)
  Connects the wireless luminaires to the cloud.

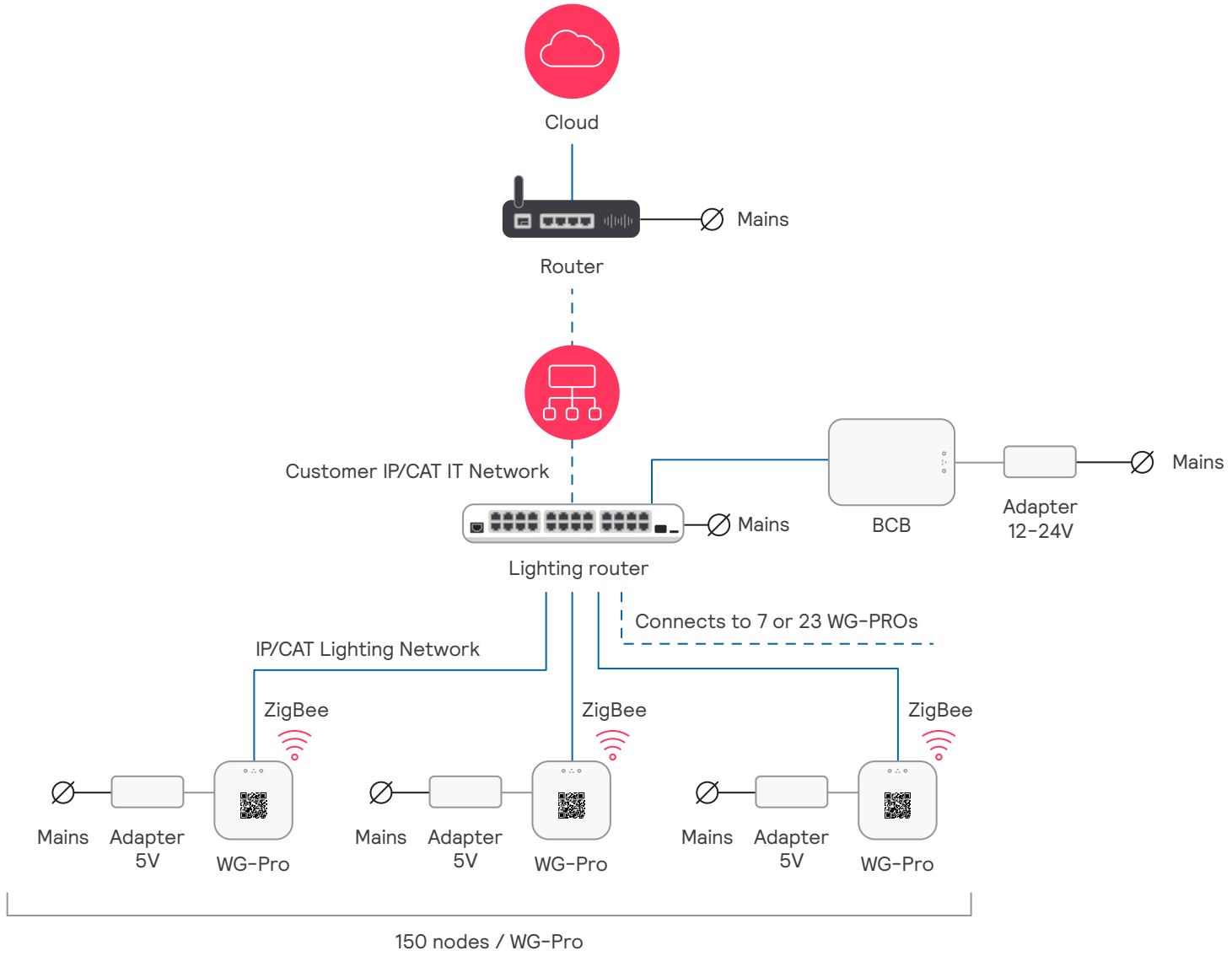


Figure 3. Diagram showing the relation of network connections and power connections

5.1.1 Routers and switches

The Cisco router is pre-configured by Signify and acts as interface between the lighting networks and the cloud via the IT network of the customer.

5.1.2 Building Connectivity Bridge (BCB)

The Building Connectivity Bridge is designed to operate in an IAO / IAI system. It is a powerful bridge between the gateways and the Cloud, enabling the following functions:

- Ease of deployment: commissioning workflow simplifications, on-line template creation for the lighting behavior, etc.
- Network scalability: highly scalable distributed network control.

Note

The BCB requires a separate power supply to be ordered in combination with the device:

- UL Markets: DMNP24040-P-NA Power supply
- CE Markets: DDNP1501 Network power supply

5.1.3 Wireless Gateway Pro (WG Pro)

The WG Pro connects up to 150 ZigBee nodes (light points) and 50 ZGP devices to the lighting system.

5.2 Luminaires and controls

This chapter covers hardware components and guidelines necessary during installation and light control, such as:

- Office sensors
- Industry sensors
- Placement of sensors
- Airflow
- Drivers
- ZGP switches

5.2.1. Office sensors

SNS400

The SNS400 is an SR sensor designed for office applications. It is integrated in the luminaire body and energized through the SR driver. It has the following components:

- PIR motion sensor, installation height 2.5 to 3 m (8 to 10 ft)
- Light sensor
- Infrared receiver
- LED indicator
- RF antenna

The sensor uses Zigbee wireless protocol to connect to the mesh network. The main functionality regarding motion detection and daylight harvesting is stored inside the sensor memory, it uses the local mesh network to share occupancy status on area level without depending on the cloud.

The second role of the sensor is to send metrics to the cloud, the metrics currently supported are:

- Energy consumption read from the SR driver or SR Bridge
- Occupancy metrics
- Failure metrics

Both firmware update and the light control behavior are deployed via the cloud.

For details about the sensor properties and motion patterns, check on the datasheet.

SNS400CMP

SNS400CMP is a regular SNS400 which includes a ring accessory to be mounted on the ceiling apart from the luminaire body. It is commonly used when in combination with downlights controlled via the SR Bridge or in any case the sensor cannot be mounted in the luminaire body.

OCC SENSOR IA CM WH

The OCC SENSOR IA CM WH is an external ZGP sensor. It is battery-powered and acts as an endpoint device in the ZigBee network, meaning it always needs to connect to a luminaire first to control the area it is mapped too.

Important

It cannot connect directly to the wireless gateway.

The commissioning of this sensor requires physically pushing the service button for localization.

This sensor can only be used in combination with smart TLEDS, wireless drivers or Interact ready luminaires also used in Interact Pro like the SNS441, this is an SR module with an antenna but without a PIR or light sensor, commonly used inside waterproof luminaires.

5.2.2 Industry sensors

SNH400

The SNH400 is an SR sensor, IP65, designed for industry high-bay applications and integrated in the luminaire body, the mechanical and cables connection is on the side of the sensor, it is energized through the SR driver and have the following components:

- PIR motion sensor, installation height 5 to 18 m (16 to 59 ft)
- Light sensor
- Infrared receiver
- LED indicator
- RF antenna

The sensor uses Zigbee wireless protocol to connect to the mesh network. The main functionality regarding motion detection and daylight harvesting is stored inside the sensor memory, it uses the local mesh network to share occupancy status on area level without depending on the cloud.

The second role of the sensor is to send metrics to the cloud, the metrics currently supported are:

- Energy consumption read from the SR driver or SR Bridge
- Occupancy metrics
- Failure metrics

Both firmware upgrade and the light control behavior can be deployed via the cloud.

The SNH400 can be mounted on a trunking riel using the riel mounting accessory LL500E IRE.

For details about the sensor properties and motion patterns please check on the datasheet.

SNHR400

The SNHR400 sensor is a variation of the SNH400 which comes with the connection at the top middle of the sensor, allowing to be installed in the center of a round high-bay luminaire.

OCC SENSOR IA CM IP65 WH

The OCC SENSOR IA CM IP65 WH is an external ZGP sensor. It is battery-powered and acts as an endpoint device in the ZigBee network, meaning it always needs to connect to a luminaire first, in order to control the area it is mapped to.

This sensor is designed for mid-bay applications working from 2.4m up to 8m. It is used in waterproof applications which require an IP65 rating.

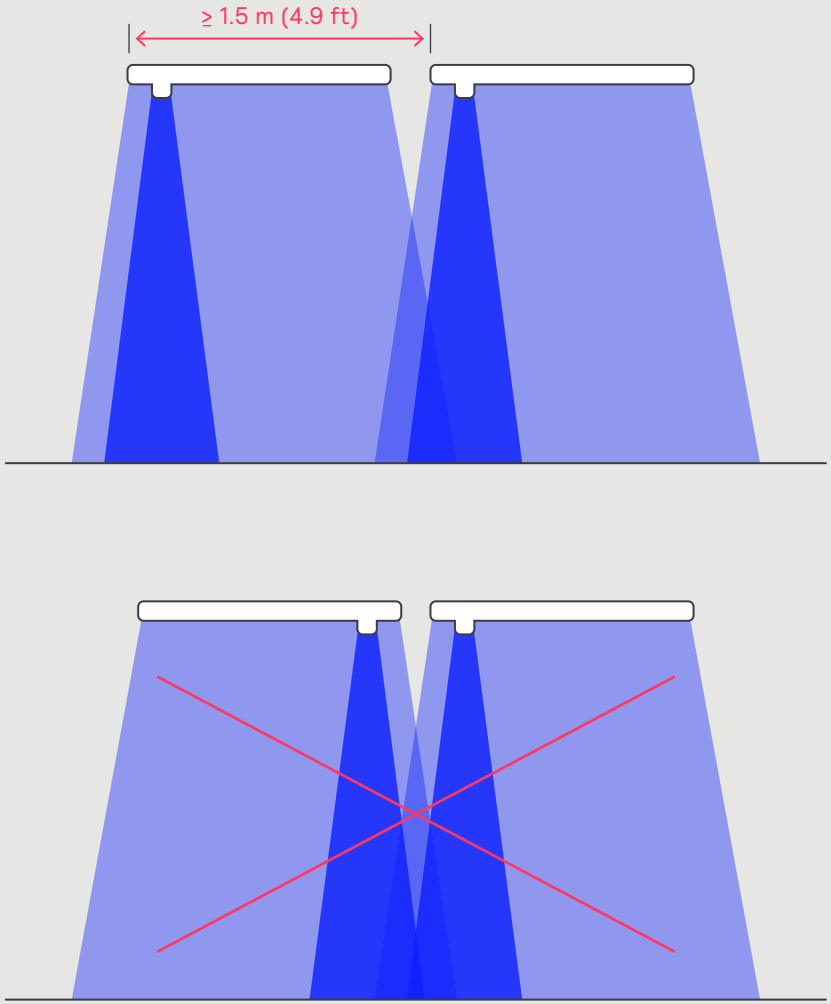
Important

It cannot connect directly to the wireless gateway.

The commissioning of this sensor requires physically pushing the service button for localization.

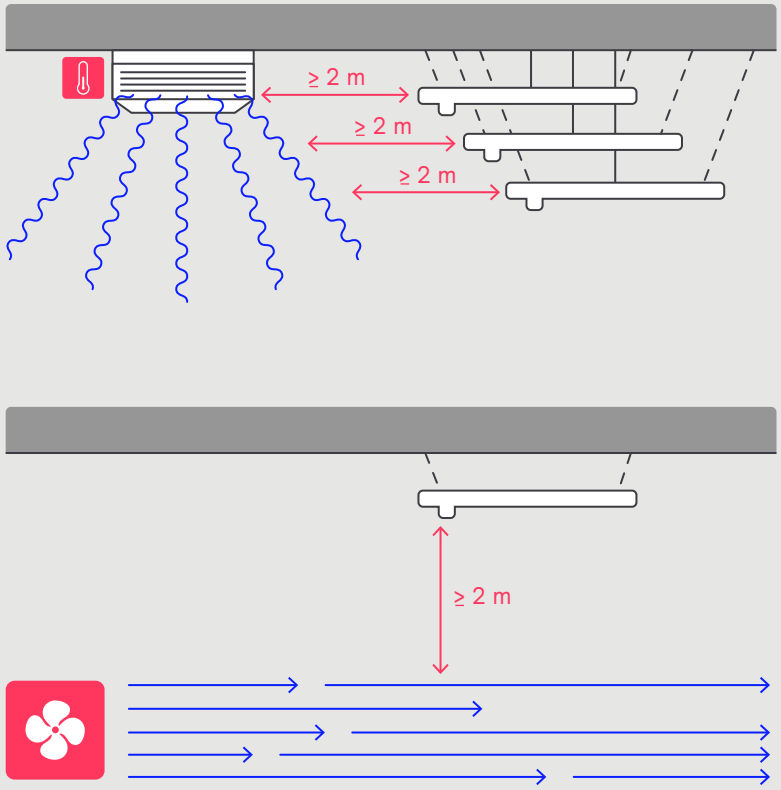
Note

- This sensor can only be used in combination with smart TLEDS, wireless drivers or Interact-Ready luminaires also used in Interact Pro, such as the SNS441.
- This is an SR module with an antenna but without a PIR or light sensor, commonly used inside waterproof luminaires.



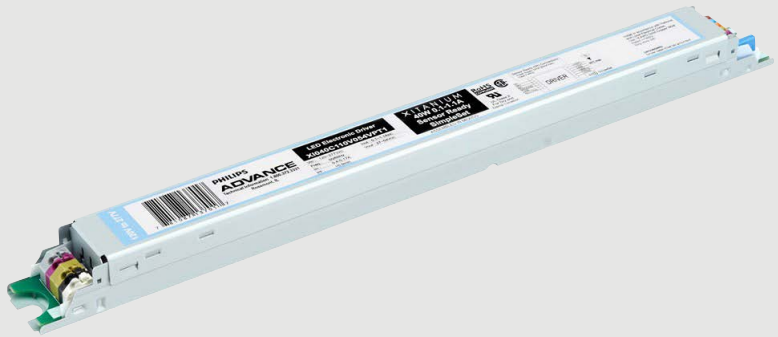
5.2.3 Placement of sensors

If multiple luminaires are used in the same area, the distance between the different sensors should be at least 1.5 m (4.9 ft.). This distance minimizes the effect of a sensor responding to light variation of other luminaires.



5.2.4 Airflow

The movement detector is sensitive to airflow from heating/ventilation systems. Large airflow close to the sensor may result in undesired triggering of the sensor. It is advised to place the sensors as far as possible from an air outlet. A distance of 2 m (6.5 ft) is recommended but not required for the system to behave correctly. The distance can vary, depending on the airflow speed and length, the difference between the airflow temperature, the ambient temperature, and sudden changes in temperature.



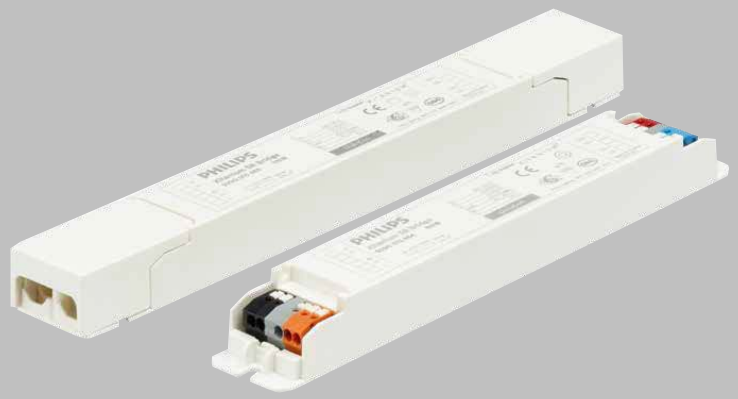
5.2.5 Drivers

The drivers covered below are supported by Interact Office and Industry Wireless.

Xitanium SR LED driver

The LED-driver is designed for use with sensors in building management systems. Via an integrated power supply, sensors and wireless modules are powered directly from the driver. The driver also features integrated energy metering for use in building management systems.

Optionally, the driver is programmable to the required power output via the NFC-chip that is attached to the driver.



SR Bridge
The SR Bridge can be used with existing drivers to create an SR system. This is useful to connect for example multiple downlights to a single sensor or to use a single sensor for multiple trunking luminaires. The SR Bridge connects the sensor and, depending on the region, DALI or 1-10 V drivers, integrating the light point into the wireless lighting network.

Emergency driver
The emergency drivers integrated with the LED driver enable the possibility of emergency luminaires in the lighting system. After a power failure, the luminaires equipped with emergency drivers remain on at a certain light level for at least 90 minutes.

Wireless drivers
The wireless drivers are used in Interact-Ready luminaires. They allow a luminaire to be connected to the ZigBee mesh network without the need of a sensor in every luminaire.

Wireless driver-based luminaires can only be controlled using ZGP sensors, ZGP switches, Schedules, the LightControl app or API applications, it is not possible to mix them with SR sensors such as SNS400 or SNH400 in the same area.

They can only be combined with smart TLEDs, this restriction only applies to area control since all device types can share the same gateway and mesh together without any issue.

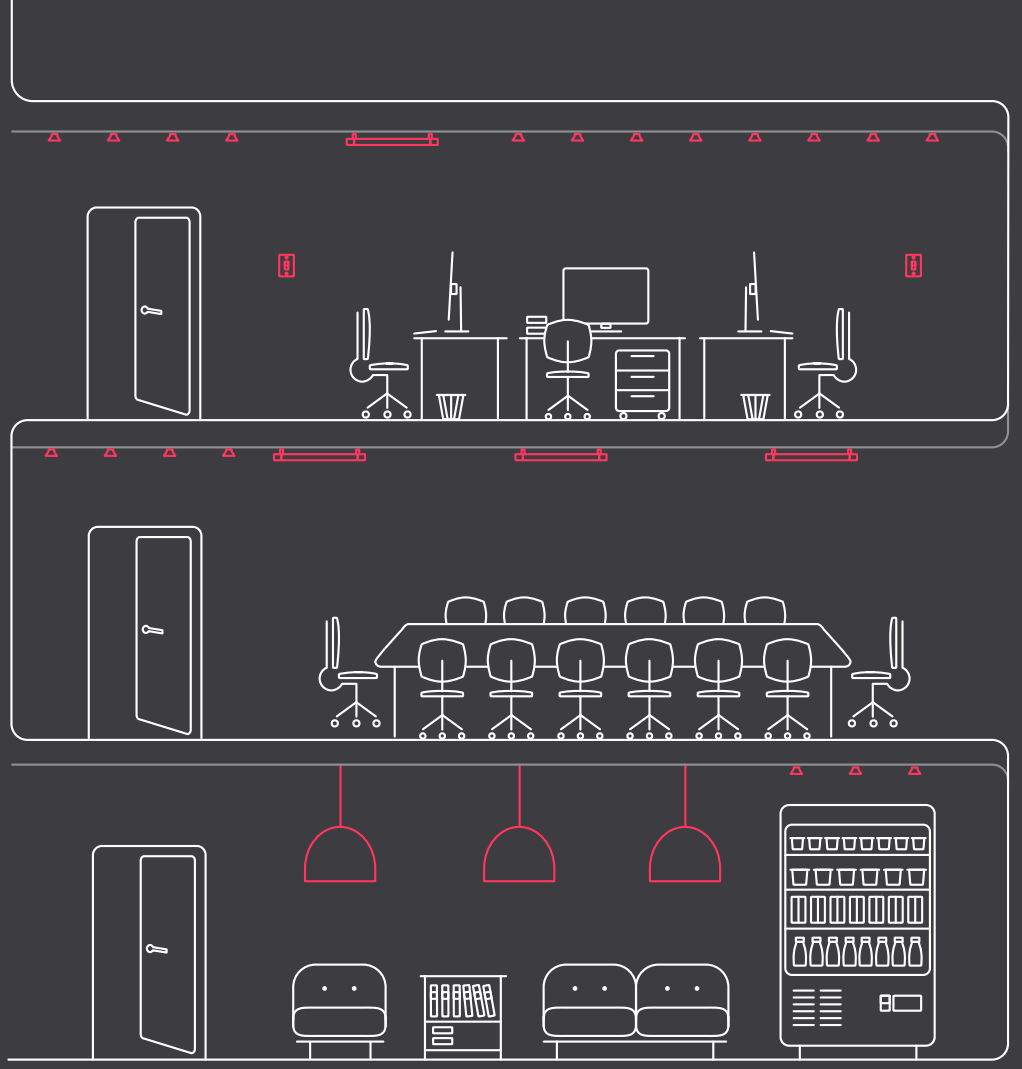
Wireless drivers can only be localized by flashing as explained on the features chapter.

5.2.6 ZGP switches

UID8450/10 ZGP Switch Dim 2B
The UID8450/10 is a 2-button wireless ZGP switch. It does not contain a battery inside but every time the user presses a button it generates the energy to send the command to the ZigBee network.

It supports a single press to turn on/off the area, or a long press to dim up/down.

The commissioning is done by removing the front button panel and pressing the button combination as indicated on the LightMap app.



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