

Store Flex

Release 1.7

Store centric lighting controls,
suitable for tailor made retail
solutions



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01 General



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01 General

1.1 About the document

The document relates to Store Flex Release 1.7.

This document describes the design of the architecture variant Store Flex, which is an advanced lighting control solution for retail applications. It is the most complete lighting solution in the market, capable of handling small optimized solutions up to highly advanced installations covering multiple areas, zones, presets and schedules.

1.2 Intended audience

The information in this guide is specifically intended for System Centers, installers, site engineers, and customer IT departments.

The instructions are placed in logical chapters and in chronological order. When following the procedures, you must be able to design, install and commission a functioning lighting system.

1.3 Related documents

Refer to other documents for more information:

Mini Kit 1.2

- *Quick start guide*
describes the installation, commissioning, configuration, and usage of the lighting system.

Kit 2.3 (with gateway or touchscreen)

- *Quick start guide*
describes the installation, commissioning, and configuration of the lighting system.
- *User guide for Store Control UI*
describes the usage and configuration of the user interface of the lighting system.

Flex 1.7

- *System guide*
describes the system design and how this design can support the requirements of a customer.
- *User guide for Store Control UI*
describes the usage and configuration of the user interface of the lighting system.

01 General

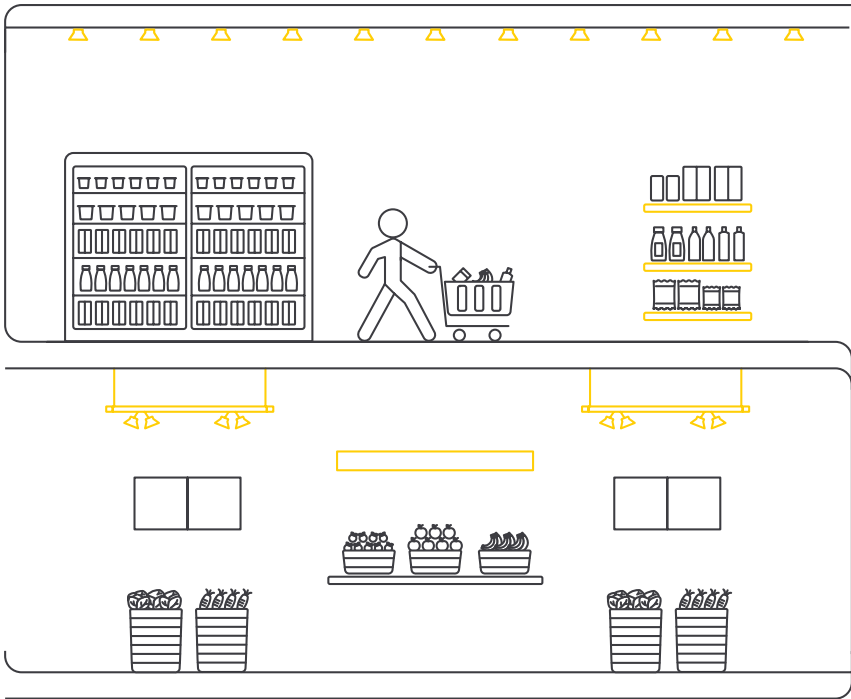
1.4 Abbreviations

The following abbreviations are used throughout the document:

Abbreviation	Explanation
BLA	Base Link Area
BMS	Building Management System
BoM	Bill of Materials
DALI	Digital Addressable Lighting Interface communication protocol
DMX	Digital MultipleXed communication protocol
DSI	Digital Serial Interface communication protocol
HVAC	Heating, ventilation, and air conditioning
IR	Infrared
PDDEG-S	Philips Dynalite DIN-rail Ethernet Gateway – Supervisor (in short: Ethernet Gateway Supervisor)
PDEB	Philips Dynalite Ethernet Bridge (in short: Ethernet Bridge)
PDEG	Philips Dynalite Ethernet Gateway (in short: Ethernet Gateway)
PE	Photo electric
PIR	Passive Infrared

Abbreviation	Explanation
PWM	Pulse-Width Modulation phase cut dimming
STP	Shielded Twisted Pair
UI	User interface
BSR	Business Support Request
C4CS	Ticketing system capturing customer tickets
C-ROC	Signify Customer Remote Operating Center
C-SAT	Customer Satisfaction
CSI	Certified System Integrator
GSO	Global Software Operations
OTRS	Ticketing system capturing corporate tickets
SAP	Enterprise software for customer management

01 General



1.5 Terms and definitions

The following terms and definitions are used throughout the document:

Term	Definition
Format	A group of sites with similar design or style (In retail also known as the formula). Every site belongs to only one format (e.g., supermarket, convenience store).
Area	A lighting control area (for example Sales floor or Back of house)
Scene	A specific set of light levels that can be edited and recalled, sometimes also referred to as Preset.
Logical channel	A lighting control sub-zone included inside an area (like Bakery spots or Bakery counter)
Schedules	Set of all scheduled events (simple events, special events, holidays) that automatically control the lighting of the sites in a specific format
Store Control UI	User interface of the system used on a tablet or touchscreen (in short: UI)

02 System description



2.1 System architecture

2.2 Formats and application

2.3 Upgrade scenarios

02 System description

2.1 System architecture

The Store Flex system is an onsite lighting system that is tailored to the needs of the customer. It can be applied in all store formats but is specifically aimed at the supermarket and hypermarket segment.

The system is based on Dynalite components that allows for wired, wireless or hybrid control solutions like DALI, Zigbee, 0-10V or relay switching to bring the highest level of lighting control to a store.

2.1.1 Benefits

While being targeted at retailers that value one or more of the principles of the system, expected key benefits are:

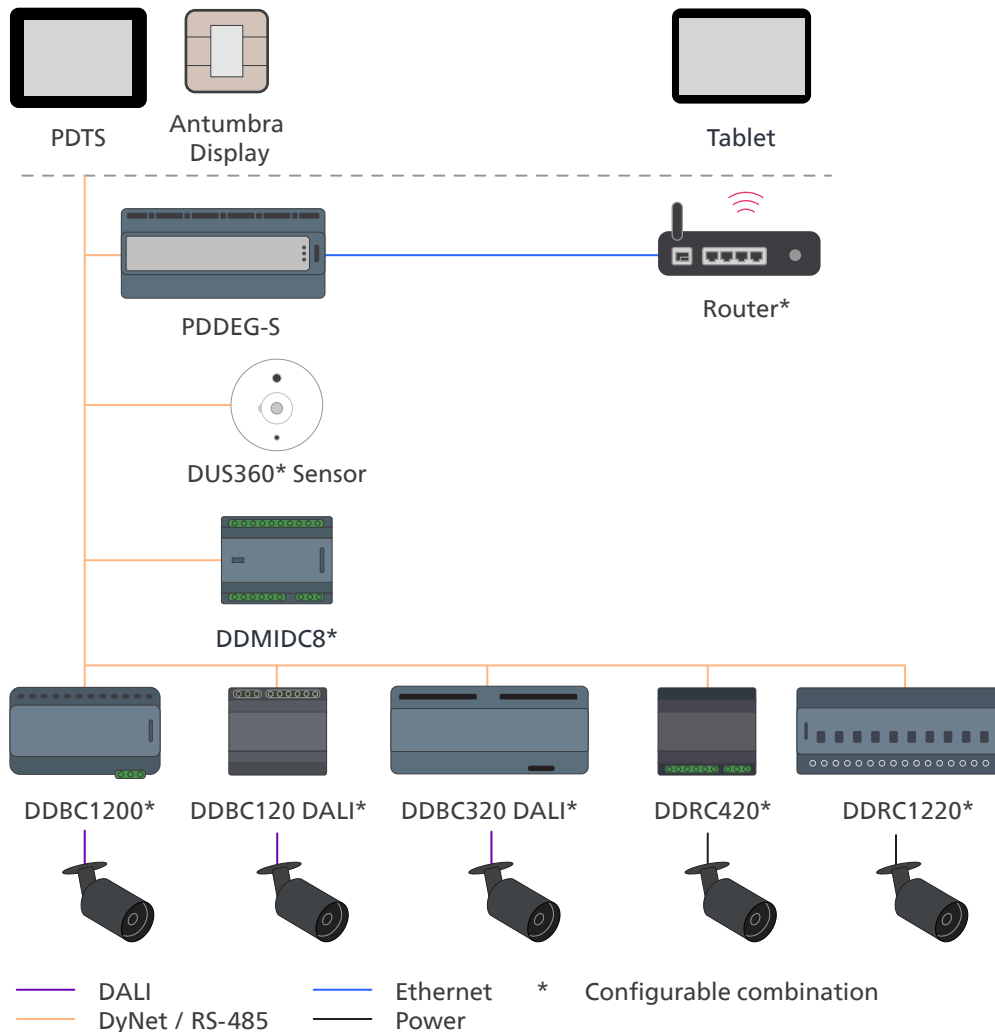
- Maximize energy savings by easy scene and schedule management
- Improve in-store ambiance
- Easy to use user interface for controls and configuration of the system
- Easy installation and maintenance
- Future proof and upgradable

Upgrade scenario

Upgrade existing sites to grow the system with the store, expanding on features and insights without compromises on usability.

It is also possible to connect different sites to the cloud and start using Multisite System Manager, centrally managing and monitoring the lighting at all sites, making sure that all have the same look and feel.

02 System description



2.1.2 Architecture

All architectures operate onsite with a wired architecture, consisting of Philips Dynalite lighting control components.

Gateway

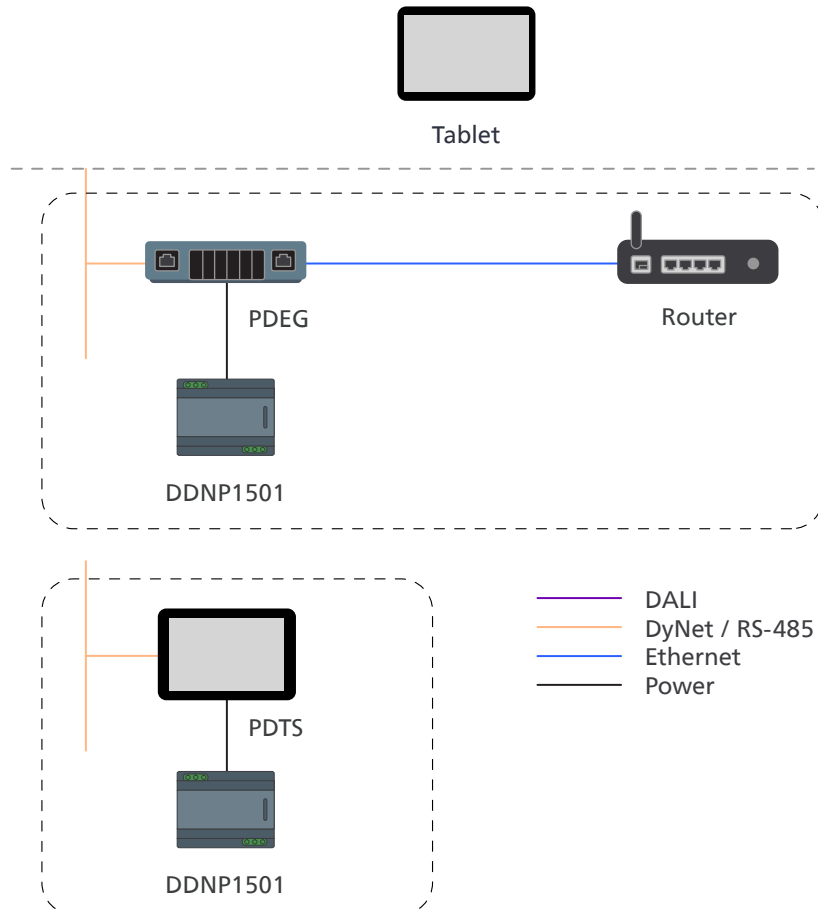
The Ethernet Gateway (PDDEG-S) functions as the 'central store controller', interconnecting the onsite hardware. The device:

- Provides access to the Store Control UI that enables scenes and schedules management;
- A connected Wireless Access Point enables the Store Control UI to be accessible via a mobile device;
- Offers a fully futureproof system that is ready to upgrade to Multisite, where the PDDEG-S will act as Site Gateway, safeguarding secure cloud connection.
- Tailored to the needs of the customer.
- Supports BACnet, integrating with Building Management Systems (BMS).

Note

The router and the mobile device (tablet) are not part of the Signify delivery.

02 System description



PDEG Ethernet Gateway or PDTs Touchscreen

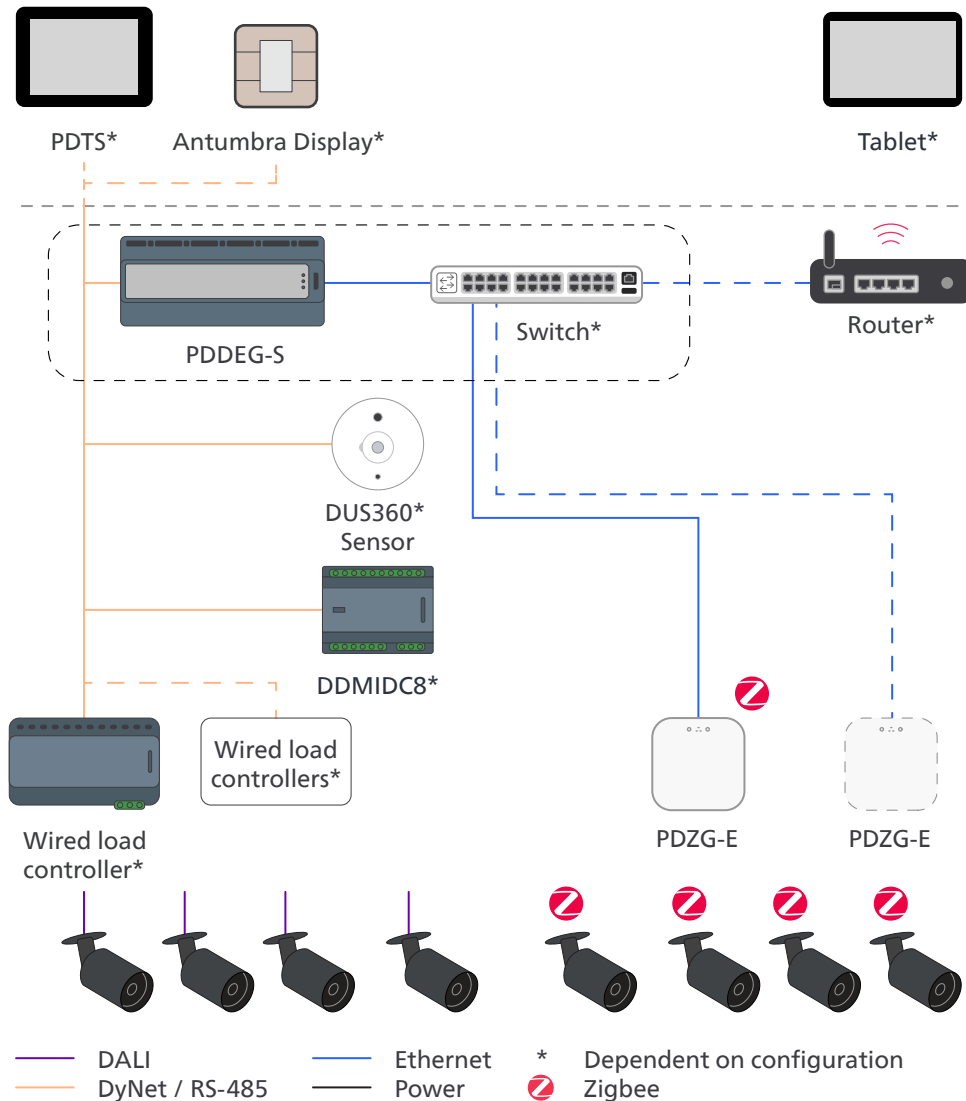
Alternatively, the PDEG and PDTs can also be used as central store controllers.

- The devices include similar features as the PDDEG-S, providing access to the Store Control UI that enables scenes and schedules management.

Note

- Only one device can act as the central store controller.
 - It is possible to combine a PDTs with a PDDEG-S (for example when using wireless controls), but the Store Control UI can only be used on one device.
-
- A DDNP1501 Network power supply is required.
 - The PDEG Ethernet Gateway can connect to a Wireless Access Point to enable the Store Control UI to be accessible via a mobile device.
 - The PDTs Touch Screen offers a local wall mounted user interface for the Store Control UI.
 - When using a PDTs touchscreen in combination with a PDDEG-S or PDEG Ethernet Gateway, the PDTs can then only be used as a scene controller. In this specific case, configuration of schedules is not possible.
 - Upgrade to Multisite is not possible without installation of a PDDEG-S that requires complete recommissioning of the system.

02 System description



2.1.3 Wireless architecture

The wireless architecture is an extension to the wired architecture of Store Flex.

As in wired Store Flex, the PDDEG-S functions as the 'central store controller'. A PDDEG-S Ethernet Gateway:

- Connects up to 25 PDZG-E Wireless Gateways to the system by using its Ethernet connectivity capabilities.
- Ensures the secure connection between the PDZG-E Wireless Gateways and the rest of the DyNet network

The PDZG-E Wireless Gateway:

- Links the wireless Zigbee network over Ethernet to the wired DyNet network;
- Connects up to 60 wireless nodes (luminaires and/or transceivers) via Zigbee

 **Note**

The router and the mobile device (tablet) are not part of the Signify delivery.

02 System description



Store Flex wireless supports easy commissioning with the Philips Dynalite Enabler app, using the Bluetooth functionality of each luminaire and/or node.

Note

As an alternative, also the PDT5 Touchscreen can be used as 'central store controller'. However, a PDDEG-S Ethernet Gateway is still required to ensure the secure connection between the PDZG-E Wireless Gateways and the DyNet network.

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2.1.4 Controllers

Store Flex

The correct combination of control components creates a robust controller network and brings the highest level of lighting control flexibility to a store, enabling:

- Wired load controllers (for example: DALI Broadcast, DALI Addressable, DMX, 0-10V, Relay)
- Wireless devices (Philips wireless luminaires, SC100 IA transceivers)
- Daylight & occupancy sensing via DyNet sensors to dynamically adjust lighting to local conditions
- Scene control with dimming & zoning
- Local manual override, plus integrations with Building Management Systems (BMS), alarm systems, etcetera

Note

Currently, sensing and data collection is not supported via wireless nodes like the SNS210 IA. It is possible to use DyNet or DALI sensors instead.

2.1.5 Topology

Wired architecture

In the wired architecture, the central store controller connects to the control equipment by means of DyNet via RS-485 or Ethernet cabling. Luminaires are connected to the load controllers, depending on the type of luminaire, by means of power and/or control cables.

Wireless architecture

In the wireless architecture, the function of the load controllers is taken over by the PDZG-E Wireless Gateway, that connects wireless devices to the associated network. The Wireless Gateways are via Ethernet connected to the PDDEG-S Ethernet Gateway. Each Wireless Gateway can join a wireless network that can consist of up to 60 wireless nodes.

02 System description

Wireless Group Control (WGC) is also possible, which is wireless control of a DALI broadcast group. This can be achieved by using one of the following devices:

- **SC100 IA transceiver with a Xitanium SR Bridge**
A SR transceiver connected to the SR interface of the Bridge enables control of a group of luminaires via the DALI interface of the Bridge and the mains relay integrated in the Bridge. The Bridge supports a maximum of 20 DALI drivers per SR Bridge or up to 400 VA switching capacity . See the specifications of the SR Bridge for all details.
- **SC100 IA transceiver with a DALI Extender**
Extends the SR bus, to which a SR transceiver can be connected, to the DALI bus, enabling multiple applications. The DALI Extender supports up to 20 DALI drivers. See the specifications of the DALI Extender for all details.

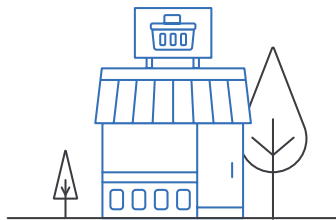
Note

- It is possible to use the SC100 IA in combination with SR-driver as applied in certain luminaire ranges. Check the documentation of the SC100 IA for more information.
- Currently, sensing and data collection is not supported via wireless nodes like the SNS210 IA. It is possible to use DyNet or DALI sensors instead.

02 System description

2.2 Formats and application

2.2.1 Formats



Express & convenience

Convenience stores and express formats are smaller local stores.

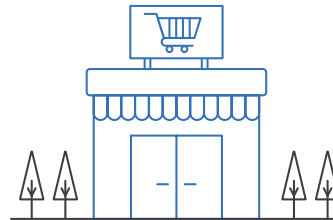
Characteristics

- Stores with a smaller assortment
- Convenient formats are found in smaller villages, city centers or for example holiday resorts
- Express formats are typically found in places with high traffic

Typical size

Floor area: $\leq 500 \text{ m}^2$

Light points: ≤ 200



Supermarket

Stores in this format are typically larger supermarkets, fashion, and DIY retail formats.

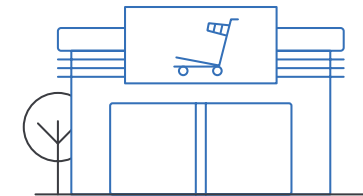
Characteristics

- Stores with a large assortment
- Supermarkets and fashion retails found in all kinds of shopping areas, e.g., city centers
- DIY retails mostly found at the edges of a town

Typical size

Floor area: 500 to 3,000 m²

Light points: 200 to 1,000



Hypermarket

This format includes all very large stores that often have more assortments than groceries alone, or department stores.

Characteristics

- Stores with multiple assortments
- Hypermarkets/Wholesalers mostly found at the edges of a town
- Department stores often in the city centers

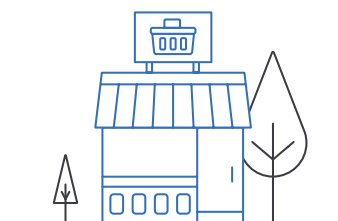
Typical size

Floor area: 3,000 to 10,000+ m²

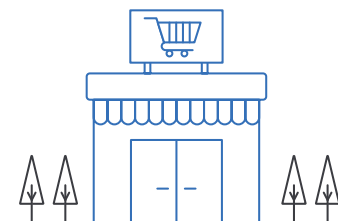
Light points: 1,000 to 5,000+

02 System description

2.2.2 Typical application examples



Express & convenience	
DALI addressable	
Controls	
Ethernet gateway	1x PDDEG-S/PDEG/PDTS
DALI control	3x DDBC120-DALI or: 1x DDBC320 DALI
Relay control	1x DDRC420
DALI broadcast	
Controls	
Ethernet gateway	1x PDDEG-S/PDEG/PDTS
DALI control	1x DDBC1200
Relay control	1x DDRC420

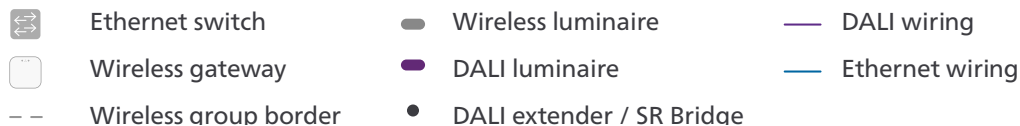
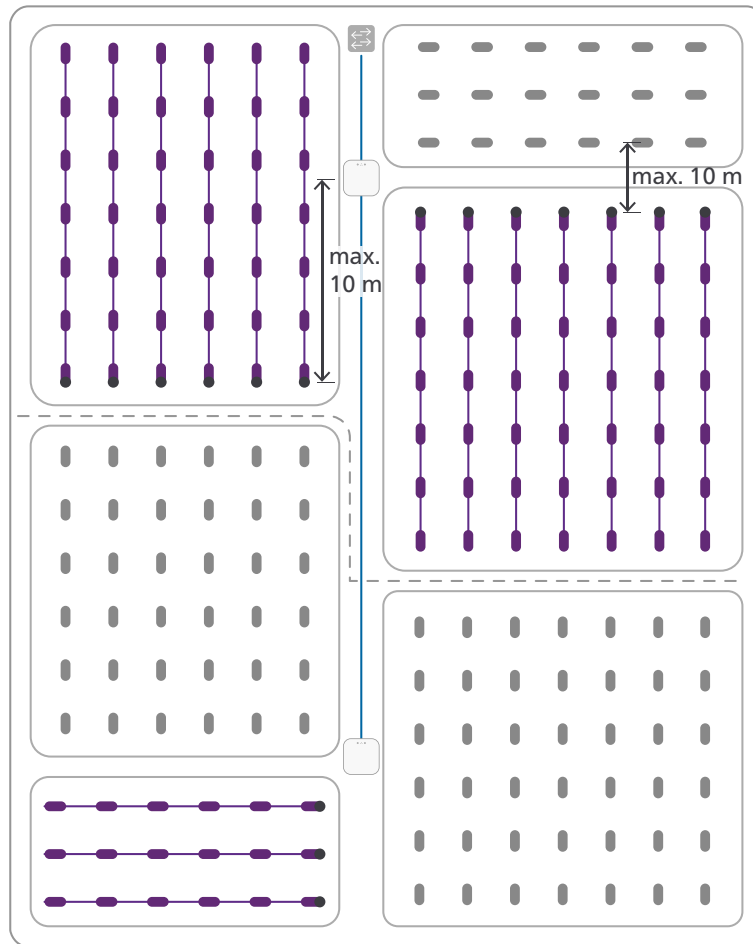


Supermarket	
DALI addressable	
Controls	
Ethernet gateway	1x PDDEG-S/PDEG/PDTS
DALI control	16x DDBC120-DALI or: 6x DDBC320 DALI
Relay control	1x DDRC1220
Dry contact input	1x DDMIDC8
Multi-sensor	3x DUS360CR
DALI broadcast	
Controls	
Ethernet gateway	1x PDDEG-S/PDEG/PDTS
DALI control	1x DDBC1200
Relay control	1x DDRC1220
Dry contact input	1x DDMIDC8
Multi-sensor	3x DUS360CR



Hypermarket	
DALI addressable	
Controls	
Ethernet gateway	1x PDDEG-S/PDEG/PDTS
DALI control	80x DDBC120-DALI or: 28x DDBC320 DALI
Relay control	3x DDRC1220
Dry contact input	1x DDMIDC8
Multi-sensor	15x DUS360CR
DALI broadcast	
Controls	
Ethernet gateway	1x PDDEG-S/PDEG/PDTS
DALI control	25x DDBC120-DALI
Relay control	3x DDRC1220
Dry contact input	1x DDMIDC8
Multi-sensor	15x DUS360CR

02 System description



2.2.3 Application example for the wireless architecture

The example shows a building equipped with wireless luminaires and luminaires controlled via Wireless Group Control, connected to in total two Wireless Gateways. With each Wireless Gateway connected to an Ethernet switch, the system saves considerably on control cabling and installer time.

When designing a system layout, keep the following guidelines in mind:

Location of the Wireless Gateway

The best location of the Wireless Gateway is in a high-density grid, with as much nodes as possible within reach, but at least more than two nodes in reach.

Note

The maximum distance is limited to the application, see the recommended maximum distances on the next page.

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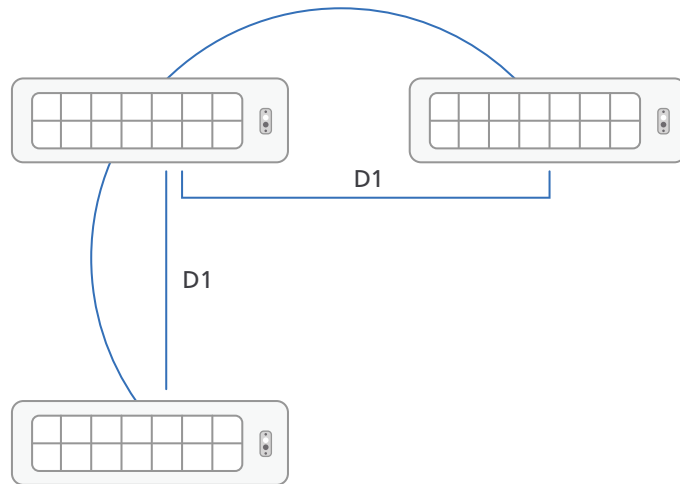


Figure 1. Application of wireless luminaires in an open space

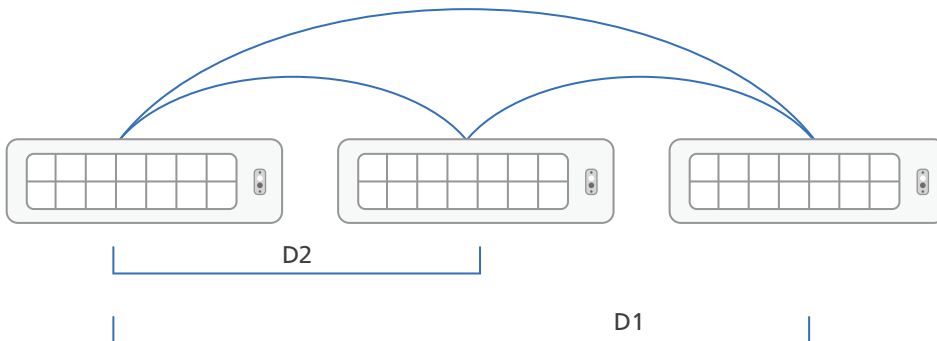


Figure 2. Application of wireless luminaires in a corridor

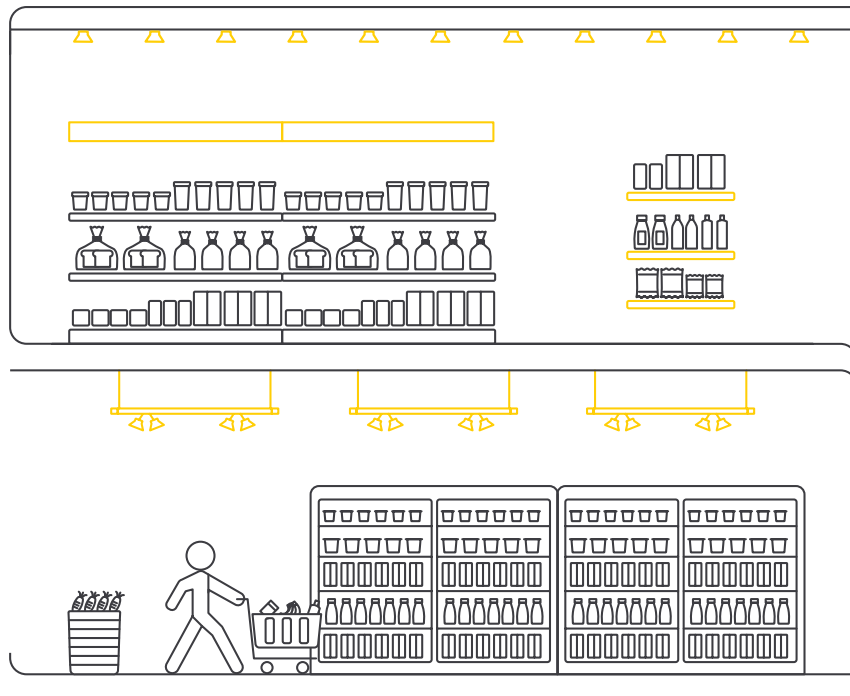
Maximum number of devices:

- Each Wireless Gateway can join a maximum of 60 wireless nodes to its network.
- With Wireless Group Control:
 - A SR bridge controls maximum 20 DALI luminaires, or up to 400 VA switching capacity.
 - A DALI extender can connect to a maximum of 20 luminaires.

Recommended maximum distances:

- Keep the cable length of each Wireless Gateway to the Ethernet switch limited to 100 m (328 ft).
- In ceilings (recessed luminaires or nodes, for example in offices) the distance (D1) between two nodes is maximum 10 m (33 ft). See figure 1.
- When installing in a corridor, use half the distance (D2) between two wireless devices to ensure that there will be always a second device (D1) in reach in case one of the devices fails. See figure 2.

02 System description



Channel selection

As each Wireless Gateway creates its own wireless network, it is important that these networks don't interfere with each other. Zigbee uses the channels 11, 15, 20 and 25.

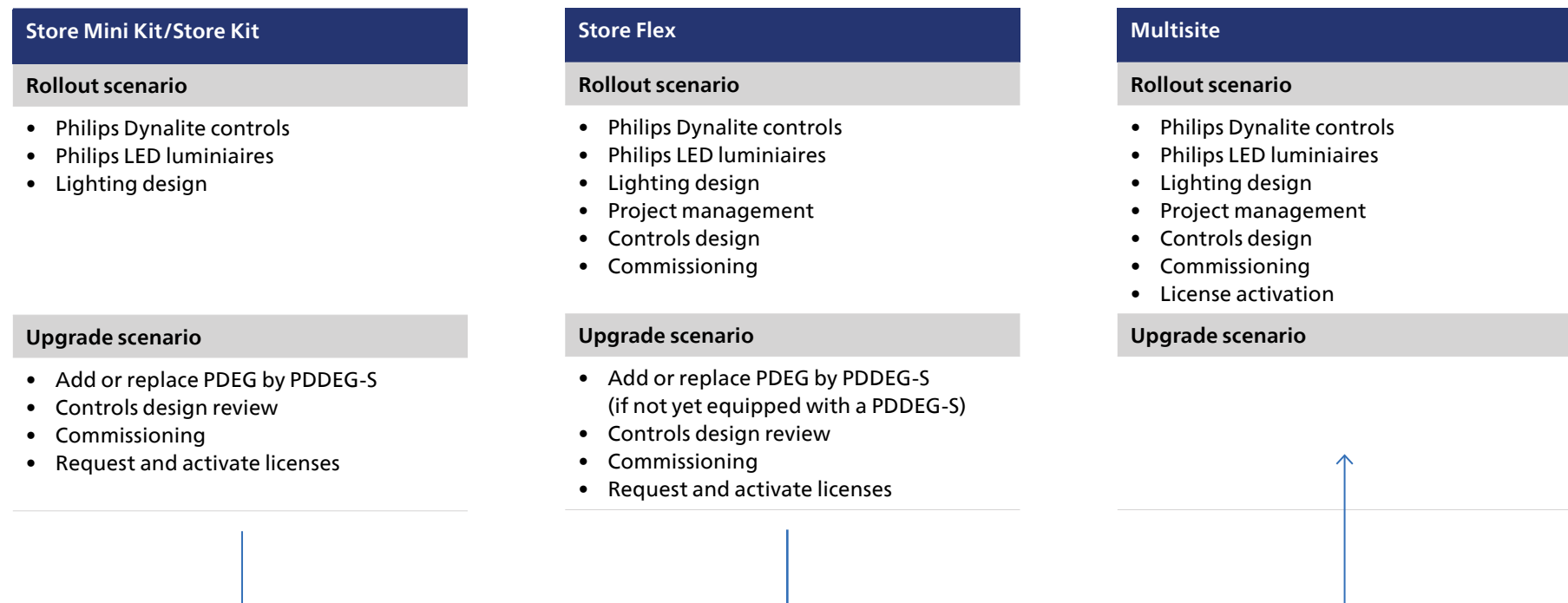
- Avoid using channel 11 as it overlaps with Wi-Fi
- Usage of the channels 15, 20 and 25 is recommended, with a preference for the channels 20 and 25

The system offers easy identification of the wireless devices by using the Philips Dynalite Enabler app in combination with discovery by means of Bluetooth. These devices can be assigned to their respective area or zone in the app.

02 System description

2.3 Upgrade scenarios

Store Flex systems using the PDDEG-S Ethernet Gateway are upgradable to Multisite. Also, the other variants of the Dynalite for Retail are upgradable to Multisite.



03 Intake



- 3.1 System capabilities
- 3.2 Users and user roles
- 3.3 Intake and rollout

03 Intake

The aim of the intake is to allow to tailor the solution exactly to the needs of the customer. What are his exact demands and how should the lighting system be engineered. For this it's important to have some knowledge of the theory behind the system.

3.1 System capabilities

The design of Store Flex projects is crucial since the allocation of the areas may be achieved by separating the physical channels, which can be done by means of wiring. The Store Flex system supports multiple types of control components, like DALI broadcast, DALI addressable, phase-cut dimming controllers, relay controllers, etcetera.

The Store Flex system can be tailored to all kinds of retail formats.

3.1.1 Areas

Per retail format the areas are defined at a high level.

Depending on the size of the format, it's possible to define multiple areas. A maximum of three areas can be created, for example:

- Sales Floor
- Back of house
- Outdoor

3.1.2 Zones and Channels

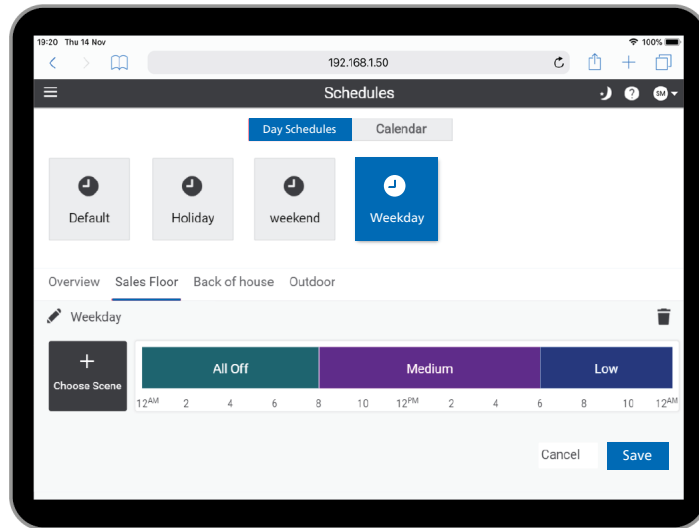
Per area you can identify up to 48 zones, for example on the Sales Floor:

- Bakery
- Meat
- Cash registers

Etcetera

Each zone is represented as a logical channel, which can be either dimmable or switchable. To make sure that the name of the zone is visible in the Store Control UI, each channel should be given the same name as the zone it corresponds with.

03 Intake



3.1.3 Scenes and Schedules

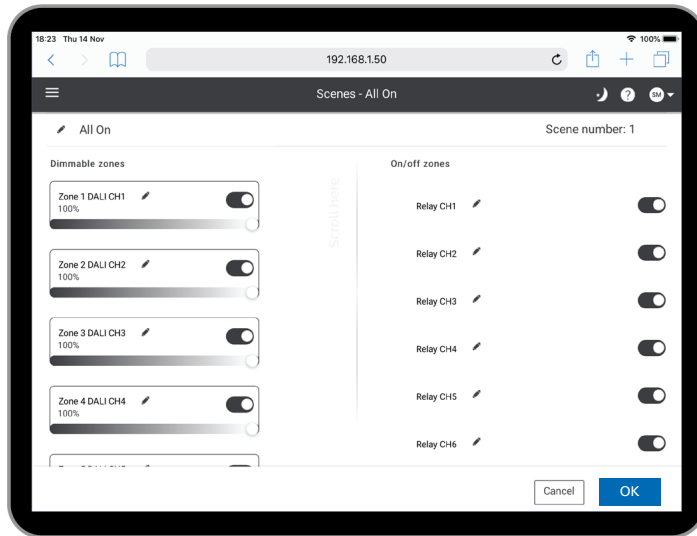
For each area you can create scenes:

- Indoor area: 32 scenes
- Outdoor area: 32 scenes (with day/night mode)

The system accommodates a maximum of 100 schedules of which up to five need to be reserved for standard configuration. The Ethernet Gateway takes care of the execution of the schedules.

The schedules need to be aligned with the needs of the customer and configured before handover of the system and can be edited afterwards using the Store Control UI.

03 Intake



3.1.4 Store Control UI

A preconfigured Store Control UI package is readily available for download on the MyLighting portal. Uploading of this package is done using System Builder.

The Store Control UI is a web-based interface that runs on a web browser installed on a device, independent if the device runs on Android, iOS, MacOS, or Windows, or on the dedicated PDTs touchscreen. The software recognizes the type of logical channel and adapts the user interface to it, showing a slider for dimmable channels and a switch button for a switchable channel.

03 Intake

3.2 Users and user roles

Below an overview of the users and the user roles that



that are involved in the rollout of a Store Flex project. Note that there's a clear distinction between users handling offsite and onsite tasks.

3.2.1 Users handling offsite tasks

Offsite tasks involve site preparation and design.

Lighting designer

The lighting designer uses the site layout/floor plan to create a lighting design, resulting in a reflected ceiling plan and luminaire count (bill of material for the luminaires).

Controls designer

The controls designer combines the information provided in the project template and the reflected ceiling plan using the System Builder Design Mode (*System Designer*). This is a powerful tool that provides a quick and orderly process for designing a Dynalite lighting control system.

Note

A technician license of System Builder is required before you can use System Designer. To request this license, in System Builder click **Help** and select **License**.

3.2.2 Users handling onsite tasks

Onsite tasks like installation and commissioning typically require having someone present at the site.

Installer/site engineer

The designs require approval by the customer, after which the products will be ordered and delivered. When the site is ready for installation, the installer and/or the site engineer can start their activities.

03 Intake

3.3 Intake and rollout

3.3.1 Project template

All customer information as described in the previous sections is collected in the Project Template (also known as Intake Form, see the Project Template).

Each section corresponds with a step in the offsite preparation of the project execution.

The information in the project template regarding the lighting control zones, lighting plan and other control options is used to prepare the project for commissioning. See the section [4.3 Prepare the System Builder job file](#).



Based on the project template, we prepare the digital twin of the lighting system upfront, simplifying the on-site commissioning effort so it can be done by your installer or a site engineer.

3.3.2 Off-site and on-site activities

Offsite preparation

Trained experts carry out the off-site preparation that



consists of the following steps:

- **Intake**
 - Complete project template and requirements document based on customer input and alignment
- **System design**
 - Lighting design: creation of the reflected ceiling plan
 - Controls design: creation of the customized project file
- **Ordering**
 - Order products (lighting and controls)

⚠ Important

For projects that are configured with wireless controls, it's important that the prepared project file is saved in the cloud using a Dynalite account. Contact your local Signify representative for requesting the account.

03 Intake

Onsite installation

The installer and commissioning engineer take care of



the on-site installation that consists of the following steps:

- **Installation**
 - All lights and controls installed and functional
- **Commissioning**
 - Downloading the latest device firmware versions from www.dynalite.com;
 - Commissioning of wired devices using System Builder
 - Commissioning of wireless nodes using the Philips Dynalite Enabler app
 - Download the UI-files from the MyLighting Portal
- **Validation**
 - End-to-end validation of controls and lights
 - Final project file
- **Site delivery**
 - Ready to use
 - Handover of the site to the customer

3.3.3 System Builder/System Designer

For the controls design, the experts use System Builder. A technician license of System Builder is required to enable System Designer. This is a powerful tool that provides a quick and orderly process for designing a Dynalite lighting control system.

Onsite, System Builder is used to deploy the prepared project file into the DyNet network.

04 Offsite preparation



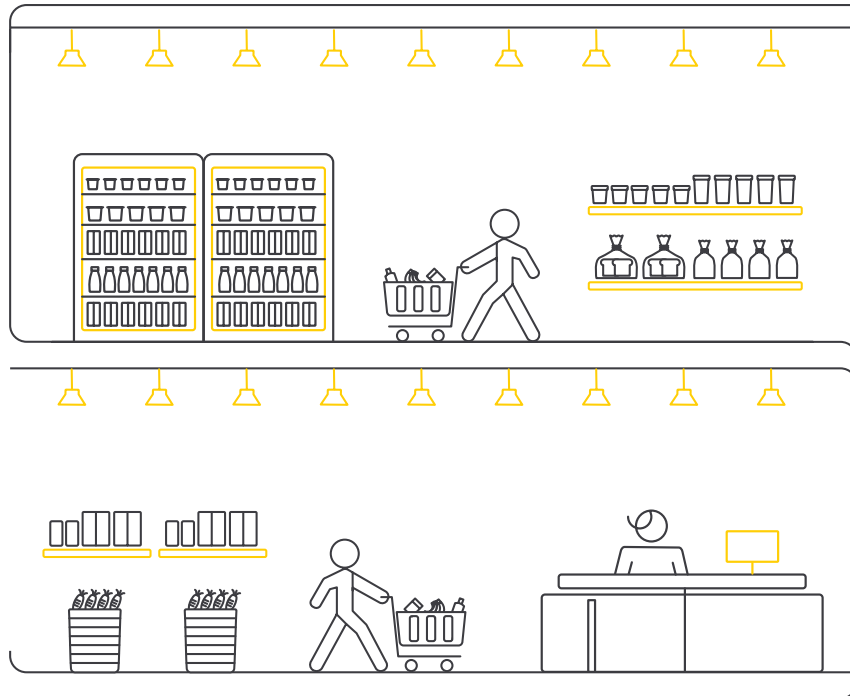
4.1 System design

4.2 System Builder job file templates

4.3 Prepare the System Builder job file

4.4 Plan installation and commissioning

04 Offsite preparation



4.1 System design

Lighting design

Control design

The system design of a Store Flex project is different when compared to a standard Dynalite system. Store Flex is a simplified, easy to use system, providing full control to the customer. The system requires a design-in for the complete customer offer (luminaires + controls). Both lighting and controls design require a work order to be assigned to the person having the dedicated role that will carry out the task.

04 Offsite preparation

4.1.1 System characteristics

During design and commissioning of a Store Flex system, pay attention to the following system characteristics:

1. The Store Flex system combines a modular Dynalite control topology with a user interface developed for a retail store.
For Store Flex tested and verified load controllers, see section [4.1.3 Controls design](#).
2. When implementing wireless controls, additional supported components are added to the modular Dynalite control topology. Systems with wireless devices require additional attention during the design process.
For tested and verified controllers, see sections [4.1.4 Wireless controls design](#).
3. There are System Builder (SB) job file templates available for faster creation of a project specific job file. These templates include a basic configuration. The following templates are available:
 - 2 indoor areas, 1 outdoor area
 - 1 indoor area, 1 outdoor area
 - 3 indoor areas
 - 2 indoor areas
 - 1 indoor area

These job file templates are all available using a PDDEG-S as central store controller (preferred option), but also with a PDEG or PDTS as central store controller. For more information about the job file templates, see section [4.2 System Builder job file templates](#).

ⓘ Important

Only the job files for use with a PDDEG-S are suitable for application in projects using wireless controls.

4. Pre-design of the project area configuration is crucial since the area allocation can only be achieved by separating the physical channels by means of wiring. The physical channels are mapped to the logical channels which can easily be renamed to the specific needs for these zones. For instance, Fresh food, Bakery, etcetera. These names are shown in the UI.

04 Offsite preparation

4.1.2 Lighting design

The specific requirements of the customer and the specifics of the site layout are considered when creating the lighting design, that results in the reflected ceiling plan and a luminaire count (lighting bill of materials).

Capturing the lighting design graphically in an (AutoCAD) drawing influences the speed and accuracy of the controls design.

Details of the lighting design can be provided in the project template.

4.1.3 Controls design

While using System Designer, it generates:

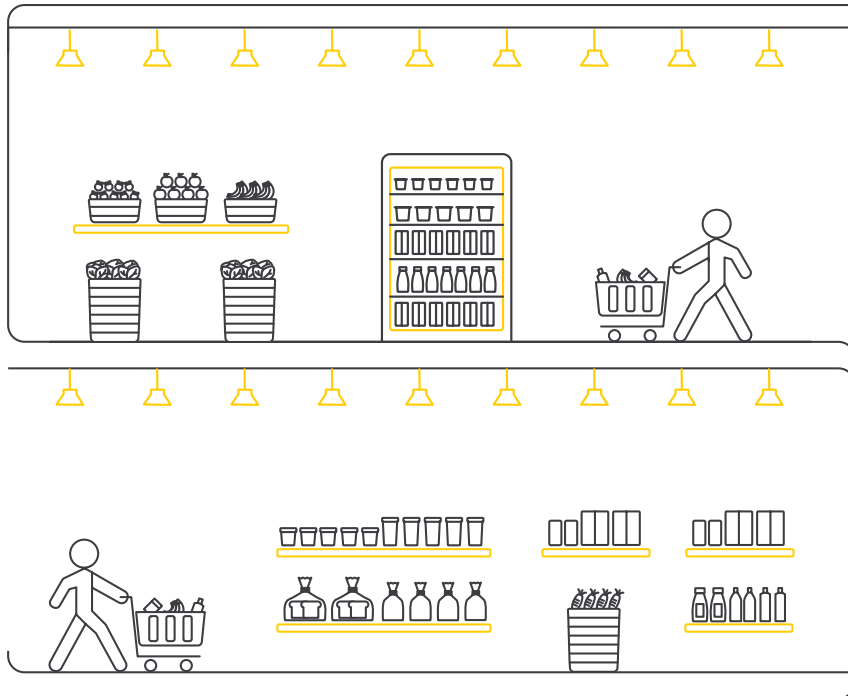
- Bill of Materials (BoM)
- Project file
- Installation summary
- Wire diagram
- Load schedule report

Quantity of network devices

Theoretically, the RS-485 standard allows to connect an unlimited number of devices to a data cable. Practically, it's recommended to limit the number of devices per gateway to 100.

In case the system requires higher numbers of devices on the gateway, this is possible. For more information, see the generic System Builder documentation.

04 Offsite preparation



Power supply

Because several devices are powered over the network, the quantity of consuming devices such as panels and sensors need to be considered. Typically, most panels and sensors will run between 10 to 15 Vdc at 25 mA.

In case of a large number of consuming devices, a secondary power supply (DDNP1501) can be added to boost the overall network voltage. The DDNP1501 can supply 15 Vdc at 1.5 A.

In general, most Philips Dynalite load controllers generate approximately 100 mA to the DyNet network and will drive 4 or 5 consuming devices without the need for a secondary power supply. Refer to the product data sheets for calculation the power requirement for the DyNet communication bus.

Make sure to use DyNet-STP-CABLE-LSZH (or equivalent) cables.

04 Offsite preparation

Tested and verified controllers for Wired

The specifications of each controller type limit the number of luminaires that can be connected. Refer to the product data sheets on www.dynalite.com for detailed information.

DDBC120-DALI

- Single DALI control output, supporting one full DALI universe of 64 addresses.
- One feed-through relay rated at 20 A (500 A surge) for switching power to the drivers.

DDBC320-DALI

- Three DALI outputs, allowing to control up to 192 DALI devices.
- Three feed-through switched circuits rated at 20 A for DALI driver mains supply.

DDBC1200

- 12 control outputs, selectable to DALI, 0-10 V/1-10 V. In DALI Broadcast mode: 80 DALI drivers per channel, 300 total.

DDRC420FR

- Four switched feed-through outputs at 20 A (inductive), maximum device load 80 A

DDRC1220FR-GL

- 12 switched feed-through outputs at 20 A (inductive), maximum device load 180 A

DDMIDC8

- Eight digital inputs, which can be individually configured as dry contact or 0-24 V AC/DC input
- Four 0-5/0-10 V analogue inputs

DDNG485

- Routes DyNet to third-party systems
- In DMX512 mode, capable of transmitting and receiving 512 DMX channels

04 Offsite preparation

Tested and verified controllers for Wireless

PDZG-E Wireless Gateway

- Seamlessly integrates wireless lighting control using Zigbee PRO wireless communication
- Ensures stable and robust lighting control in busy environments by wireless mesh networking
- Connects to the wired control topology ensuring full compatibility

SC100 IA wireless transceiver

- Operates with the established Xitanium SR driver standard
- Enables Wireless Group Control when connected to a Xitanium SR Bridge or a DALI Extender

Xitanium SR Bridge

- Controls up to 20 DALI drivers
- Capable of connecting multiple drivers with a load of up to 400 VA
- Switches the connected drivers fully off, no standby power
- Programmable via the SR interface or SimpleSet.

DALI Extender

- Controls up to 20 DALI drivers
- Supports emergency luminaires

Note

Currently, emergency lighting is not supported in the Store Flex system.

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4.1.4 System wiring

Cable limits

DyNet cable length

- When using the DyNet STP Cat 5 cable, the number of Philips Dynalite devices is limited to 100.
- The maximum Cat5 cable length between the devices is 100 m.
- Any other cable used for RS-485 data transmission should be of the type STP with a characteristic impedance the twisted pair between 100 to 120 Ω .
- The maximum current a single gateway can draw is limited to 2 A.

DALI cable cross sections

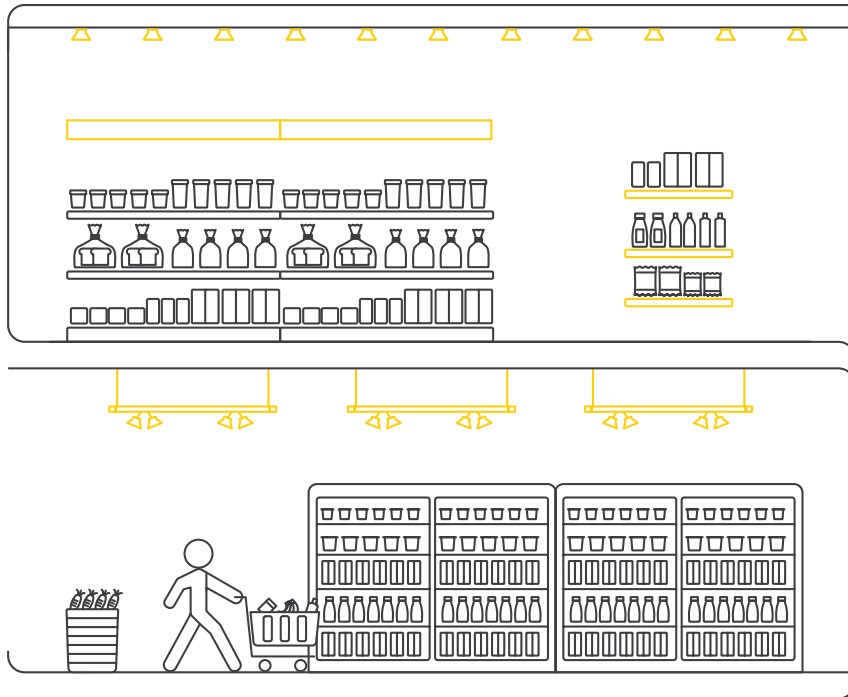
The maximum voltage drop on the DALI bus is 2 V.

Therefore, use cables with the specifications according to the table. DALI cables of over 300 m (1000 ft) are not allowed.

DALI conductor diameter

Length		Cross section	
≤ 100 m	≤ 330 ft	0.5 mm ²	AWG 20
100 to 150 m	330 - 500 ft	0.75 mm ²	AWG 18
150 to 300 m	500 - 1000 ft	1.5 mm ²	AWG 16

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Ethernet cable length

The length of the Ethernet cables is limited to 100 meter per run.

Built-in dry contacts

The maximum distance to the input source depends on the type of connection and the device used to create the connection. See the specification sheets of the specific components for more details regarding maximum cable lengths etcetera.

Physical connection testing

The in-store controllers have manual override buttons, which will help the site engineer to confirm the correct physical power connection. Control protocol tests can only be performed with System Builder as a tool, or on the mobile device, by moving the sliders in the Scenes page for each channel. Refer to the respective product installation guides for correct test procedures.

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4.1.5 Customer supplied components

Wireless access point

The Wireless Access Point (AP) establishes the communication between the mobile device (for example the tablet) and the Store Control UI on the Ethernet Gateway.

For this purpose, a consumer router shall be used. The minimal specifications are:

- Standards IEEE 802.3, IEEE 802.11g, IEEE 802.11b
- Ports:
 - Internet: 10/100 RJ-45 Port
 - LAN: 10/100 RJ-45 Switched
- Firewall not required for standalone system. However, PDTS needs Network Time Protocol (NTP) access to keep displayed time synchronised or to schedule access to the interface.
- Wireless security Wi-Fi Protected Access (WPA3).

Configure the access point

- Give the AP a comprehensible network name (SSID)
- Select a security method and configure a strong password.



Note

- Store the SSID and password in the system documentation for future reference.
- It is advised to configure the Ethernet Gateway with a static IP address, for example 192.168.1.50.

Tablet

Tablets add flexibility to the user for easy control and arrangement of project settings without depending on static/dedicated devices. Simply open any browser on a tablet device and access the Store Control UI via entering the IP address of the Ethernet Gateway. For easy access create a shortcut on the homepage of the tablet.

Recommended minimum requirements for a tablet are:

	iOS	Android
Version	iPadOS 18 or newer	Android 9 to 13
Screen resolution	1536 x 2048	800 x 1280
Web browser	Recent version of Safari or Chrome	

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4.2 System Builder job file templates

The available System Builder job file templates facilitate and significantly speed up commissioning.

There is a template available for each of the five corresponding scenarios, provided the system limitation of maximum three areas (A). These areas can be either all indoor, or a mix of indoor and outdoor areas.

Select the preferred template that best suits the project configuration.

Note

- The table shows the template files available with the PDDEG-S. Identical templates are available with the PDEG or PDTs as store controller. Contact the Signify System Experts for more information.
- The outdoor area is by default configured as Area 4.

System Builder job file template name	Description
StoreFlex_PDDEG-S_Template1_2IA_1OA	2 Indoor areas (A=2, A=3) + 1 Outdoor area (A=4)
StoreFlex_PDDEG-S_Template1_1IA_1OA	1 Indoor area (A=2) + 1 Outdoor area (A=4)
StoreFlex_PDDEG-S_Template1_3IA	3 Indoor areas (A=2, A=3, A=4)
StoreFlex_PDDEG-S_Template1_2IA	2 Indoor areas (A=2, A=3)
StoreFlex_PDDEG-S_Template1_1IA	1 Indoor area (A=2)

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Schedule n°= allocation on store controller (PDDEG-S/PDEG/PDTS)	Area number and type										
	Indoor		Outdoor	Indoor	Outdoor	Indoor			Indoor		Indoor
	A=2	A=3	A=4	A=2	A=4	A=2	A=3	A=4	A=2	A=3	A=2
	1	Sunset		Sunset		Default 1			Default 1		Default 1
	2	Sunrise		Sunrise		Default 2			Default 2		New Schedule 2
	3	Default 3		Default 3		Default 3			New Schedule 3		New Schedule 3
	4	Default 4		Default 4		New Schedule 4			New Schedule 4		New Schedule 4
	5	Default 5		New Schedule 5		New Schedule 5			New Schedule 5		New Schedule 5
	6	New Schedule 6		New Schedule 6		New Schedule 6			New Schedule 6		New Schedule 6
	7	New Schedule 7		New Schedule 7		New Schedule 7			New Schedule 7		New Schedule 7
...	
100	New Schedule 100		New Schedule 100		New Schedule 100			New Schedule 100		New Schedule 100	
Template suffix											
2IA_10A		1IA_10A		3IA			2IA		1IA		

- Each job file template includes the specified store controller with 100 schedules already prepared.
- In templates including an outdoor area, the first two schedules are reserved for sunset and sunrise.
- In all templates, each area requires a reserved schedule as system default: three areas equal three reserved schedules (named **Default #**)
- All schedules named **New Schedule #** give the end-user the possibility to create new schedules directly in the Store Control UI.

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4.3 Prepare the System Builder job file

4.3.1 How to design the system

In general, the System Designer feature in System Builder is used to design the system.

Benefits of using System Designer compared to classic System Builder:

- Standardized way of design and commissioning of a system
- Minimizing possible errors when following all steps in the wizard
- System Designer calculates the lengths of the DALI cables and shows a message if the cable is too long.
- System Designer keeps track of the load of the DyNet devices and shows a message if the load is too high, requiring an additional power supply.
- System Designer produces reports that summarize the total number and types of luminaires, controllers, and other devices, as well as the total cable length. This helps when creating a quote.

Note

You need a technician license before you can use the System Designer feature in System Builder. You need to raise a ticket to request such license; see section [6.1.1 Ticketing system \(C4CS\)](#) how to do that.

Tip



More information about using System Designer can be found in the User Guide. Click **Help > User Guides** and select the **System Designer User Guide**.

In this section we describe the steps to take using the System Designer feature when creating the offsite design of the system.

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4.3.2 Using System Designer

- Open the System Builder job file template that best suits your project and click the button **Design Mode** (D) to start the **System Designer** feature.
- Use the buttons in the Window menu to switch between the  **Properties Window** and the  **Floor Plan Window**.
- When following the steps of the **Design Assistant**, take care for the attention points below:
 - a. **5. Define Scale:** Use **Enter Background Scale** when you know the scale of the floor plan used. Use **Draw Background Scale** to define the scale manually. You can do this for example by measuring the distance between doorposts or the bay width of the shelves.
 - b. **7. Add Distribution Boards:** Consider the expected cable lengths when finding a good position for the distribution board(s) on the floor plan.
 - c. **10. Group Fixtures:** Use **Draw DALI Cable** to connect the DALI controlled luminaires, both broadcast and addressable. Make sure to connect the created universes with the distribution board. Use **Draw Fixture Group** for switchable luminaires.

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Name	Total	Grouped
Circuits	1 circuit	
Non-Dimmable La...	3 circuits	
#6 Switchable01	4 fixtures	DB1
#7 Switchable02	3 fixtures	DB1
#9 Switchable01	7 fixtures	DB1
Universes	5 universes	
Universe 1	44 Fixtures	
Universe 2	40 Fixtures	
Universe 3	12 Fixtures	
Universe 4	4 Fixtures	
Universe 5	2 Fixtures	
DyNet Cables	1 cable	
DyNet Cable	3 devic...	DB1

Name	Number
IAR Store Flex	
Unassigned Area	A1
Default Floor	
Sales area	A2
Back of house	A3
Outdoor	A4

Note

- Make sure not to exceed the maximum number of devices on a DALI universe.
- Make sure to add luminaires to the correct universe, either broadcast or addressable.

d. *10. Group Fixtures:* After drawing the DALI universes, a symbol (🚫) shows that the DALI cable is not connected to a distribution board (or a controller).

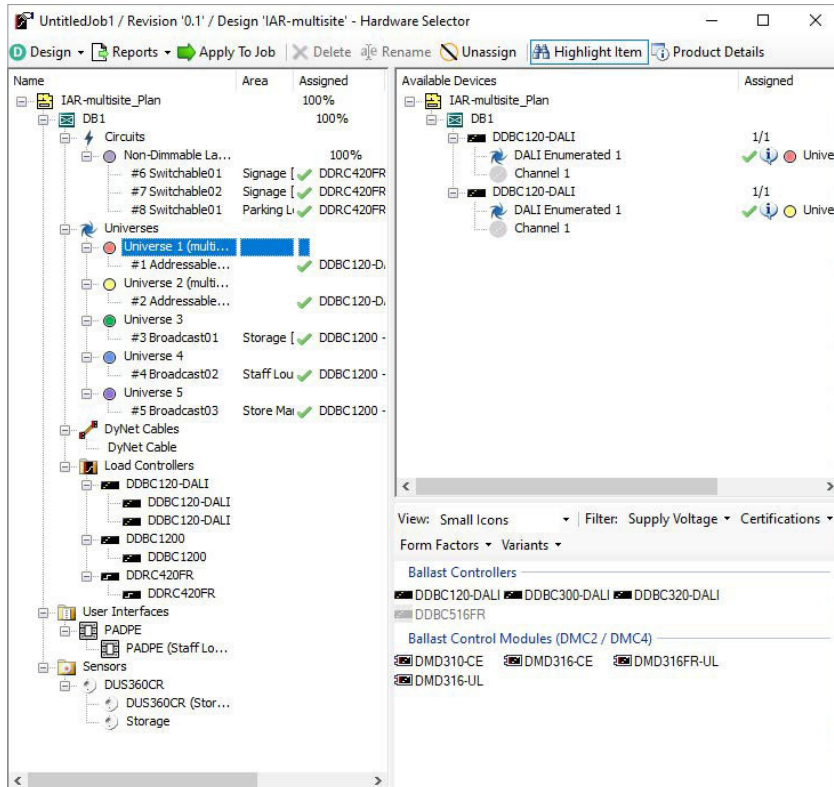
Click **Draw Line** (🔗) and select **Draw DALI Cable** to connect the universe to a distribution board (or a controller).




e. *12. Draw Areas:* Draw a maximum of three areas. Give the areas a descriptive name and the ID following the Project template.

Important

Always assign **Area 4** to the Outdoor area.

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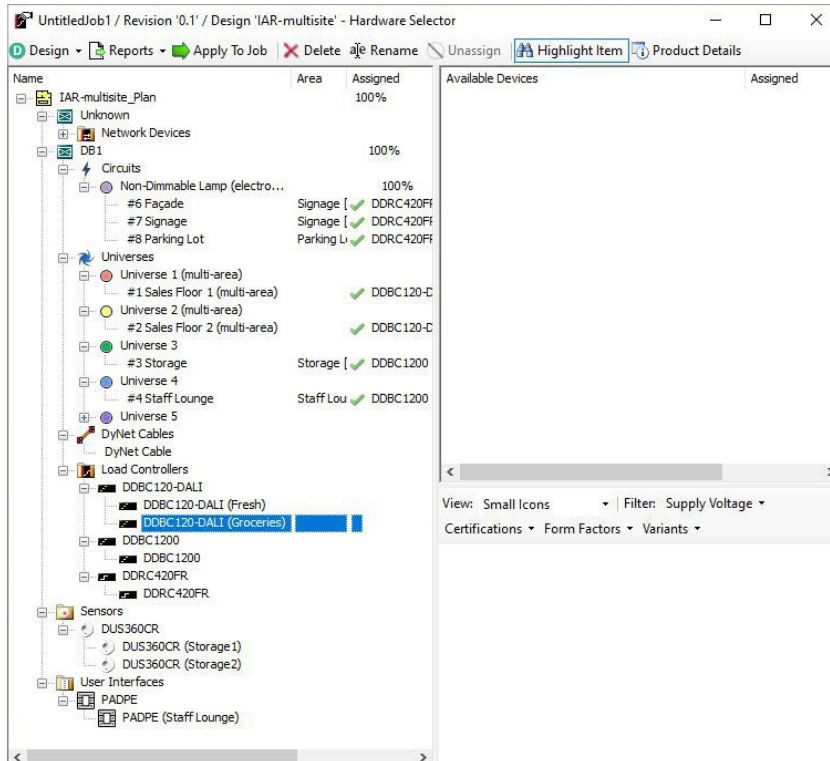
- f. **13. Draw DyNet Cable:** When drawing Dynet cables, also make sure to connect the cable to a distribution board. If controllers are added to the distribution board in step 15, the symbol  disappears.
- g. **15. Select Hardware:** Click **Open Hardware Selector Window** and in the left panel select a  **Circuit** or  **Universe** (added in step 7). Select the controller of choice to add to the distribution board.



Note

The selection of controllers depends on the type of universe. Universes spanning multiple areas must be assigned to a DALI addressable controller. For more information, see [Appendix A3 - Configure DALI individual addressing](#).

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h. *15. Select Hardware:* In the left panel, select a Circuit or DALI universe and assign it by drag and drop to the appropriate controller in the right panel.

i. *15. Select Hardware:* In the left panel, select all added devices (load controllers, sensors, user interfaces) one by one and click **Rename** to give each device a unique name.



Important

Give each device (controller, sensor, user interface) a unique name, for example by adding a consecutive letter or number, or any other identification (for example: usage or location). The reports reflect the names to help you identify which physical channel is connected to which controller.

j. *15. Select Hardware:* Click **Apply To Job**. Click **Yes** to confirm. A message shows if any problem occurs.

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Close System Designer

Before closing System Designer:

- Make sure the Fixtures Grouped indicator shows 100%.
- Make sure there are no exclamation marks (🚨/❗) showing.
- Follow the steps *16. Generate Reports* and *17. Produce Documentation*.
- Click the button **Design Mode** (D) to close the **System Designer** feature.

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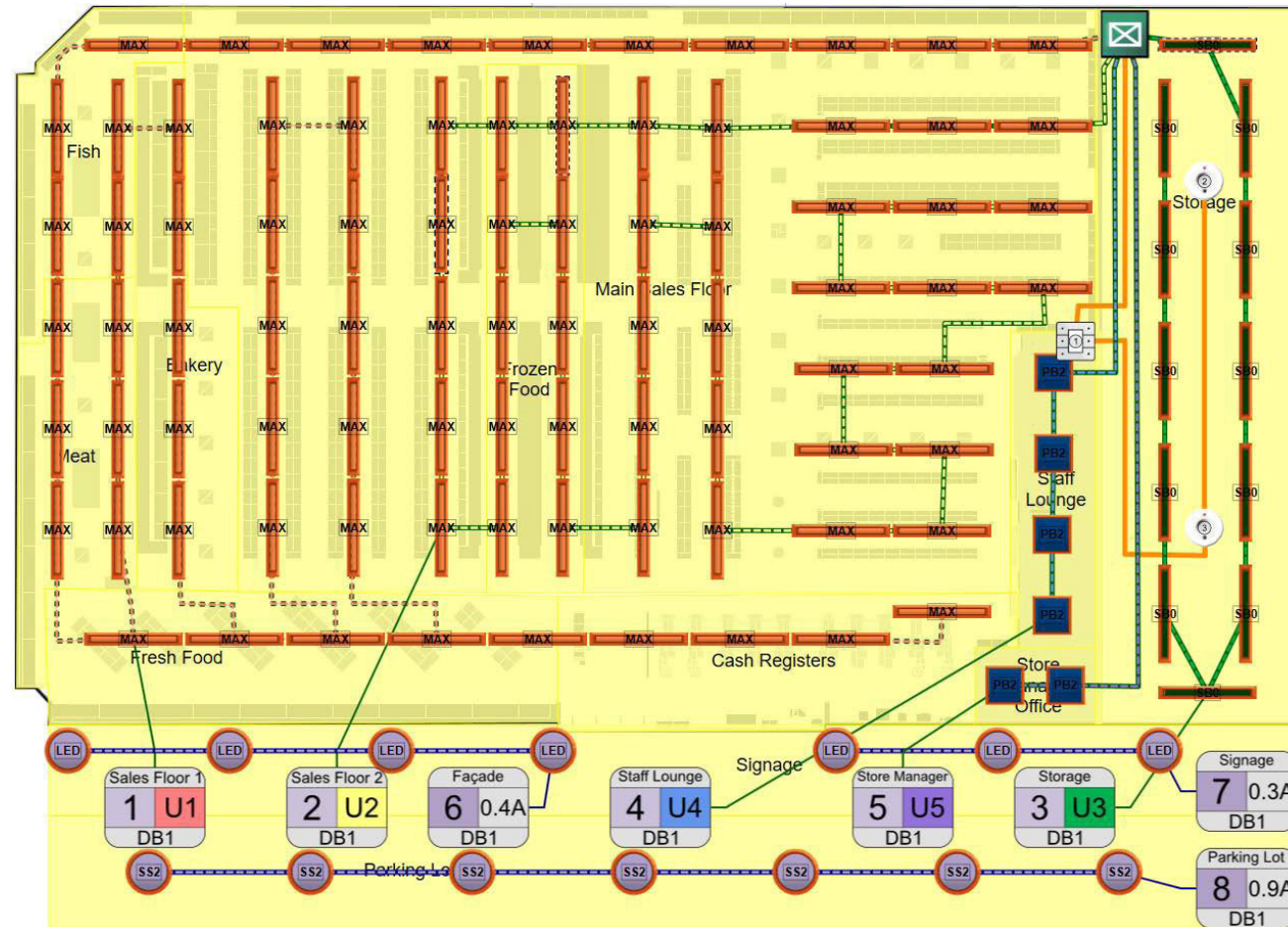
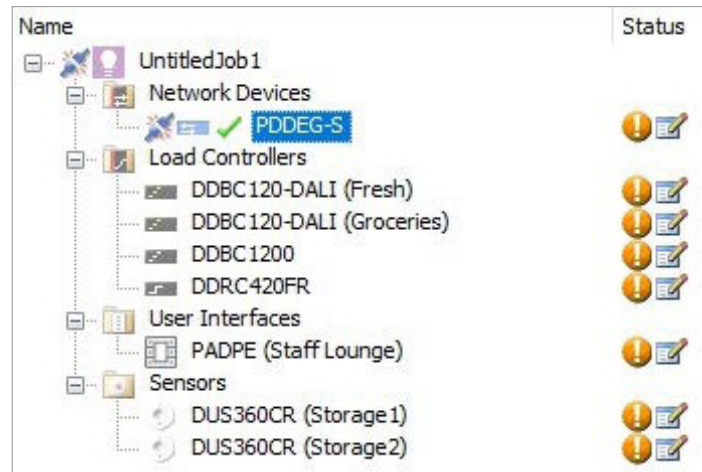


Figure 1. Possible result after using System Designer

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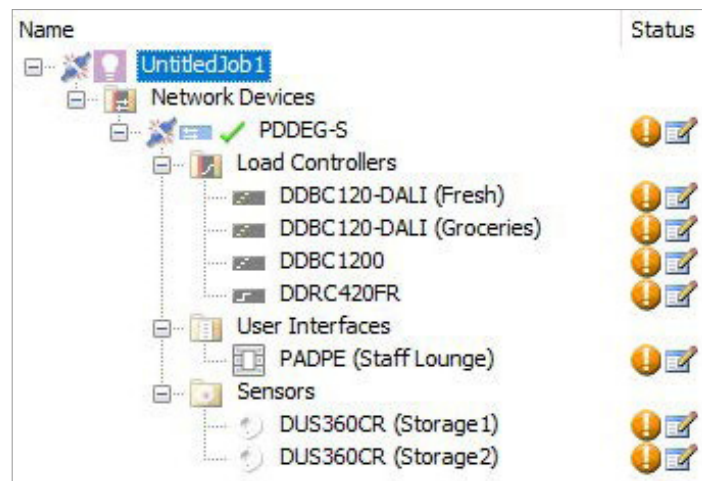


4.3.3 Configure the job file

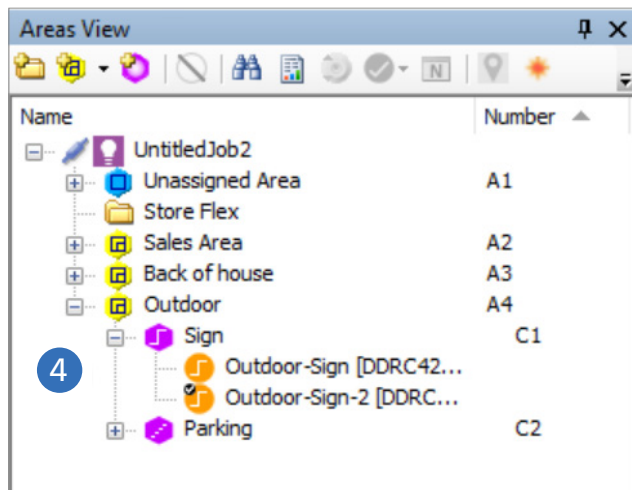
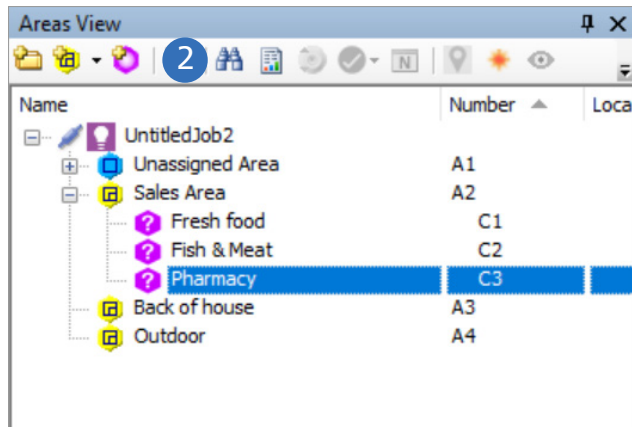
Once you added all devices to the project file, you can further configure the job file.

Create topology


1. Press **Shift** to multiselect the *Load Controllers*, and if applicable also the *User Interfaces* and *Sensors*.
2. Move the devices under the PDDEG-S. Click **Yes** to confirm.



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Create logical channels (DALI broadcast)

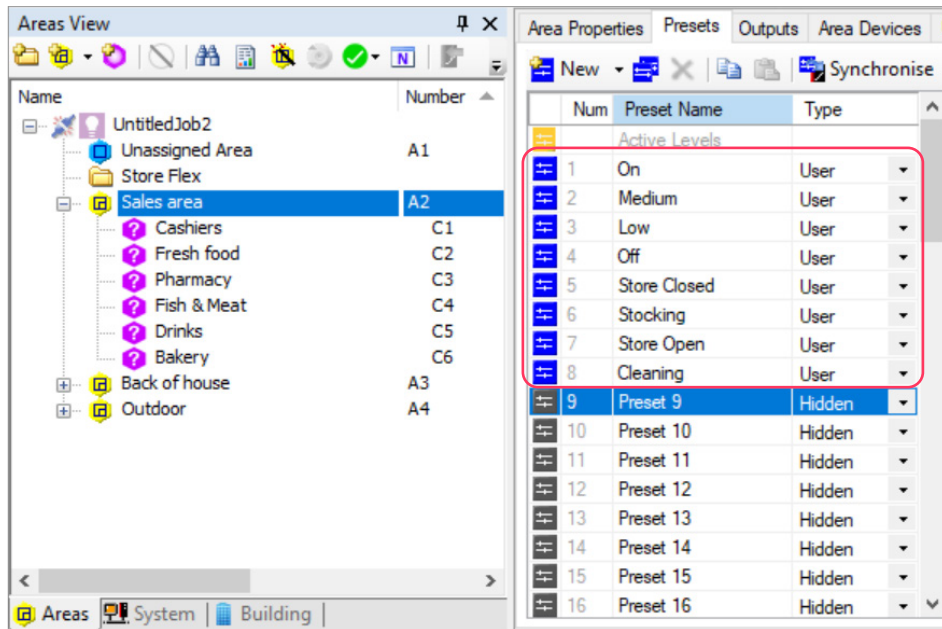
1. In the **Areas** view, select the desired **Area**, for example *Sales Area*.
2. Click  **Insert New Channel** to create a new logical channel.
3. Create the logical channels according to the project template, with a maximum of 48. Give the channels a descriptive name that corresponds with the zone.

ⓘ Important

Make sure to add a logical channel with the ID **C1** in each area.

4. Link each physical channel with its logical equivalent by means of drag and drop.
5. Repeat for all logical channels in areas using DALI broadcast.

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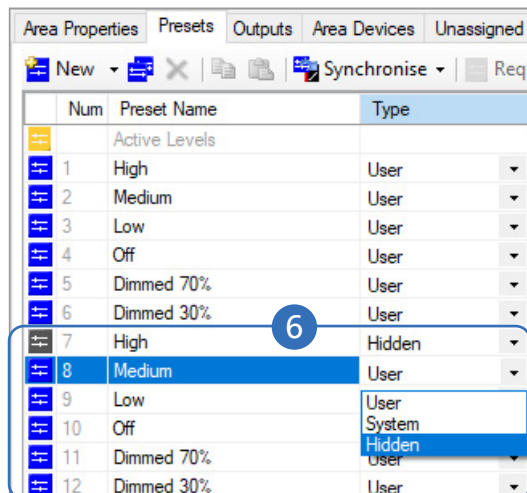
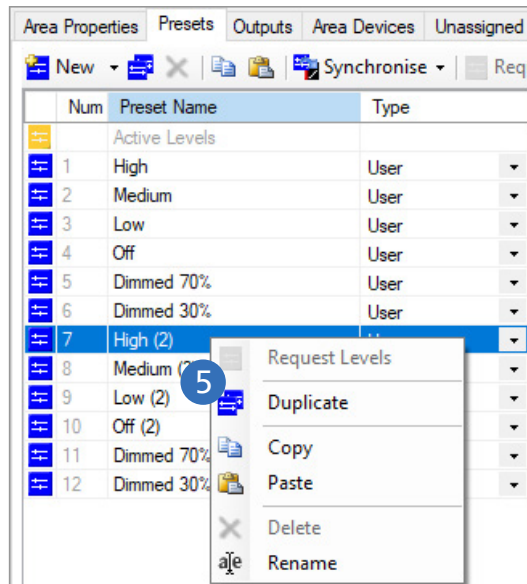
Prepare presets for the Indoor areas

The presets in System Builder enable the creation of Scenes in the Store Control UI.

Each System Builder job file template consists of 64 presets for each indoor area. By default, eight of the presets will become visible in the user interface of the UI (marked in blue), where the hidden presets are prepared for use.

1. In the **Areas** view, select an Indoor area (Area 2 or 3).
2. Change the name and the settings of each preset according to the Project template.
3. The customer can edit the names and settings after commissioning in the UI.
4. After commissioning, you can use the UI to make any of the hidden presets visible for usage in the interface.



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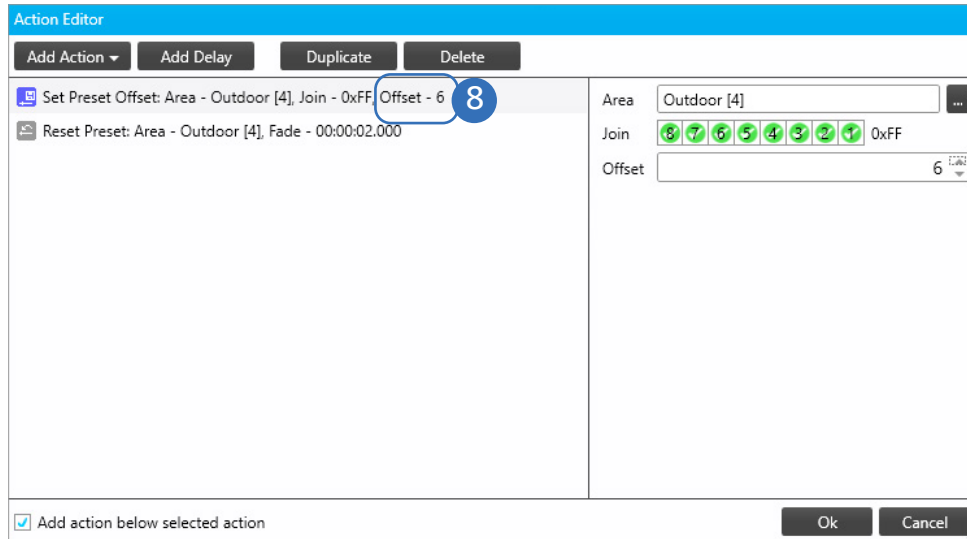
Prepare presets for the Outdoor area

The astronomical clock of the Ethernet Gateway allows for using the Day & Night Mode. The Day & Night Mode is available in the outdoor area only and is configured by using Preset offsets.

Each System Builder job file template including an outdoor area consists of four presets. If required, it is possible to add more presets:

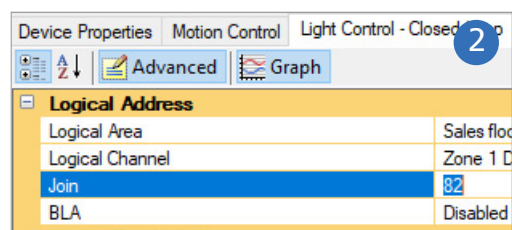
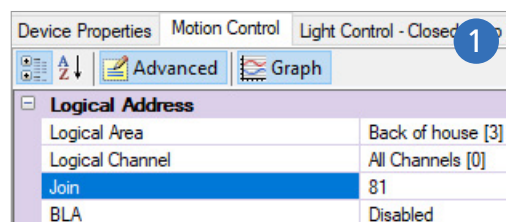
1. In the **Areas** view, select the area **Outdoor** (A4).
2. Select the presets 5 to 8 and click **Delete** .
3. Add the *day mode* presets. You can add presets up to a total of 32.
4. Change the name and the settings of each preset according to the Project template.
5. Select all day modes presets and click **Duplicate** . Change the name of each duplicated *night mode* preset, making them all identical to the day mode presets.
6. Change the **Type** of the night mode presets to **Hidden**.

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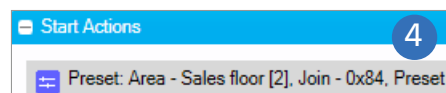


7. In the **System** view, select the *Ethernet Gateway* and click the tab **Schedules**.
8. Scroll down and select the schedule **Sunrise**.
In the section *Start Actions*, click **Edit Actions**. Adjust the **Offset** to the total number of day presets, in this example: **6**. Click **Ok**.

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✓	Dry contact 3	A2P5+A3P5	Switch	Enabled
⚙	Dry contact 4	A2-On/Off	Logical Address	
⚙	Dry contact 5	A3-On/Off	Logical Area	Sales floor [2]
?	Dry contact 6	PANIC NO	Logical Channel	All Channels [0]
?	Dry contact 7	PANIC NC	Join	83
			BLA	Disabled
			Advanced	



?	Dry contact 7	PANIC NC	Function	Custom
?	Dry contact 8	ALARM	Press actions	DyNet1 logical messages - Area: 2, Join
			Release actions	DyNet1 logical messages - Area: 2, Join
			Extended press a...	No action
			Extended release...	DyNet1 logical messages - Area: 2, Join

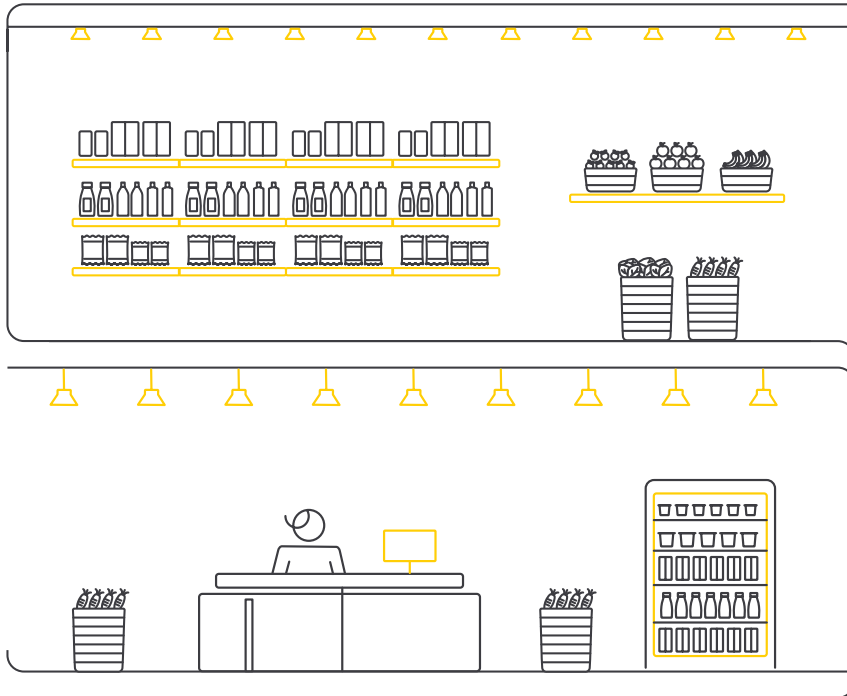
Configure inputs

All inputs, like sensors, user interfaces, dry contacts as well as some of the schedules, require specific **Join** byte configuration.

Make sure to configure all inputs with the correct Join byte:

1. **Motion control on sensors**
 - Change the *Join* byte **81** (0x81)
2. **Light control on sensors** (daylight harvesting)
 - Change the *Join* byte to **82** (0x82)
3. **User interfaces** (like Antumbra, Revolution or third party dry contact):
 - Change the *Join* byte to **83** (0x83)
4. **Default schedules** (except the Sunset and Sunrise schedule):
 - Change the *Join* byte to **84** (0x84)
5. **BMS automation, dry contacts** (like Alarm/CCTV integration)
 - Change the *Join* byte to **85** (0x85)

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Save job file

1. On the **File** menu, click **Save As** and select **Save As Job File**.
2. Store the job file at a logical location and give it a recognizable name.
3. Close the job file. You need it during onsite commissioning.

04 Offsite preparation

Configure Site Gateway

1. In the **System** view, select the **PDDEG-S**.
2. On the **Device** menu, select **Bridge Configuration Wizard**.
3. On the *Select Application Type* page, change the following settings:
 - a. In *System Selection*, select **Ethernet to Ethernet Translation Gateway**.
 - b. In Ethernet Services:
 - Select the **Static IPv4 Address** checkbox.
 - For dynamic IP addresses, see the note on the next page.
 - Set the *IP address* to: **192.168.1.50**
 - Set the *Gateway* to: **192.168.1.1**
 - Set the *Subnet mask* to: **255.255.255.0**
 - Set the *DNS server* to: **192.168.1.1**
 - Select the **Web Server** checkbox

Click **Next**.

Note

When using an IP address in a different range, make sure that all IP addresses are in the same range, for example: 192.168.178.x.

04 Offsite preparation

Gateway Wizard (PDDEG-S) - Step 2 of 4

Configure Connections

"Trunk Connection" will be used between Philips Dynalite System Manager and Ethernet Gateway devices. "Inter-spur Connection" is connection between Ethernet Gateway devices with common Areas. "Spur Connection" is connection between Ethernet Gateway device and PoE or Wireless gateways behind it.

4

Trunk Connection

Connection Type: TCP IPv4

Port: 50000 ☒ Secure

☒ Enable Web Socket / Cloud Connection / BACnet

Ethernet Spur Connection

Connection Type: TCP IPv4

Port: 50003 ☒ Secure

RS485 Spur

☒ Enable RS-485 Spur for Hybrid / Dynalite

☐ Configure RS-485 as Modbus

< Back Next > Cancel

Port	Type, Index	Connection	Description
Comm Port 1	1, 1	Spur	Baudrate: 9600
IPv4 Port 1	2, 1	Trunk	UDP Client, IP: 255.255.255.255, Port: 9998
IPv4 Port 2	2, 2	Trunk	TCP Server, Port: 51443, Secure
IPv4 Port 3	2, 3	Spur	TCP Server, Port: 50443, Secure
Web Socket 1 / ...	5, 1	Trunk	

5

- On the *Configure Connections* page, change the following settings:
 - In *Trunk Connection*, select the **Secure** checkbox.
 - In *Ethernet Spur Connection*, select the **Secure** checkbox.
 - In case of adding DyNet devices (for example sensors), select in *RS485 Spur* the **Enable RS-485 Spur for Hybrid / Dynalite** checkbox.Click two times **Next** and click **Finish**.
- Keeping the PDDEG-S selected: on the tab **Ports**, check if System Builder created the following ports:
 - TCP Server secured port for Trunk
 - TCP Server secured port for Spur



Note

Configuring the PDDEG-S Ethernet Gateway with a dynamic IPv4 address (DHCP) is also possible. In this case, the router or switch to which the PDDEG-S is connected should reserve a specific IP address for the MAC address of the PDDEG-S. Any details of this method are not described in this document.

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Port	Type, Index	Connection	Description
IPv4 Port 1	2, 1	Trunk	TCP Server, Port: 50000
IPv4 Port 2	2, 2	Trunk	TCP Client, IP: 192.168.1.50, Port: 50003
ZigBee Port 1	4, 1	Spur	ZigBee endpoint: 65535

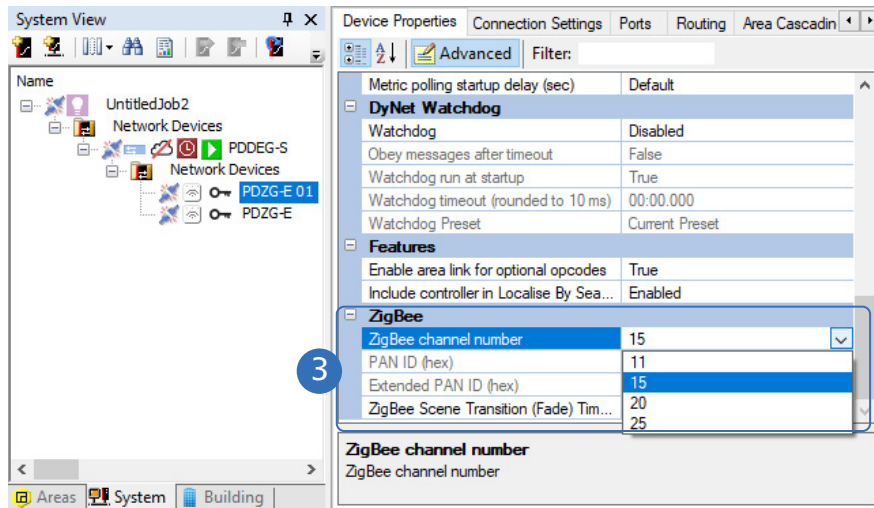
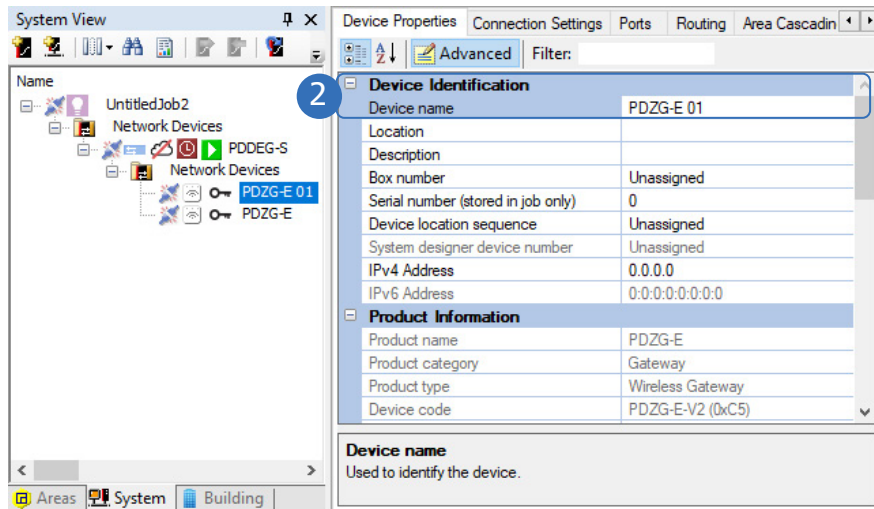
Add Wireless Gateways

1. In the **System** view, click **Insert Device from List**.
2. Select the tab **Network Devices**.
3. Under *Gateways – Wireless Gateway*, double-click the **PDZG-E**.
4. The PDZG-E is added to the topology.
5. If required, repeat to add more PDZG-E Wireless Gateways.

Create topology

1. Press **Shift** to multiselect the *PDZG-E Wireless Gateways*.
2. Move the devices under the PDDEG-S. Click **Yes** to confirm.
3. For each PDZG-E Wireless Gateway: on the tab **Ports**, check if System Builder created a TCP Client secured port that points to the IP address of the PDDEG-S Ethernet Gateway, so traffic is automatically routed to the Ethernet Gateway.

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Configure Wireless Gateways

1. In the **System** view, select a PDZG-E.
2. On the tab **Device Properties**, in the section *Device Identification*, give the device a unique name.

Important

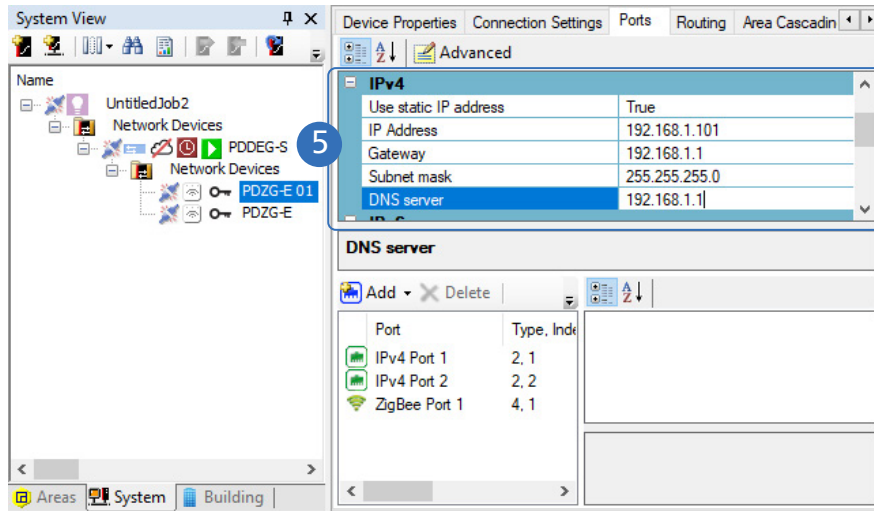
Give each PDZG-E a unique name, for example by adding a consecutive letter or number, or any other identification (for example: usage or location). This helps you identifying the correct Wireless Gateway when assigning the luminaires as the name also shows in the Philips Dynalite Enabler app.

3. Scroll down to the section *ZigBee*, select a **ZigBee channel number**.

Note

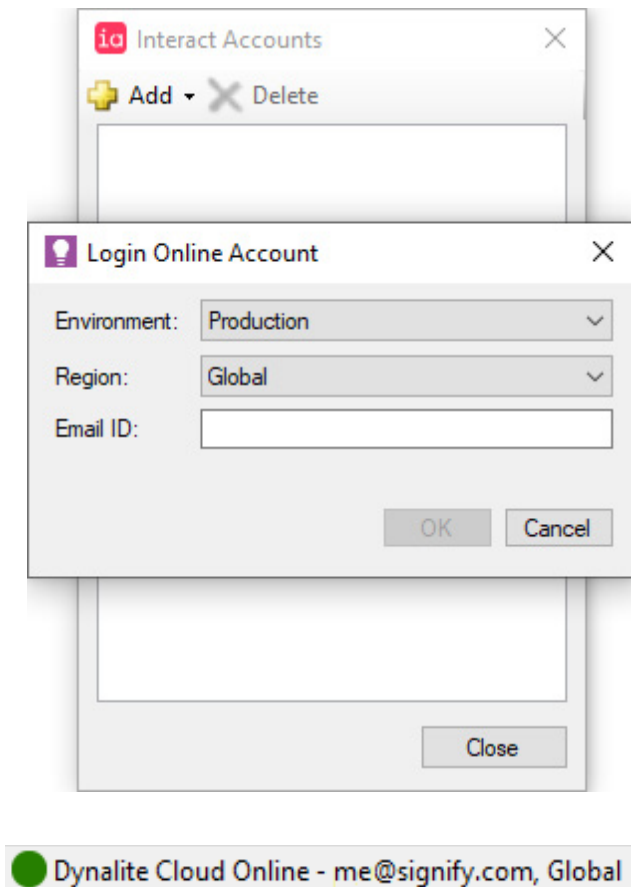
- Usage of the channel numbers 15, 20, 25 is recommended, of which channels 20 and 25 are preferred.
- In cases that there is a need of using identical channel numbers, always make sure that these channels don't overlap each other in the physical space.

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4. On the tab **Ports**, in the section IPv4, set the *Use static IP address* either to:
 - **False**
The gateway obtains a dynamic IP address from the PDDEG-S Ethernet Gateway, no additional configuration required.
 - **True**
Configure the static IP and network settings manually using the steps below.
5. When configuring a static IP address, manually set:
 - *IP address*: consecutive in the same range as the Site Gateway (for example: **192.168.1.101** for *Wireless Gateway 1*, **192.168.1.102** for *Wireless Gateway 2*, etcetera)
 - *Gateway*: **192.168.1.1**
 - *Subnet mask*: **255.255.255.0**
 - *DNS server*: **192.168.1.1**
6. Repeat for the other PDZG-E Wireless Gateways.

04 Offsite preparation



4.3.5 Save job file to the cloud (wireless only)

Once the preparation of the job file for wireless is finished, it needs to be uploaded to the cloud to make it available for onsite commissioning.

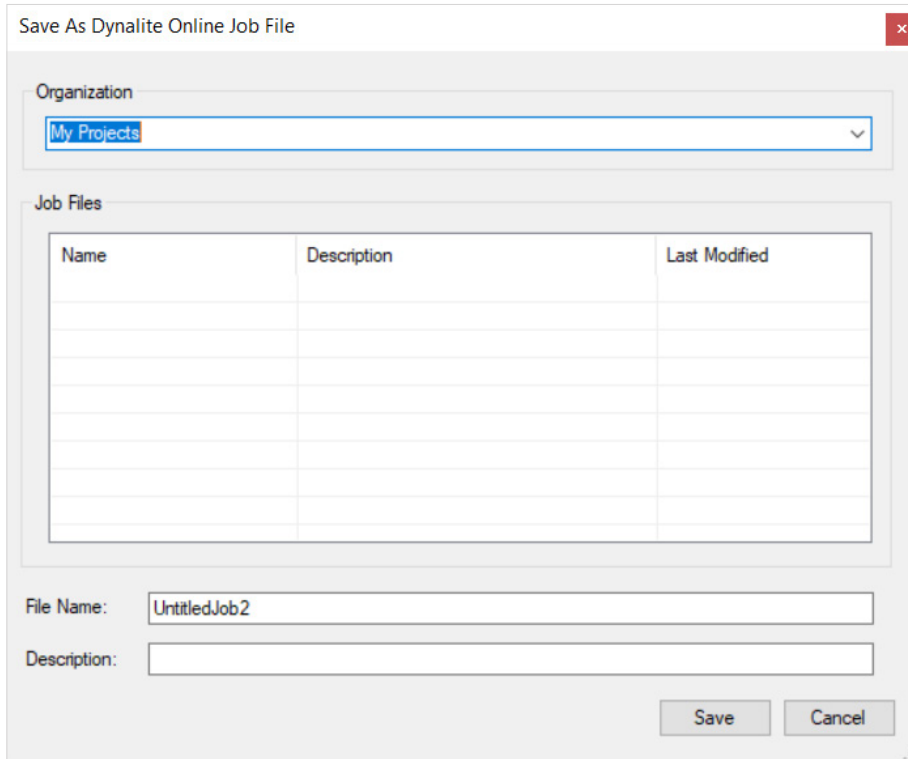
Login to the cloud

1. On the **Tools** menu, click **Interact Accounts**.
2. Click **Add** and select **Dynalite Cloud Account**.
3. For the first time, select:
 - **Environment: Production**
 - **Region: Global**
 - **Email ID:** the registered email addressClick **OK**.
4. Select your account to login to. If required, fill in your password.

Note

- Your user account must be registered before you can login to your Interact Account. This account can be requested via sme.interact-lighting.com.
- The status bar at the bottom shows your connection status and the region you're connected to.

04 Offsite preparation



Save As Dynalite Online Job File

Organization

My Projects

Job Files

Name	Description	Last Modified

File Name: UntitledJob2

Description:

Save Cancel

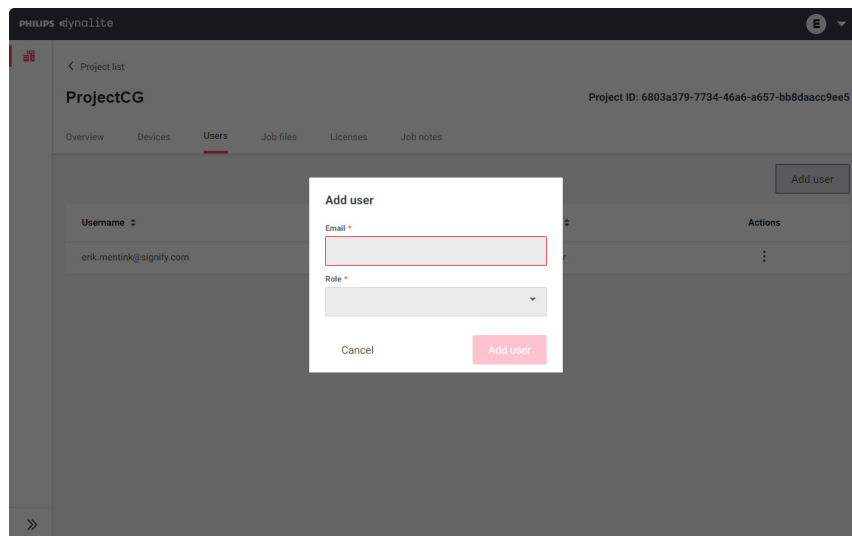
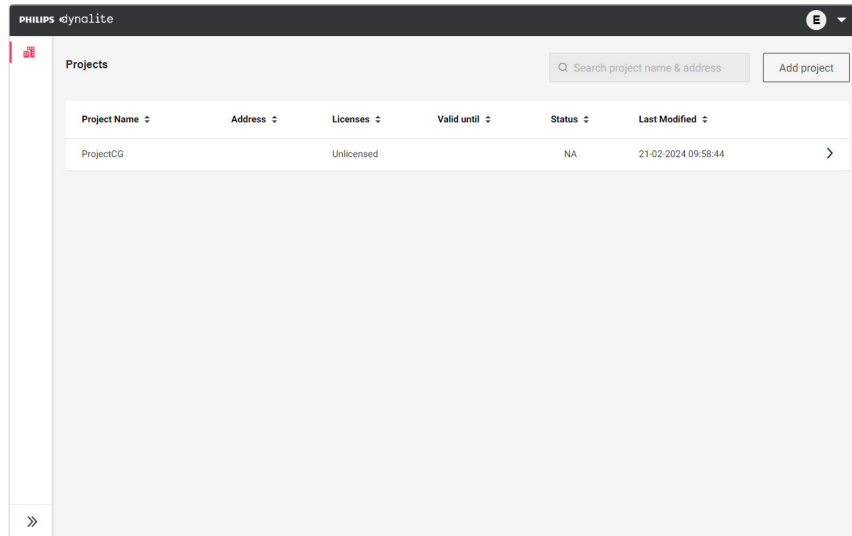
Save job file

1. On the **File** menu, click **Save As** and select **Save Job To Cloud**.
2. If applicable, select the *Organization*.
3. Provide a *File Name* and optionally a *Description*. Click **Save**.

! Important

Saving the job file to the cloud is only applicable for projects that are configured with wireless controls.

04 Offsite preparation



Account management

The person who saves the project to the cloud is the project owner. Only project owners can provide other Interact accounts access to the project using the Philips Dynalite Cloud Platform.

1. Open the webpage dynamite.interact-lighting.com and login with your credentials.
2. In the project list, select your project.
3. In the tab *Users*, click **Add user**.
4. Provide the email address and select a role:
 - **Viewer**: user has read only access
 - **User**: user has write access
 - **Owner**: user is project owner and will be able to add other users

! Important

Added users must have an Interact account. This account can be requested via sme.interact-lighting.com.

Note

For commissioning activities with the Philips Dynalite Enabler app, minimum **User** rights are necessary.

04 Offsite preparation

4.4 Plan installation and commissioning

4.4.1 Order hardware

In System Designer, following step 16. Generate Reports and 17. Produce Documentation you created the files that provide you an overview of the hardware to order. In the Project Template, search for the Bill of Materials (BoM) for both controls and luminaires. Filling in these pages helps you to process the ordering of the hardware.

4.4.2 Prepare commissioning

Before starting with commissioning, make sure:

- that a **USB** PC node and Ethernet cable are available;

Note

Use a computer with Windows 11 installed on it to connect via the USB PC Node.

- to have a computer with the latest version of System Builder installed on it;
- to download the latest firmware of the controllers from www.dynalite.com;
- when using the PDEG Ethernet Gateway as central store controller: to download the firmware package with version 3v54b3 from the MyLighting portal;
- to download the Store Control UI packages from the MyLighting portal;
- to agree with the IT department of the customer on the IP address of the Wireless Access Point.

04 Offsite preparation

4.4.3 Install Philips Dynalite Enabler app

ⓘ Important

Installing the Philips Dynalite Enabler App is only required for projects that are configured with wireless controls.

Before going onsite, install the Philips Dynalite Enabler app on your phone. The app is used to:

- Discover the wireless luminaires via Bluetooth,
- Assign the wireless luminaires to the correct Wireless Gateway
- Test the wireless communication of the wireless network

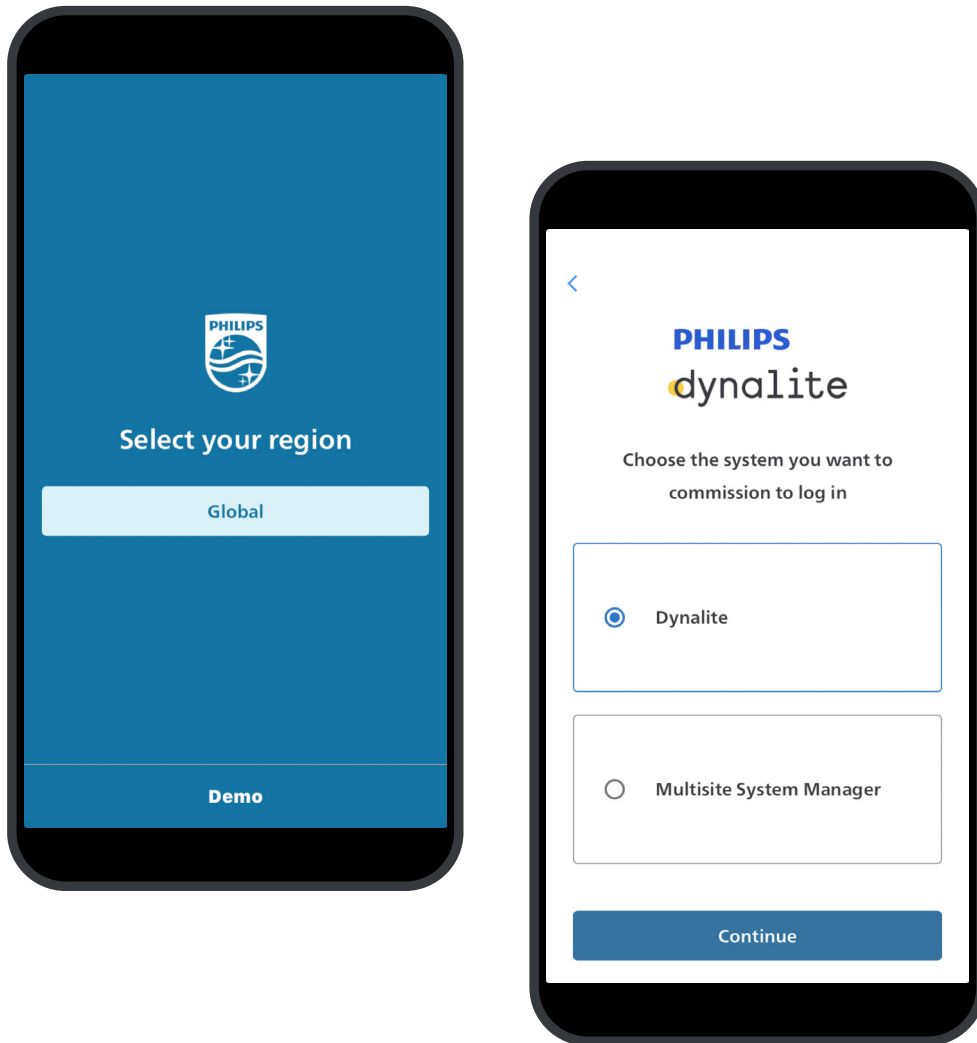


Download the Philips Dynalite Site Enabler app

The Site Enabler app is supported on Android and iOS.

- For Android, go to the Play Store. Search for 'dynalite enabler', select and install it.
- For iOS, go to the App Store. Search for 'dynalite enabler', select and install it.

04 Offsite preparation



Login to the app

It's recommended that the commissioning engineer checks upfront if the Site Enabler app functions as expected and prepares for the onsite commissioning.

1. Open the app on your device. For the first time, select the checkbox to agree with the **Terms of Software Service**.
2. Select your region: **Global**
3. Select the system you want to commission: **Dynalite**.
4. Enter your username (email address). Tap **Next**.
5. Enter your password. Tap **Sign in**.
6. Select the project to commission.

Note

- An active internet connection is required to synchronize between the Philips Dynalite Enabler app and the Dynalite cloud.
- At least you need to be registered as User to the project. Contact the project owner to create an account with sufficient access rights.
- Use the same account details to login to the Dynalite cloud in System Builder.

05 Onsite commissioning



5.1 Prerequisites

5.2 Wired commissioning

5.3 Wireless commissioning

5.4 Install and configure the Store Control UI

5.5 Create and install certificate

5.6 Verification and handover

05 Onsite commissioning

Before you start with the onsite activities, make sure to complete to plan the installation and commissioning well in advance. See the sections [4.4 Plan installation and commissioning](#) for more information.

This chapter describes the onsite commissioning of a system in the following situations:

- Wired commissioning, for projects with wired luminaires only. See section [5.2 Wired commissioning](#).
- Wireless commissioning, for projects with wireless luminaires, and hybrid projects with wired luminaires too. See section [5.3 Wireless commissioning](#).

Onsite activities consist of the following:

- Installation and wiring of the luminaires, including for example power and DALI, following the local guidelines and directives.
- Installation and wiring of the Dynalite network controllers, including sensors and user interfaces, according to the documentation produced during the offsite preparation.
- Additional commissioning of the controllers, assigning the luminaires to the correct areas, zones, and logical channels.
- If applicable, installation and setup of the Wireless Access Point for use

05 Onsite commissioning

5.1 Prerequisites

Before starting with commissioning, make sure that the following steps are completed:

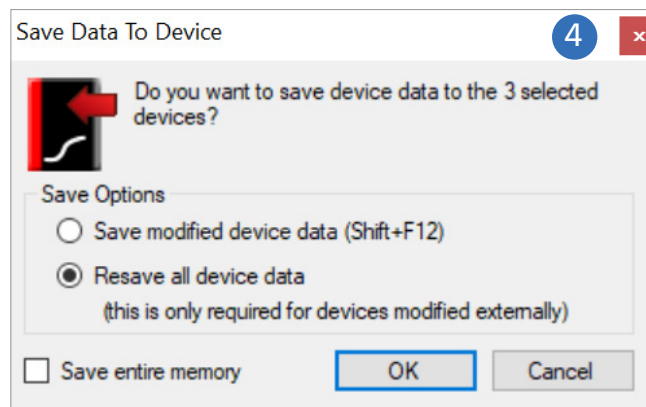
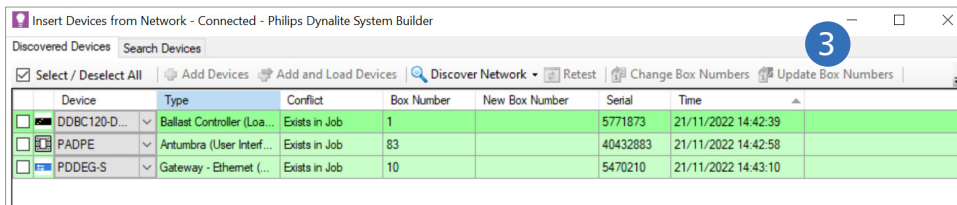
- Luminaires installed, wired, and powered ON
- Controllers are installed in the distribution board, wired (both power and DyNet) according to the corresponding installation instruction and powered ON.
- Sensors and user interfaces are installed and wired according to the corresponding installation instructions.
- Basic checks have been performed to make sure the controllers are wired correctly.
- A PD-PCN PC node is available.
- The recommended version of **System Builder** is installed on the PC of the commissioning engineer, and the **Technical license** is enabled.

ⓘ Important

For the recommended version of **System Builder**, see the [System Release Notes](#).

- The latest firmware of the Site Gateway is downloaded from the Signify Partner Portal.
- For projects configured for wireless: The Site Enabler app is installed on the phone of the commissioning engineer. See section [4.4.3 Install Philips Dynalite Site Enabler app](#).

05 Onsite commissioning



5.2 Wired commissioning

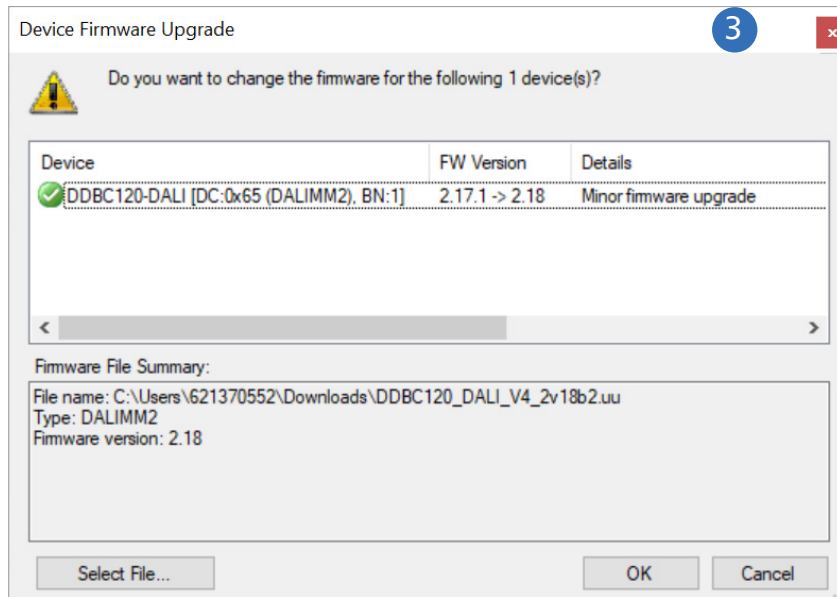
ⓘ Important

- See appendix [A3 - Configure DALI individual addressing](#) how to configure DALI individual addressing.
- See appendix [A4 - Configure DMX for RGB lighting](#) how to configure DMX for RGB lighting.

5.2.1 Discover devices

1. Open the job file of the project that you prepared during the offsite preparation.
2. Connect the PC to the DyNet using a USB PC Node (PD-PCN).
3. Use the sign-on button on each device to discover all devices.
Or: On the **Insert** menu, click **Devices from Network**. Click **Discover Network** and assign the discovered devices to the project.
4. Press **Shift** to multiselect all devices and press **F12**. Select **Resave all device data** and click **OK**.

05 Onsite commissioning



5.2.2 Upgrade firmware

⚠ Important

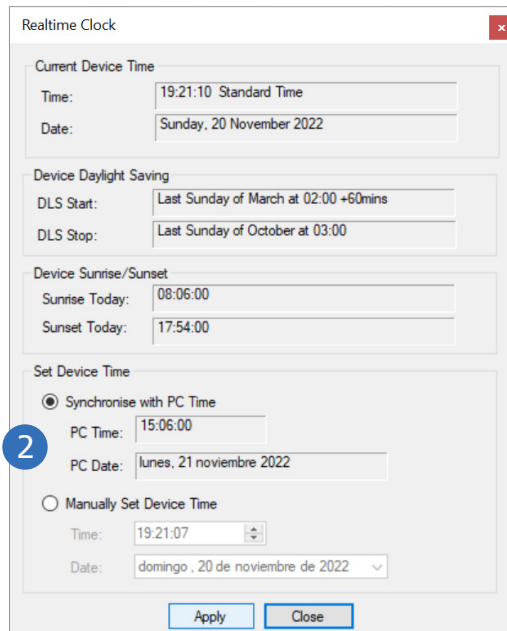
Don't upgrade the Ethernet Gateway, this will be done later during the commissioning process.

1. In the **System** view, select the devices in the list one by one.
2. Right-click the device and select **Firmware Upgrade**.
3. Select the previously downloaded and extracted uu-file that corresponds to the device (see section [4.4.2 Prepare commissioning](#)). Click **OK**.
4. Wait until the process is finished.
5. Right-click the device, click **Save To Device** and select **Save modified device data**. Click **OK**.

📝 Note

The firmware upgrade procedure can take up to 30 minutes per device.

05 Onsite commissioning



Realtime Clock

Current Device Time

Time: 19:21:10 Standard Time

Date: Sunday, 20 November 2022

Device Daylight Saving

DLS Start: Last Sunday of March at 02:00 +60mins

DLS Stop: Last Sunday of October at 03:00

Device Sunrise/Sunset

Sunrise Today: 08:06:00

Sunset Today: 17:54:00

Set Device Time

☒ Synchronise with PC Time

PC Time: 15:06:00

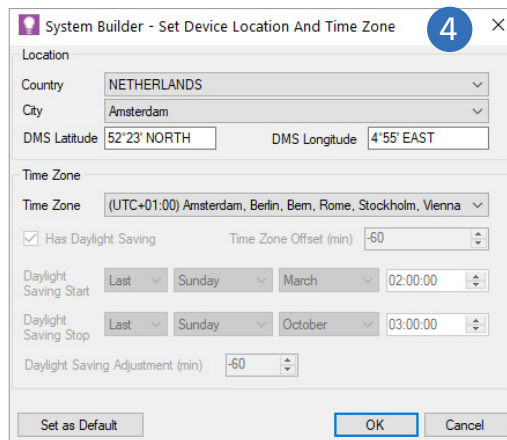
PC Date: lunes, 21 novembre 2022

☐ Manually Set Device Time

Time: 19:21:07

Date: domingo, 20 de noviembre de 2022

Apply Close



System Builder - Set Device Location And Time Zone

Location

Country: NETHERLANDS

City: Amsterdam

DMS Latitude: 52°23' NORTH DMS Longitude: 4°55' EAST

Time Zone

Time Zone: (UTC+01:00) Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna

☒ Has Daylight Saving Time Zone Offset (min): -60

Daylight Saving Start: Last Sunday March 02:00:00

Daylight Saving Stop: Last Sunday October 03:00:00

Daylight Saving Adjustment (min): -60

Set as Default OK Cancel

5.2.3 Configure the Ethernet Gateway

Set location and time zone

The Ethernet Gateway needs to run on the correct time and location information.

1. In the **System** view, right-click the Ethernet Gateway and select **Network Actions > Set Realtime Clock**.
2. Select the option **Synchronise with PC Time**. Click **Apply** and **Close**.
3. Again, right-click the Ethernet Gateway and select **Configure > Set Location and Timezone**.
4. Select the correct **Country** and **City**.
Or: select the **Time Zone** that corresponds with the site location.



Note

You can also set or change the location and time zone with the Store Control UI.

05 Onsite commissioning

3 User Properties

Name	Store Staff
Password
Enable	True

General Permissions

FTP	Enabled
Telnet	Enabled
Web server	Enabled
Web Socket / Cloud Connection	Enabled

Web Server Permissions

Web pages (HTTP GET)	Enabled
File upload (HTTP POST)	Enabled
CGI	Enabled

Feature Permissions

User management read	Enabled
User management write	Disabled
Certificate read	Enabled
Certificate write	Enabled

4

Add Store Staff

1. In the **System** view, select the Ethernet Gateway.
2. Select the tab **Users**.
3. Select the user **Store Staff** and create a password for this user. Confirm the password.

! Important

- Create a password consisting of capital and lowercase letters, numbers and special characters with a minimum length of 10 characters, for example Xa%83HKn?4
- Make sure that you remember the password and store it at a safe place. You need it to login to the UI.

4. Check if the setting **User Management Write** is set to *Disabled*.

05 Onsite commissioning

Connect to the Wireless Access Point

Note

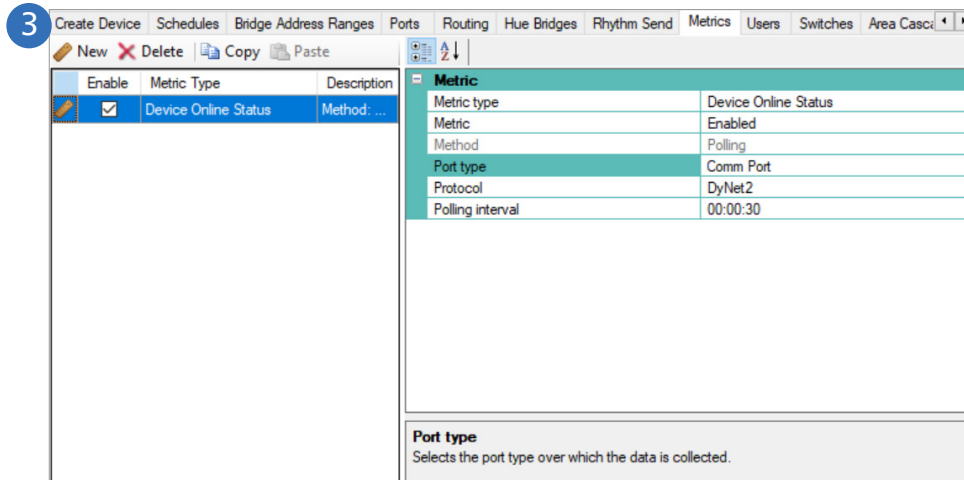
- When using the PDTs, you can skip this procedure, but make sure to fill in all details in the **Device Properties** tab.
- In this document, the Wireless Access Point is configured with the IP address **192.168.1.50**.

1. In the **System** view, right-click the Ethernet Gateway and select **Bridge Configuration Wizard**.
2. Select **DyNet Ethernet Access Point** and complete the following settings before you click **Next**:
 - a. Select the **Connections** checkbox.
 - b. Select the **Static IPv4 Address** checkbox.
 - c. Enter the agreed IP address, in this example **192.168.1.50**.
 - d. Enter the router subnet mask, for example **255.255.255.0**.
 - e. Select the **Web Server** checkbox and select **HTTPS**.
3. Click **Next** and **Finish** to close the wizard.

Tip

In case the HTTPS option is not available, clear the **Web Server** checkbox and select it again.

05 Onsite commissioning

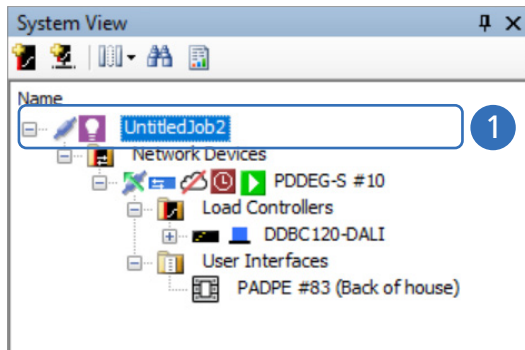


Configure Metrics

Metrics enable the device status feedback in the Store Control UI.

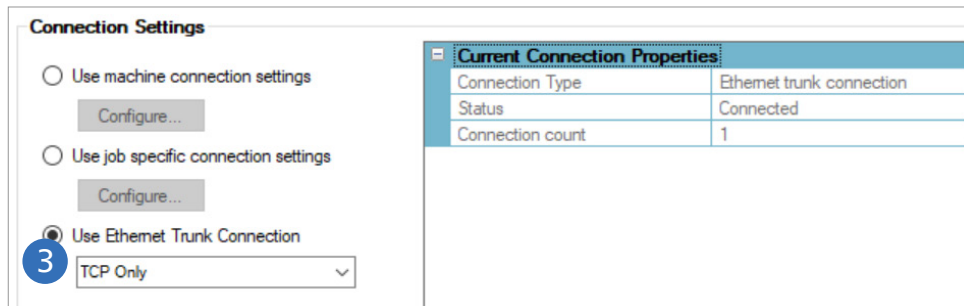
1. In the **System** view, select the Ethernet Gateway.
2. Select the tab **Metrics**.
3. Click **New** and complete the following settings:
 - Port type: *Comm Port*
 - Polling interval: *00:00:30*
4. Right-click the device, click **Save To Device** and select **Save modified device data**. Click **OK**.

05 Onsite commissioning



Configure connection settings

1. In the **System** view, select the project name given to the job file.
2. Select the tab **Connection Settings**.
3. Select **Use Ethernet Trunk Connection** and click **Yes** to reconnect.
4. Check the connection status in the lower-right corner.
5. Save the job file.



4 Connected - 1 / 1 TCP Connection (Trunk, Automatic)

05 Onsite commissioning

Check the firmware version of the Ethernet Gateway

1. Check the firmware version of the Ethernet Gateway with the recommended firmware version on the MyLighting portal.
2. If necessary, load the correct firmware version following the instructions that can be found on the MyLighting portal.

5.3 Wireless commissioning



Note

The procedures in this section are applicable for projects that are configured for wireless and can also be used for hybrid projects (consisting of wired and wireless controllers)

5.3.1 Commission using the System Enabler app



Important

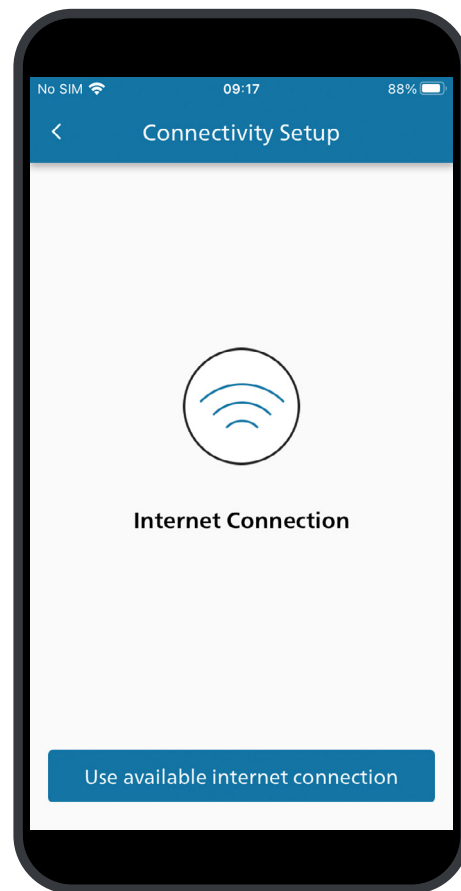
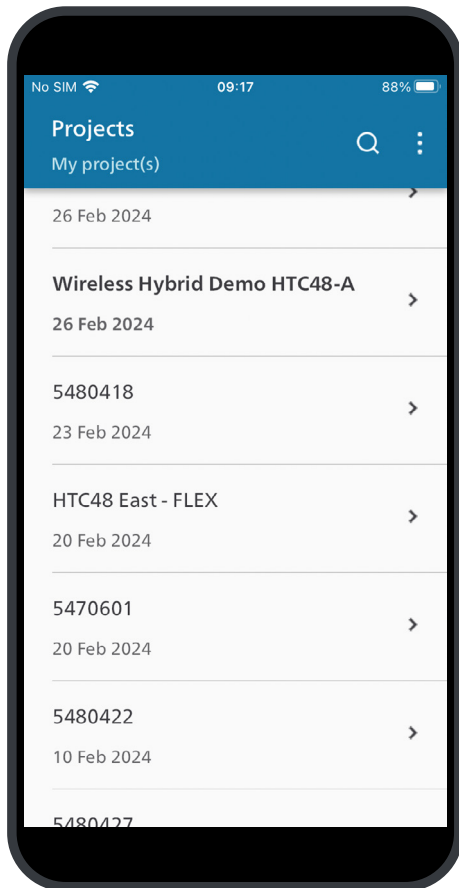
Always make sure to synchronize the data of the commissioned project. Don't uninstall the app or change the project as this will prevent synchronizing.



Tip

In case that there is no internet connection available in the building, start the app outside of the building and open the project, then go inside and commission the project, and then synchronize the data outside of the building.

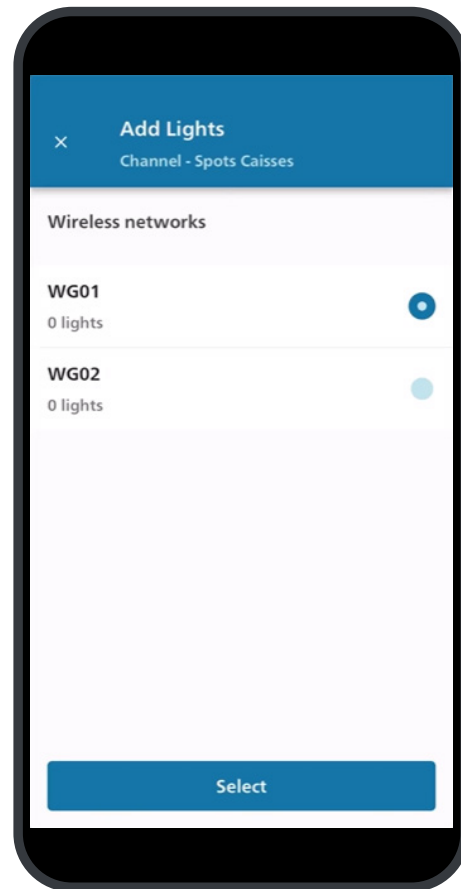
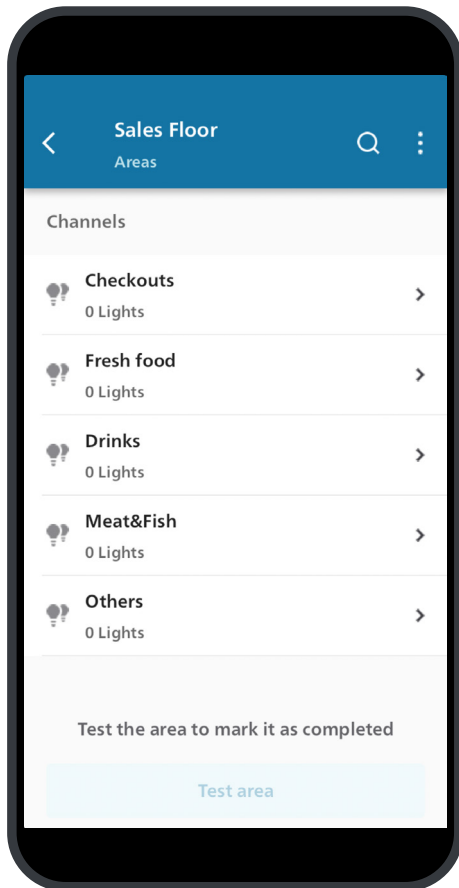
05 Onsite commissioning



Setup internet connectivity

1. Login to the app and select the project.
2. Tap **Establish connectivity**. Select **Use available internet connection**.
3. The system checks the internet connection.
4. Tap **Done**.

05 Onsite commissioning



Add lights

1. In the app, tap **Area commissioning**.
2. Select an *Area* and a *Channel* to commission.

ⓘ Important

Don't use the area called Unassigned Area for commissioning.

📄 Note

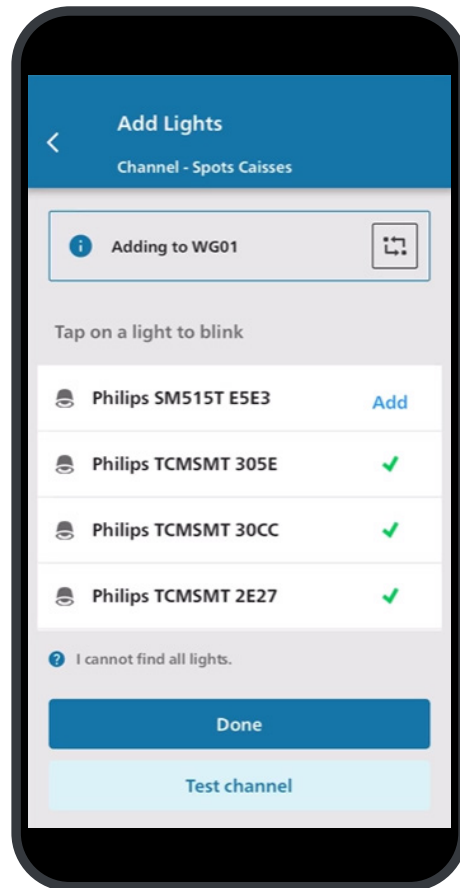
In case the app asks permission to use Bluetooth, tap **Allow**.

3. Tap **Add lights**.
4. Using the light plan, select the Wireless network to add the light to. Tap **Select**.
The app uses Bluetooth to scan for lights nearby. A list with lights that are found shows.

📄 Note

Each wireless network corresponds with a Wireless Gateway.

05 Onsite commissioning



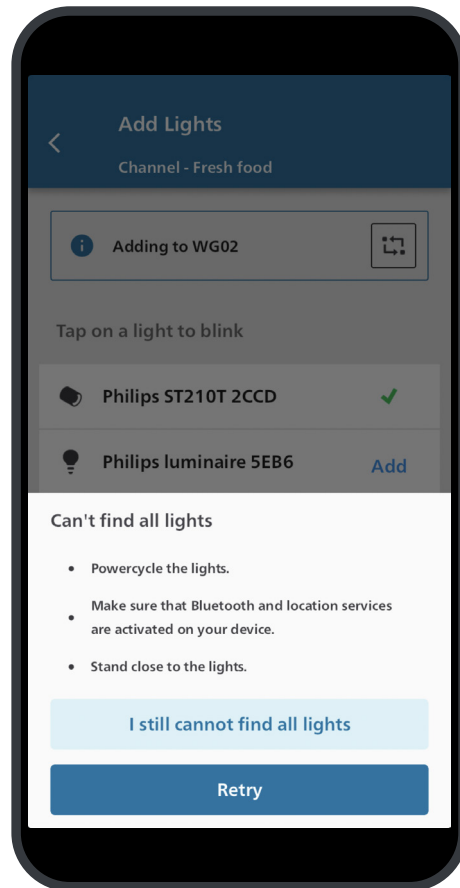
5. Tap the luminaire icon to blink the light. This helps with identification of the lights.

 **Note**

Write down on the light plan the id that belongs to the specific light.

6. If the blinked light belongs to the channel, tap **Add**.
7. Repeat for all lights in the channel. Tap **Done** if all lights are added to the channel.

05 Onsite commissioning



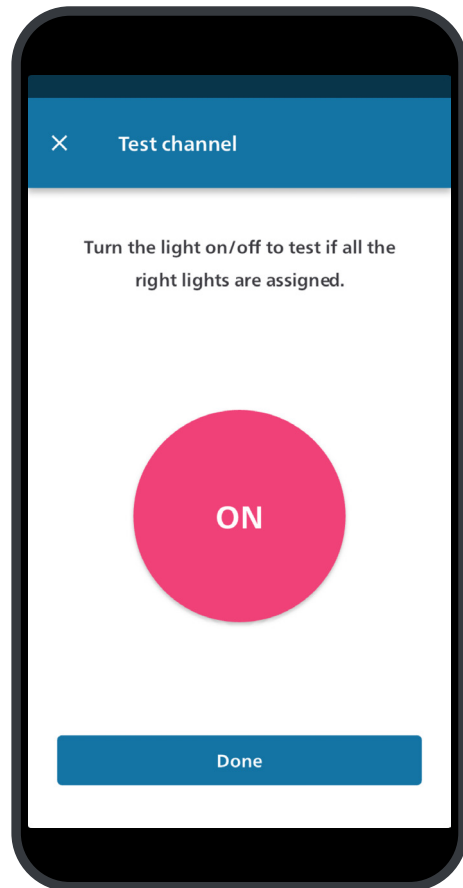
Reset lights

Note

Sometimes lights may already be assigned to a wireless network. In this case a reset of the lights is necessary.

1. In case not all lights can be found, tap **I cannot find all lights**.
2. Follow the explanation and tap **Retry**.
3. If the problem persists, tap **I cannot find all lights** and then **I still cannot find all lights**.
4. Tap the luminaire icon to blink the light. When you find a light that belongs to the channel that you are editing, tap **Reset**.
5. Add the light to the channel following the previous procedure.

05 Onsite commissioning



Test channel

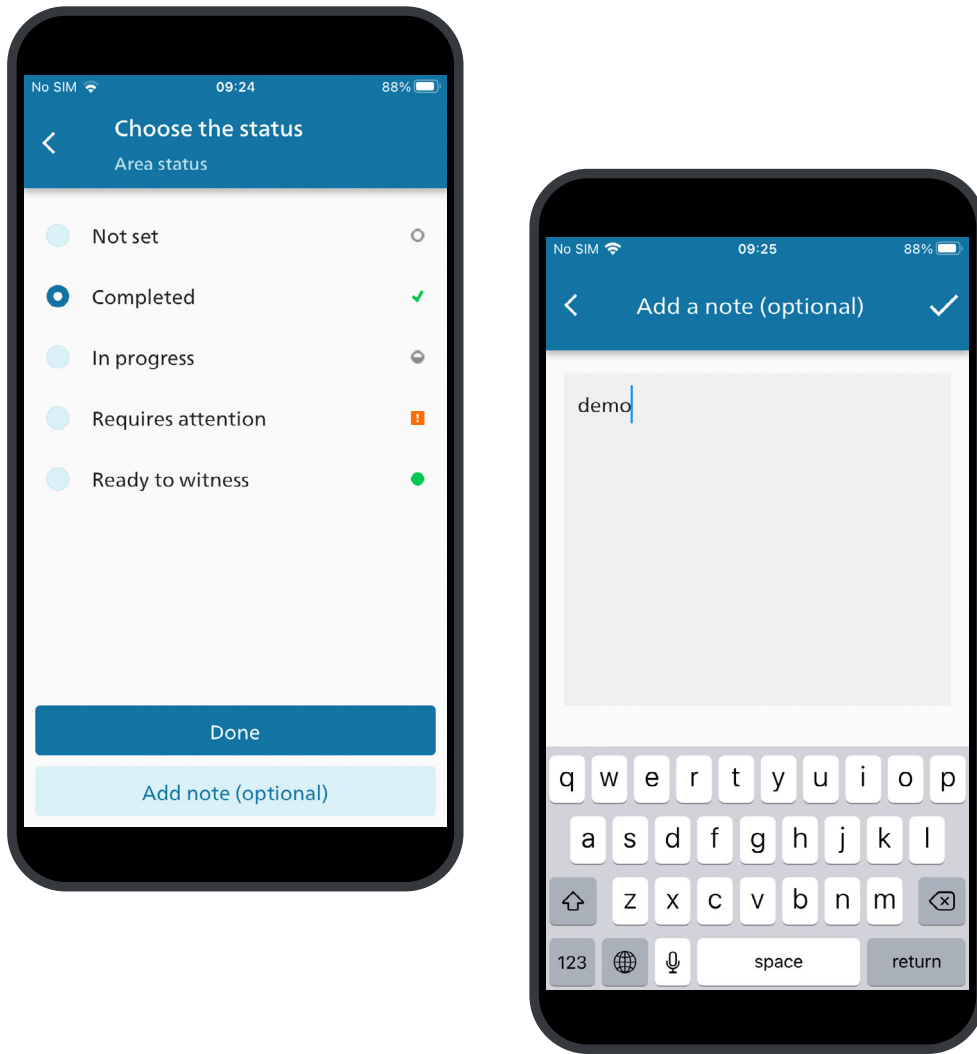
1. After finishing adding lights to a channel, tap **Test channel**.
2. Tap the button **ON/OFF** to turn on or off the lights. Check if the lights corresponding to the channel respond as expected.

Note

- It takes some time before the button becomes responsive.
- The button shows the state of the lights in the channel: Red is **ON**, grey is **OFF**.

3. When ready, tap **Done**.
4. Proceed with a next channel to add lights to.

05 Onsite commissioning



Test Area

1. After finishing all channels, select the area.
2. Tap **Test area**.
3. Tap the button **ON/OFF** to turn on or off the lights. Check if the lights corresponding to the channel respond as expected.

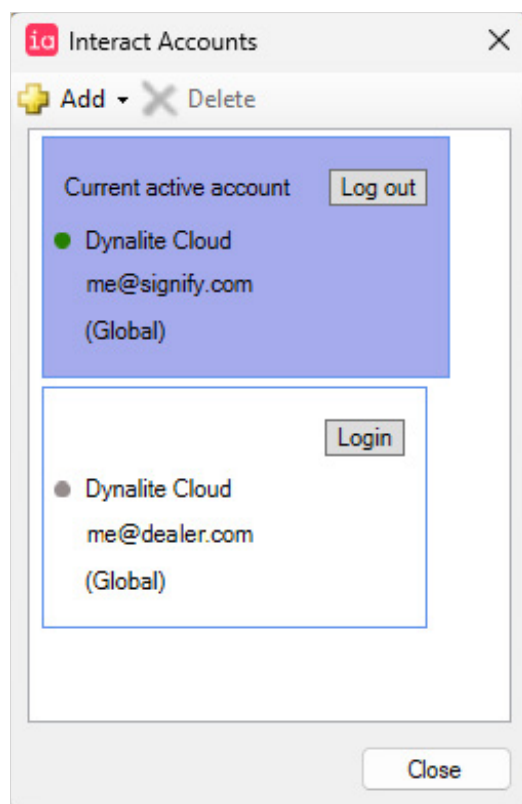
Note

- It takes some time before the button becomes responsive.
- The button shows the state of the lights in the channel: Red is **ON**, grey is **OFF**.

4. When ready, tap **Next**. Select the status of the area.
5. Optionally, it's possible to add a note the status of the area.

Repeat the procedure in this section for the other areas and wireless networks.

05 Onsite commissioning



● Dynalite Cloud Online - me@signify.com, Global

5.3.2 Retrieve job file

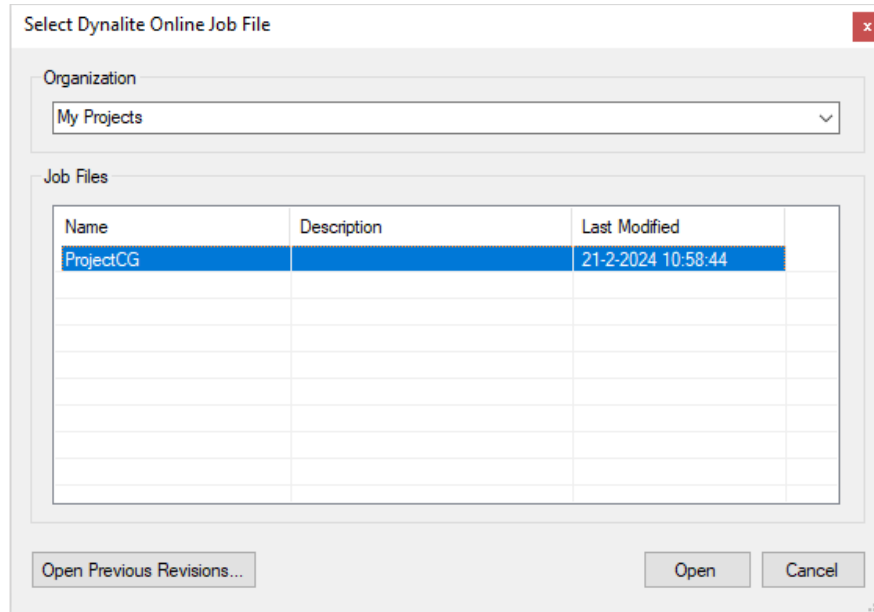
Login to the cloud

1. Connect the PC to the internet and run the recommended version of System Builder.
2. On the **Tools** menu, click **Interact Accounts**. Check if you are logged into **Dynalite Cloud**.

Note

- Your user account must be registered before you can login to your Interact Account. See section [4.3.5 Save job file to the cloud \(wireless only\)](#).
- The status bar at the bottom shows your connection status and the region you're connected to.

05 Onsite commissioning

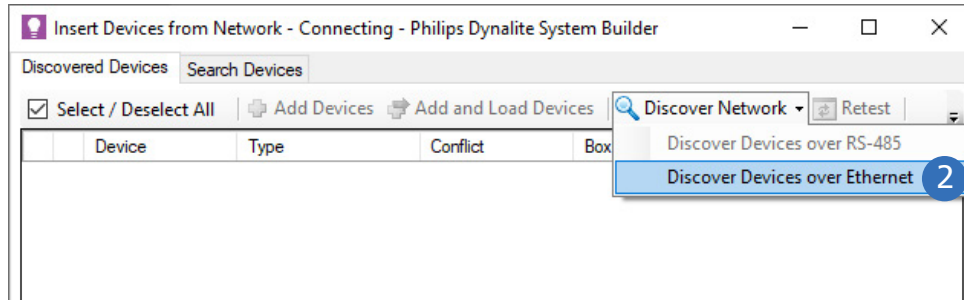


Download job file

1. On the **File** menu, click **Open** and select **Open Job From Cloud**.
2. If applicable, select the **Organization**.
3. Select the name of the job file to open. Click **Open**.
4. Check if a green padlock shows next to the project name.



05 Onsite commissioning



5.3.3 Discover devices

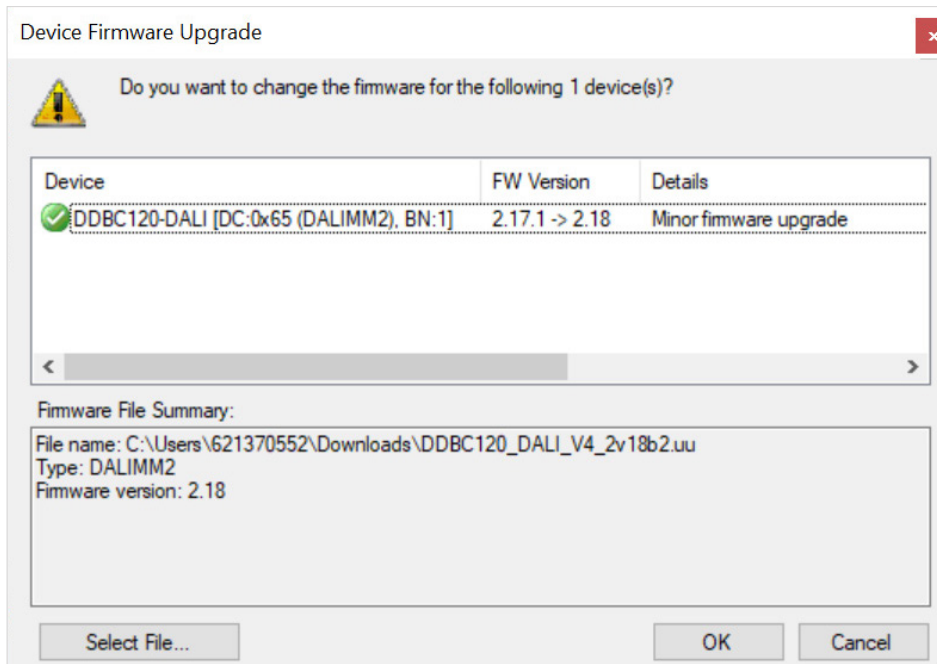
Note

Make sure to connect the PC to the DyNet using a USB PC node.

General

1. Use the sign-on button on each device to discover all devices.
Or: On the Insert menu, click **Devices from Network**. Click **Discover Network** and assign the discovered devices to the project.
2. Press **Shift** to multiselect all devices and press **F12**. Select **Resave all device data** and click **OK**.

05 Onsite commissioning



5.3.4 Upgrade firmware

1. In the **System** view, select the devices in the list one by one.
2. Right-click the device and select **Firmware Upgrade**.
3. Select the previously downloaded and extracted uu file that corresponds to the device (see section [4.4.2 Prepare commissioning](#)). Click **OK**.
4. Wait until the process is finished.
5. Right-click the device, click **Save To Device** and select **Save modified device data**. Click **OK**.

Note

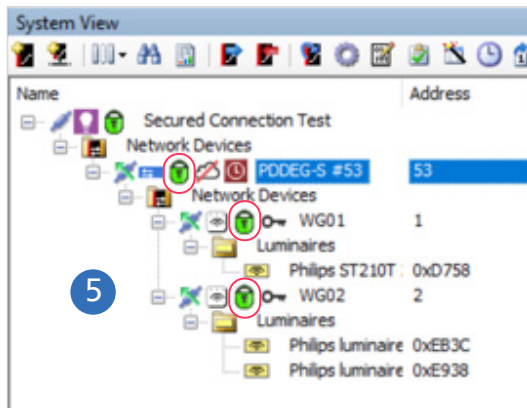
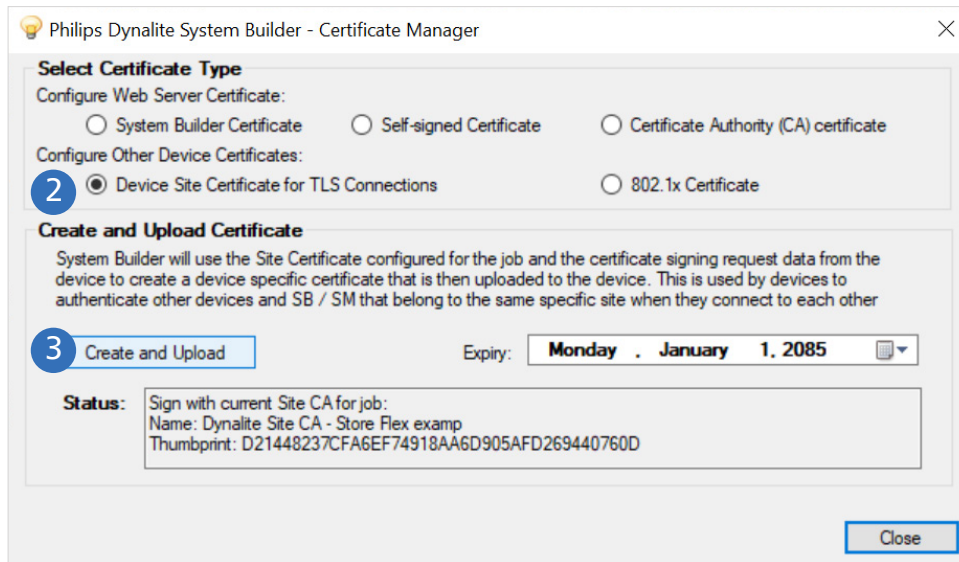
The firmware upgrade procedure can take up to 30 minutes per device.

6. On the **File** menu, click **Save As** and select **Save Job To Cloud** to keep the job file updated.

Note

- Check if any luminaire that has been added using the Enabler app appears under its associated PDZG-E Wireless Gateway.
- No luminaires added yet? Then proceed with securing the Ethernet devices. See section [5.3.5 Secure the Ethernet devices](#).

05 Onsite commissioning



5.3.5 Secure the Ethernet devices

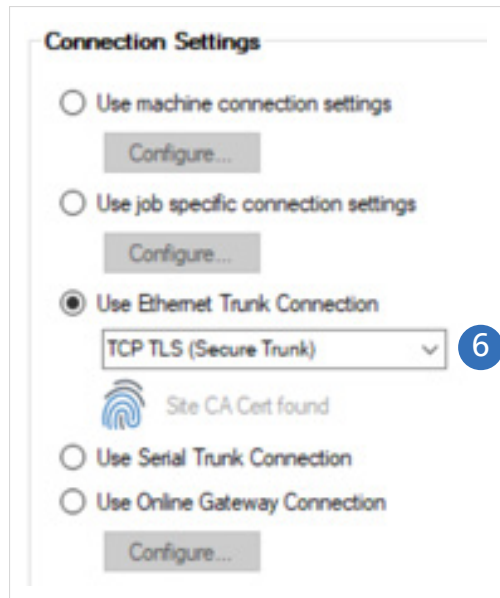
Create a site certificate:

1. From the Tools menu, select **Set Site CA Certificate** and click the **Create** button.
2. Click the **Yes** button to export the certificate and add a password.
3. Save the file to your PC and then click the **Close** button.

Apply security certificates

1. In the **System** view, right-click the PDDEG-S and select **Gateway Actions > Manage Certificate**.
2. In *Select Certificate Type*, select **Device Site Certificate for TLS Connections**.
3. Click **Create and Upload** and click **Close**.
4. Repeat also for all PDZG-E devices in the project.
5. Check if all devices now show a green padlock.
6. On the **File** menu, click **Save As** and select **Save Job To Cloud** to keep the job file updated.

05 Onsite commissioning



Change connection setting

1. In the **System** view, select the PDDEG-S.
2. On the tab **Connection Settings**, under the option *Use Ethernet Trunk Connection*, select **TCP TLC**.
3. On the **File** menu, click **Save As** and select **Save Job To Cloud** to keep the job file updated.

05 Onsite commissioning

2

Enable	From	To	Filters
<input checked="" type="checkbox"/>	IPv4 Port 1, Trunk, TCP Client, IP: 192.168.1.50	ZigBee Port 1, Spur	No filter
<input checked="" type="checkbox"/>	Metrics Collection	IPv4 Port 1, Trunk, TCP Client, IP: 192.168.1.50	No filter
<input checked="" type="checkbox"/>	Internal Messages	IPv4 Port 1, Trunk, TCP Client, IP: 192.168.1.50	No filter
<input checked="" type="checkbox"/>	ZigBee Port 1, Spur	IPv4 Port 1, Trunk, TCP Client, IP: 192.168.1.50	No filter

3

Port	Type, Index	Connection	Description
IPv4 Port 1	2, 1	Trunk	TCP Client, IP: 192.168.1.50, Port: 50443, Secure
ZigBee Port 1	4, 1	Spur	ZigBee endpoint: 65535

Port	
Port type	DyNet2
Mode	Client
IP Address / Hostname	192.168.1.50
Port Number	50443
Protocol	TCP
Send on service	Disabled

Flags	
Secure port	True

6

Port	Type...	Connec...	Description
Comm Port 1	1, 1	Spur	Baudrate: 9600
IPv4 Port 1	2, 1	Trunk	TCP Server, Port: 51443, Secure
IPv4 Port 2	2, 2	Spur	TCP Server, Port: 50443, Secure
Web Socket 1 / Cloud Connection / BACnet	5, 1	Trunk	

Secure Ethernet connections

1. In the **System** view, select a **PDZG-E**.
2. On the tab **Routing**, make sure that the unsecured port **50000** is replaced by the secured port **50443**.
3. On the tab **Ports**, make sure to delete port **50000** to avoid any unsecured connection.
4. Repeat for all PDZG-E Wireless Gateways in the project.
5. In the **System** view, select a **PDDEG-S**.
6. On the tab **Ports**, make sure to delete all unsecure ports:
 - Port **50000**
 - Port **UDP**
7. Repeat for all PDDEG-S Ethernet Gateways in the project (if any).
8. Press **Shift** to multiselect all devices and press **F12**. Select **Resave all device data** and click **OK**.
9. On the **File** menu, click **Save As** and select **Save Job To Cloud** to keep the job file updated.

05 Onsite commissioning

Realtime Clock

Current Device Time

Time: 19:21:10 Standard Time

Date: Sunday, 20 November 2022

Device Daylight Saving

DLS Start: Last Sunday of March at 02:00 +60mins

DLS Stop: Last Sunday of October at 03:00

Device Sunrise/Sunset

Sunrise Today: 08:06:00

Sunset Today: 17:54:00

Set Device Time

☒ Synchronise with PC Time

PC Time: 15:06:00

PC Date: lunes, 21 novembre 2022

☐ Manually Set Device Time

Time: 19:21:07

Date: domingo, 20 de noviembre de 2022

Apply Close

System Builder - Set Device Location And Time Zone

Location

Country: NETHERLANDS

City: Amsterdam

DMS Latitude: 52°23' NORTH DMS Longitude: 4°55' EAST

Time Zone

Time Zone: (UTC+01:00) Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna

☒ Has Daylight Saving Time Zone Offset (min): -60

Daylight Saving Start: Last Sunday March 02:00:00

Daylight Saving Stop: Last Sunday October 03:00:00

Daylight Saving Adjustment (min): -60

Set as Default OK Cancel

5.3.6 Configure the Ethernet Gateway

Set location and time zone

The Ethernet Gateway requires to run on the correct time and location information.

1. In the **System** view, right-click the Ethernet Gateway and select **Network Actions > Set Realtime Clock**.
2. Select the option **Synchronise with PC Time**. Click **Apply** and **Close**.
3. Again, right-click the Ethernet Gateway and select **Configure > Set Location and Timezone**.
4. Select the correct **Country** and **City**.
Or: select the **Time Zone** that corresponds with the site location.



Note

You can also set or change the location and time zone with the Store Control UI.

05 Onsite commissioning

3 User Properties	
Name	Store Manager
Password	●●●●●●●●●●●●●●●●
Enable	True
General Permissions	
FTP	Enabled
Telnet	Enabled
Web server	Enabled
Web Socket / Cloud Connection	Enabled
Web Server Permissions	
Web pages (HTTP GET)	Enabled
File upload (HTTP POST)	Enabled
CGI	Enabled
Feature Permissions	
User management read	Enabled
User management write	Enabled
Certificate read	Enabled
Certificate write	Enabled

Add users

To create access to the login screen of the Store Control UI, there are two users defined with different access rights.

Add Store Manager

1. In the **System** view, select the Ethernet Gateway.
2. Select the tab Users.
3. Select the user **Store Manager** and create a password for this user. Confirm the password.

ⓘ Important

- Create a password consisting of capital and lowercase letters, numbers and special characters with a minimum length of 10 characters, for example Vu@95dGk!0
- Make sure that you remember the password and store it at a safe place. You need it to login to the UI.

05 Onsite commissioning

3	User Properties	
	Name	Store Staff
	Password
	Enable	True
	General Permissions	
	FTP	Enabled
	Telnet	Enabled
	Web server	Enabled
	Web Socket / Cloud Connection	Enabled
	Web Server Permissions	
	Web pages (HTTP GET)	Enabled
	File upload (HTTP POST)	Enabled
	CGI	Enabled
	Feature Permissions	
	User management read	Enabled
4	User management write	Disabled
	Certificate read	Enabled
	Certificate write	Enabled

Add Store Staff

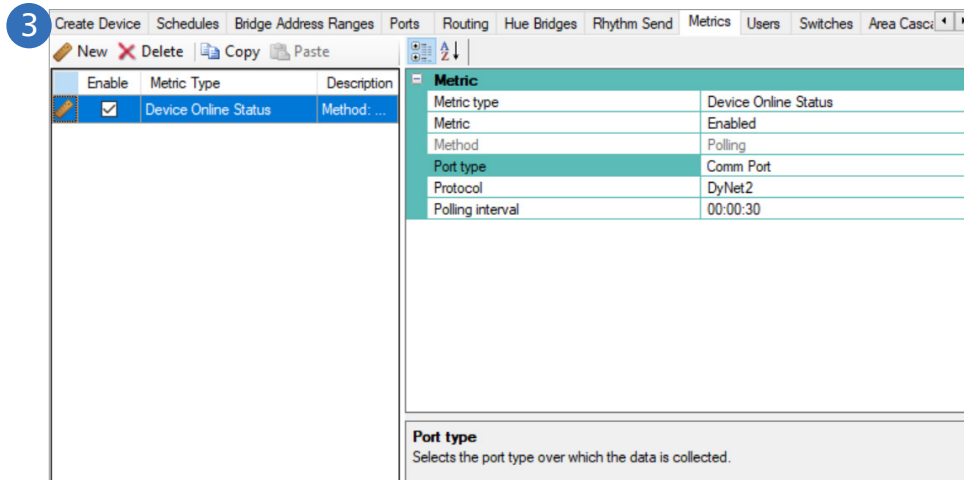
1. In the **System** view, select the Ethernet Gateway.
2. Select the tab **Users**.
3. Select the user **Store Staff** and create a password for this user. Confirm the password.

ⓘ Important

- Create a password consisting of capital and lowercase letters, numbers and special characters with a minimum length of 10 characters, for example Xa%83HKn?4
- Make sure that you remember the password and store it at a safe place. You need it to login to the UI.

4. Check if the setting **User Management Write** is set to *Disabled*.

05 Onsite commissioning

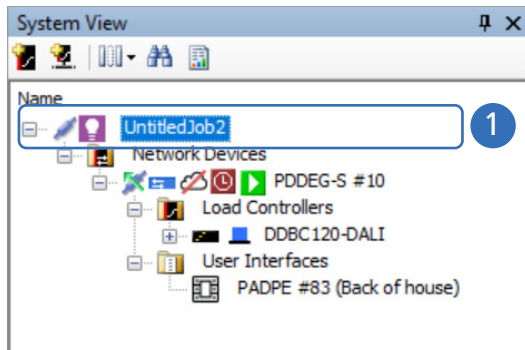


Configure Metrics

Metrics enable the device status feedback in the Store Control UI.

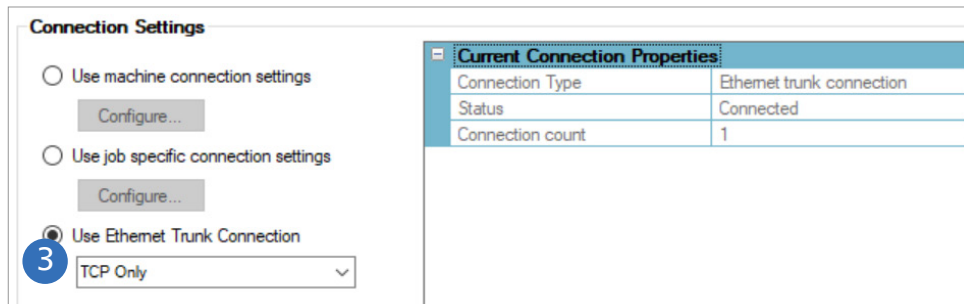
1. In the **System** view, select the Ethernet Gateway.
2. Select the tab **Metrics**.
3. Click **New** and complete the following settings:
 - Port type: *Comm Port*
 - Polling interval: *00:00:30*
4. Right-click the device, click **Save To Device** and select **Save modified device data**. Click **OK**.

05 Onsite commissioning



Configure connection settings

1. In the **System** view, select the project name given to the job file.
2. Select the tab **Connection Settings**.
3. Select **Use Ethernet Trunk Connection** and click **Yes** to reconnect.
4. Check the connection status in the lower-right corner.
5. Save the job file.



4 Connected - 1 / 1 TCP Connection (Trunk, Automatic)

05 Onsite commissioning

Device Properties					Connection Settings	Outputs	Bridge Address Ranges	Ports	Routing	Metrics	Area Cascading	Tasks	Device Diagnostic	Product Details
	Short Address	Device Address	Group ID	Firmware Version	RSSI									
1	0x0000	00:17:88:01:07:1D:5E:06	1056	6.6.12										
2	0x0038	00:17:88:01:07:1D:59:46	1056	6.6.13										
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														
21														
22														
23														
24														
25														
26														

User Preset	Group Message Status	Unicast Sync Status
Preset 1	No pending	Synchronised
Preset 2	No pending	Synchronised
Preset 3	No pending	Synchronised
Preset 4	No pending	Synchronised
Preset 5	No pending	Synchronised
Preset 6	No pending	Synchronised
Preset 7	No pending	Synchronised
Preset 8	No pending	Synchronised
Preset 9	No pending	Synchronised
Preset 10	No pending	Synchronised
Preset 11	No pending	Synchronised
Preset 12	No pending	Synchronised
Preset 13	No pending	Synchronised
Preset 14	No pending	Synchronised
Preset 15	No pending	Synchronised
Preset 16	No pending	Synchronised
Preset 17	No pending	Synchronised
Preset 18	No pending	Synchronised

System Preset	Group Message Status	Unicast Sync Status
Preset 1	No pending	Synchronised
Preset 2	No pending	Synchronised
Preset 3	No pending	Synchronised
Preset 4	No pending	Synchronised
Preset 5	No pending	Synchronised
Preset 6	No pending	Synchronised
Preset 7	No pending	Synchronised

5.3.7 Verify the wireless system

After completing all steps, including adding the wireless luminaires, you can proceed with system verification:

1. In the **System** view, select a **PDZG-E**.
2. On the tab **Device Diagnostics**, check if all added luminaires appear.

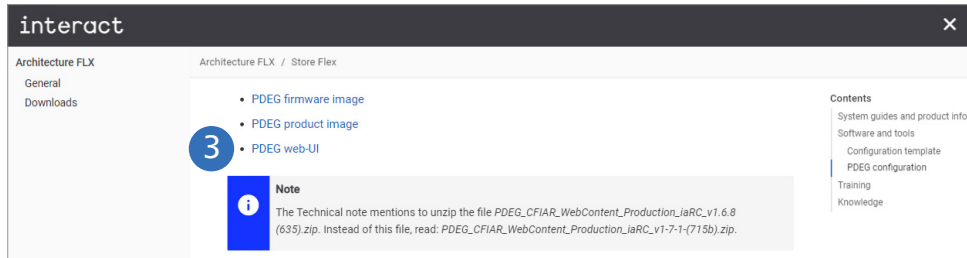


Note

Loading this tab may take several minutes.

3. Check for each luminaire if the scenes (maximum of 64) are synchronized.
4. Send **Preset** messages to the luminaires and check if everything is working accordingly.
5. Repeat for all PDZG-E Wireless Gateways in the project.

05 Onsite commissioning



```
{
  "use24hourformat": false,
  "selectedFirstDayOfWeek": "7",
  "outdoor": null,
  "timeFormat": {
    "_24Hours" : "HH:mm",
    "_12Hours" : "hh:mm A"
  },
  "dateFormat": "DD MMMM, YYYY",
  "isScheduleDisable": false
}
```

```
{
  "use24hourformat": false,
  "selectedFirstDayOfWeek": "7",
  "outdoor": 4,
  "timeFormat": {
    "_24Hours" : "HH:mm",
    "_12Hours" : "hh:mm A"
  },
  "dateFormat": "DD MMMM, YYYY",
  "isScheduleDisable": false
}
```

5.4 Install and configure the Store Control UI

5.4.1 Download the Store Control UI

1. Login to the Signify MyLighting portal.
2. On the Dashboard, click **HTML technical documents** and open the pages for **Store Flex**.
3. Download the package with the web-UI that corresponds with the gateway that you configured.

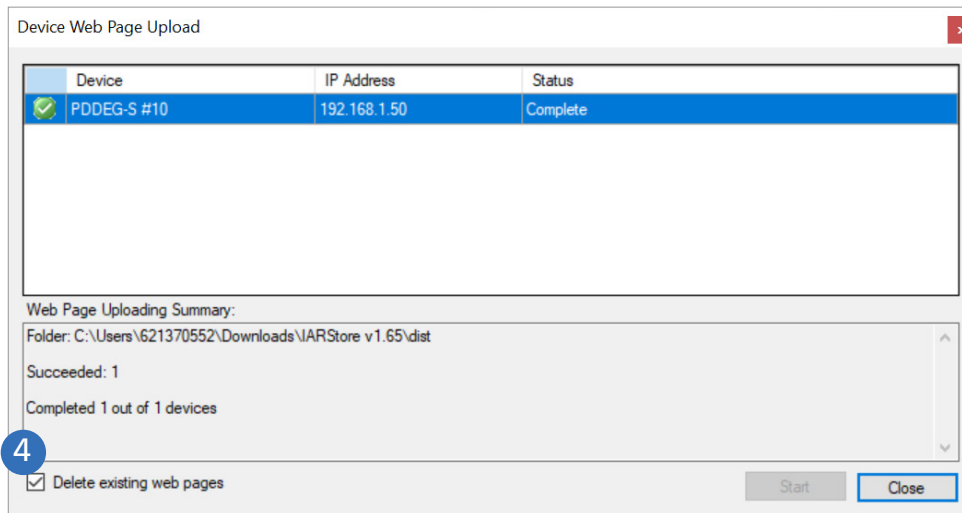
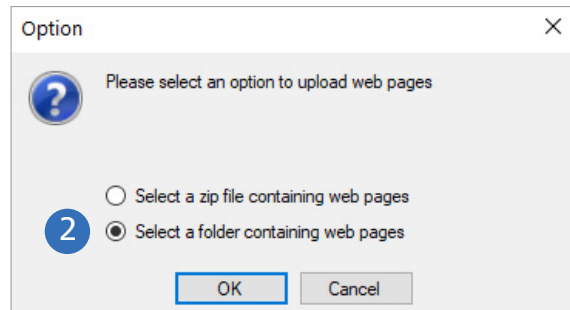
5.4.2 Configure the Outdoor Area

1. In a file explorer, find the zip-file containing the web UI and unpack it.
2. Double-click the file and open **config.jsn** with Notepad.
3. Change the parameter **outdoor** if necessary:
 - a. Outdoor area configured: 4
 - b. No outdoor area configured: null
4. Save and close the file.

Note

The outdoor area is by default configured as Area 4.

05 Onsite commissioning



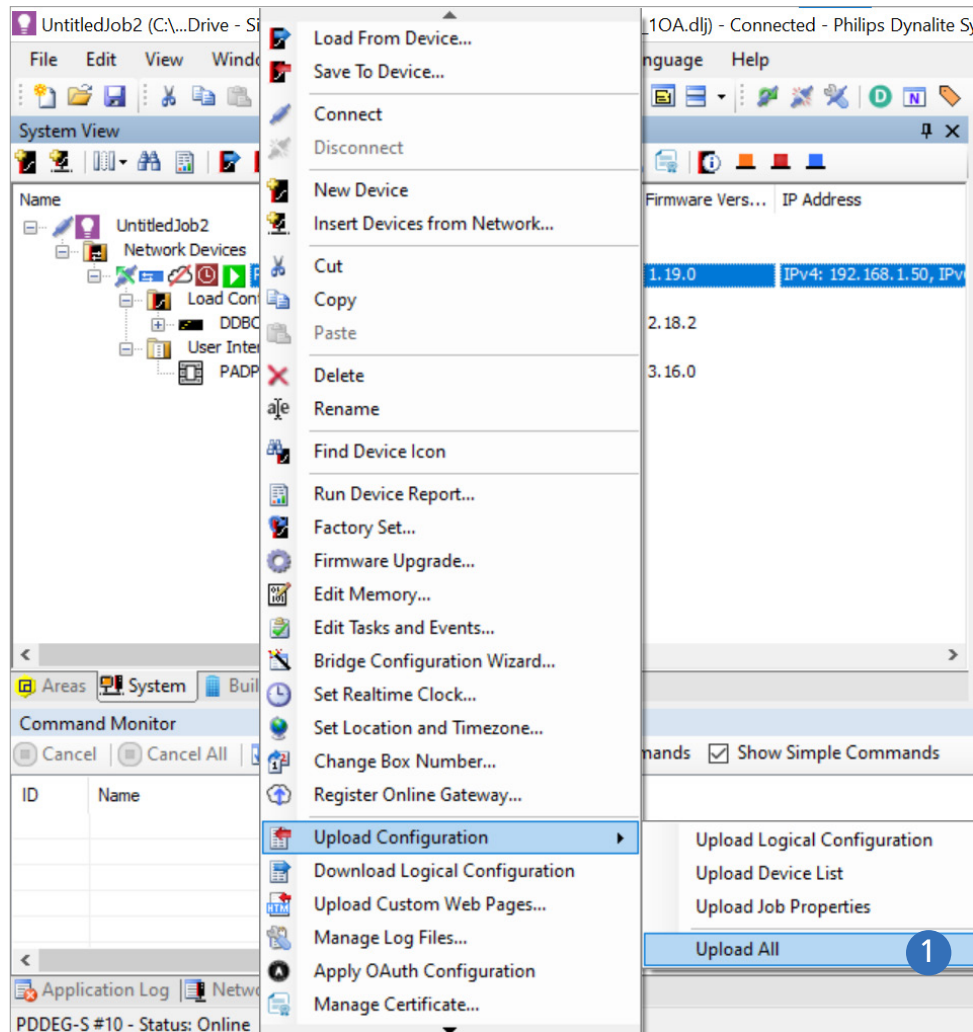
5.4.3 Load the Store Control UI

1. In the **System** view, right-click the Ethernet Gateway and select **Upload Custom Web Pages**.
2. Click **Select a folder containing web pages** and click **OK**.
3. Find the folder containing the web-UI files.
4. Select the **Delete existing pages checkbox** and click **Close**.

Note

The upload of the web-Ui files takes up to a few minutes.

05 Onsite commissioning



5.4.4 Load configuration

Loading the configuration to the Ethernet Gateway links the logical configuration with the device list.

1. In the **System** view, right-click the Ethernet Gateway, click **Upload Configuration** and select **Upload All**.
2. Wait until the message *Successfully uploaded all XML files* appears. Click **Accept**.

05 Onsite commissioning

Philips Dynalite System Builder - Certificate Manager

Select Certificate Type

Configure Web Server Certificate:

2 ☒ System Builder Certificate ☐ Self-signed Certificate ☐ Certificate Authority (CA) certificate

Configure Other Device Certificates:

☐ Device Site Certificate for TLS Connections ☐ 802.1x Certificate

Enter Details

To obtain a certificate first, enter the gateway details and location information.

3 Common Name (CN): 192.168.1.50 City Or Location (L): Madrid

Organizational Unit (OU): Dynalite State Or Province (S): Madrid

Organization (O): Lighting Country (C) - 2 Characters: ES

Create and Upload Certificate

System Builder will create and upload a certificate. The root certificate that System Builder uses to sign this certificate can then be installed by saving to file and then right clicking and selecting 'Install Certificate'. It's important to install the certificate into the 'Trusted Root Certification Authorities' store. This will allow the browser to show the connection as trusted.

4 Create and Upload Expiry: lunes . 1 de enero de 2085

Alternative address or domain:

Status: Successfully uploaded and verified the certificate

Save Root Certificate to File...

5 Close

5.5 Create and install certificate

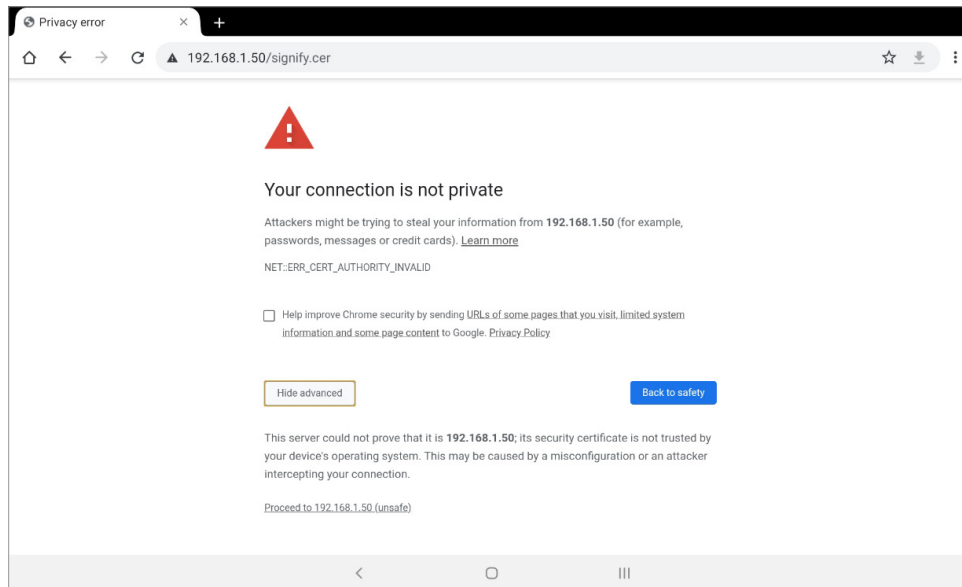
Note

- The procedures in this section are applicable for installations with an Ethernet Gateway only.
- In this document, the Wireless Access Point is configured with the IP address **192.168.1.50**.

5.5.1 Create certificate

1. In the **System** view, right-click the Ethernet Gateway and select **Gateway Actions > Manage Certificate**.
2. In the section **Select Certificate Type**, select **System Builder certificate**.
3. Enter the gateway details and location information. Make sure to fill in the correct IP address at **Common Name (CN)**, in this example **192.168.1.50**.
4. Click **Create and Upload**.
Wait two minutes for the system to create a signed certificate on the gateway.
5. After successful upload of the certificate, a message appears. Click **Yes** to proceed and click the **Close** button.

05 Onsite commissioning



5.5.2 Install certificate

A certificate is required to enable a secure connection between the operating device (for example a tablet) and the gateway. When you use a device for the first time, while accessing the user interface the warning message *Your connection is not private*, or similar, shows up.

Download certificate

Note

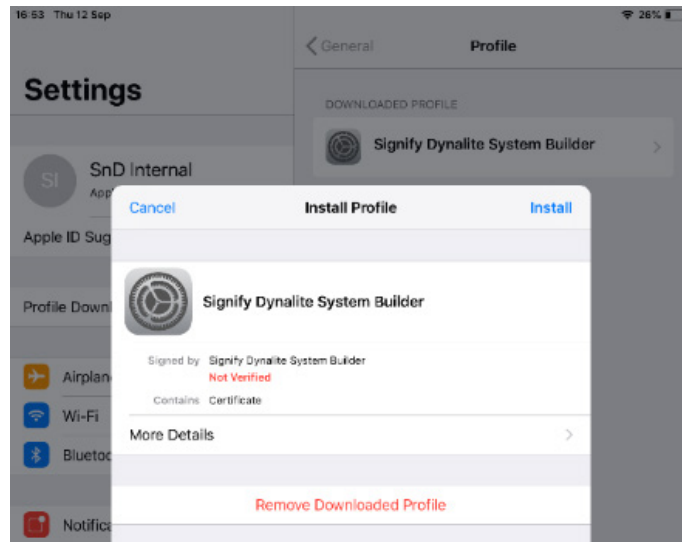
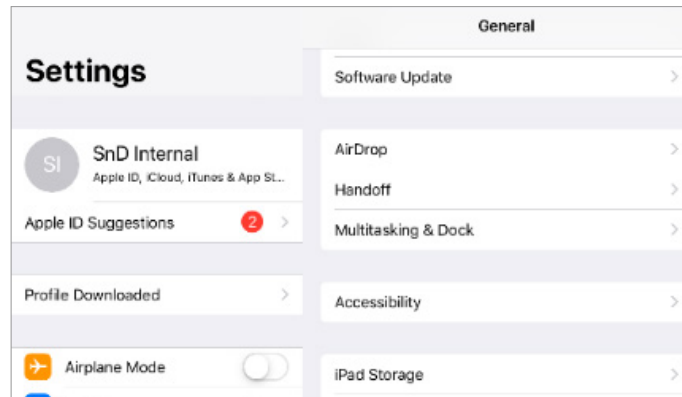
This instruction is written using a Chromium-based browser, like Google Chrome.

1. In the web-browser, go to <https://192.168.1.50/Signify.cer>.
2. If the message *Your connection is not private* appears, click **Advanced**.
3. Click/Tap **Proceed to 192.168.1.50 (unsafe)**.
The certificate is downloaded to the device.

Note

When you have the option to **Open** the file, ignore and close the message.

05 Onsite commissioning



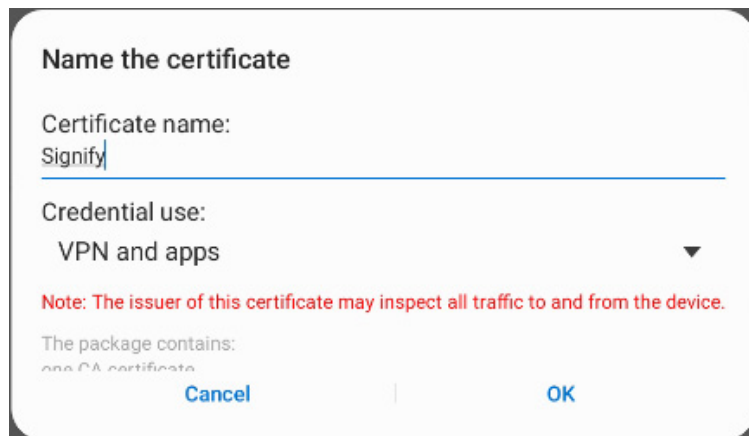
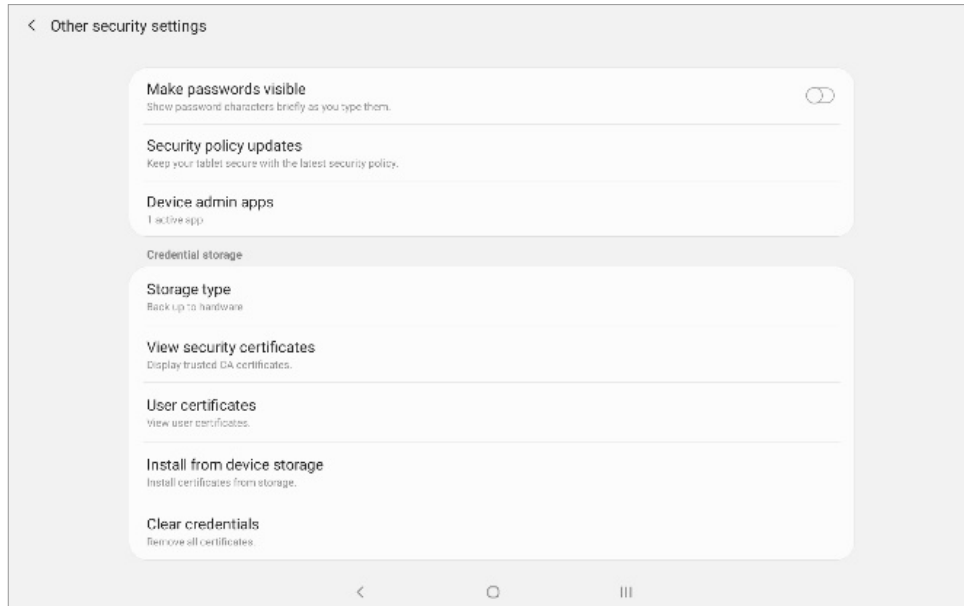
Install certificate on a device running iOS

Note

The steps in this section are intended for iOS 12.

1. In the device **Settings**, select **Profile Downloaded**.
2. Select **Signify Dynalite System Builder**. Tap **Install**.
3. A warning appears, tap **Install**.
4. A popup appears to confirm, tap **Install**.
5. Tap **Done**.
6. Clear the browser cache and close the web browser.

05 Onsite commissioning



Install certificate on a device running Android

Note

The steps in this section are intended for Android 9 to 13 and may be brand specific. Other versions of Android may use slightly different steps.

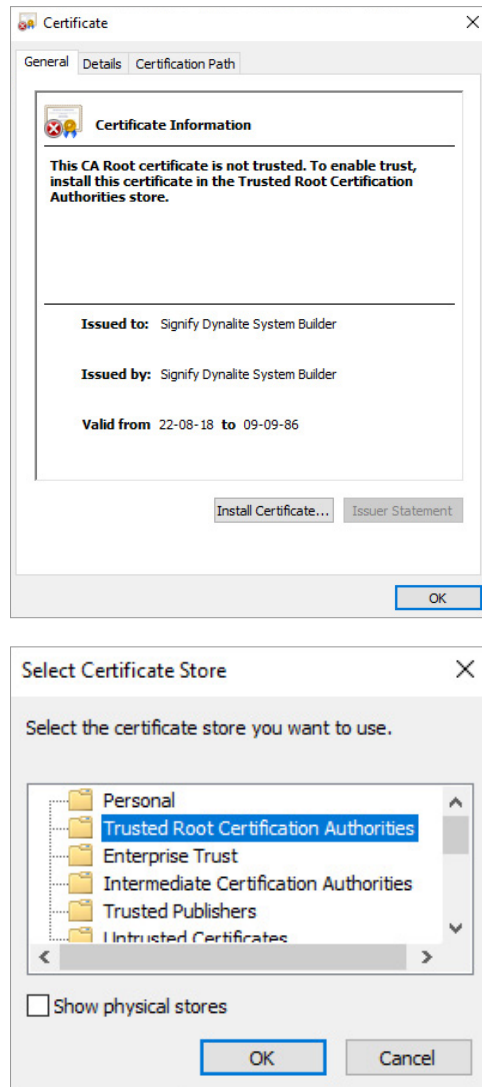
1. In the device **Settings**, tap **Security > Other security settings**.
2. Find *Credential storage* and tap **Install from device storage**.
3. Select the file **signify.cer** and tap **Done**.
4. Enter your *Screen Lock* (for example a pattern or PIN-code). Tap **OK**.

Note

When a Screen Lock is not defined, you are asked to set one up. Without a Screen Lock, it's not possible install the certificate.

5. Give the certificate the name **Signify**.
6. Under *Used for*, select **VPN and apps**. Tap **OK**.
7. A message that the installation was successful appears.
8. Clear the browser cache and close the web browser.

05 Onsite commissioning



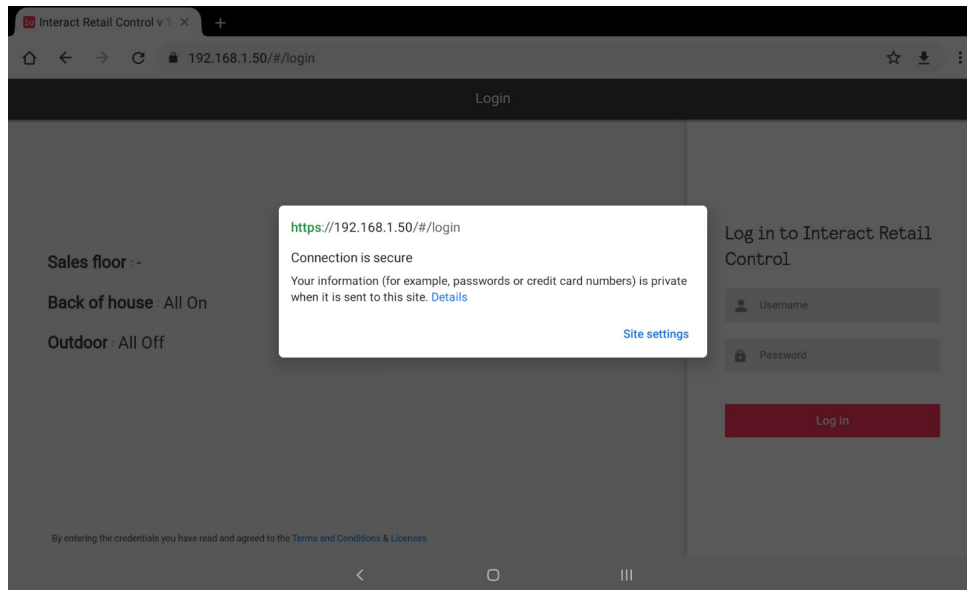
Install certificate on a PC running Windows

Note

The steps in this section are intended for Windows 10.

1. Find the certificate in the file system.
2. Double-click the certificate to start installation. Click **Open**.
3. Click **Install Certificate**.
4. In the **Certificate Import Wizard**:
 - Select **Current User**. Click **Next**.
 - Select **Place all certificates in the following store**. Click **Browse**.
 - Select **Trusted Root Certification Authorities**. Click **OK**.
 - Click **Next**, then click **Finish**.
5. A Security Warning appears. Click **Yes**.
6. A message that the import was successful appears. Click **OK**.
7. Click **OK** to close the **Certificate** popup.
8. Clear the browser cache and close the web browser.

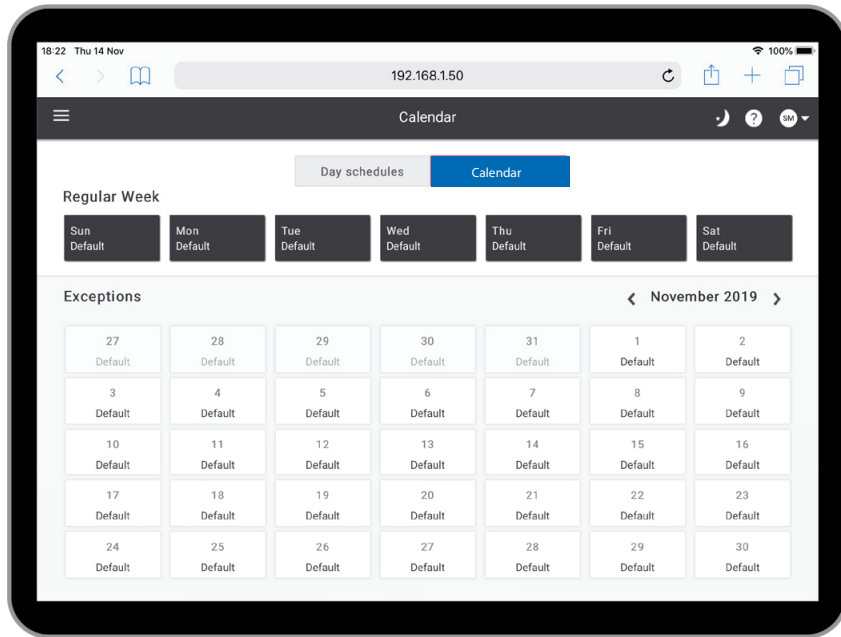
05 Onsite commissioning



5.5.3 Check secure connection of the UI

1. Open the web-browser and go to <https://192.168.1.50/>. Login to the system.
2. Check if the address-bar shows closed padlock. You can click the padlock to see the details of the connection and certificate.

05 Onsite commissioning



5.6 Verification and handover

Note

The *User Guide for Store Control UI* shows the usage of the UI for both store staff and store managers. This document is available at support.dynalite.com/

5.6.1 Verify the installation

The Store Control UI supports

1. Check if it is possible to login as:

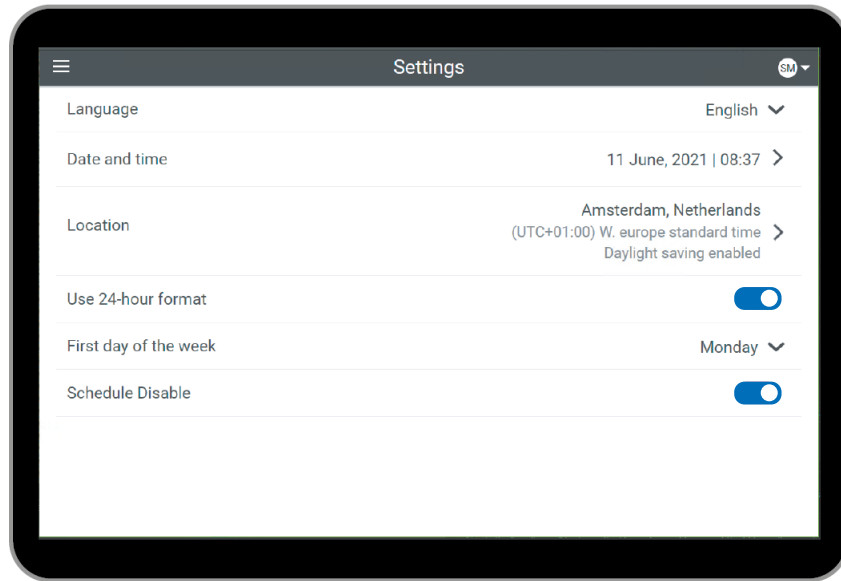
- Store Manager
- Store Staff

Use the password configured during the offsite commissioning. See [4.3.3 Configure the job file](#).

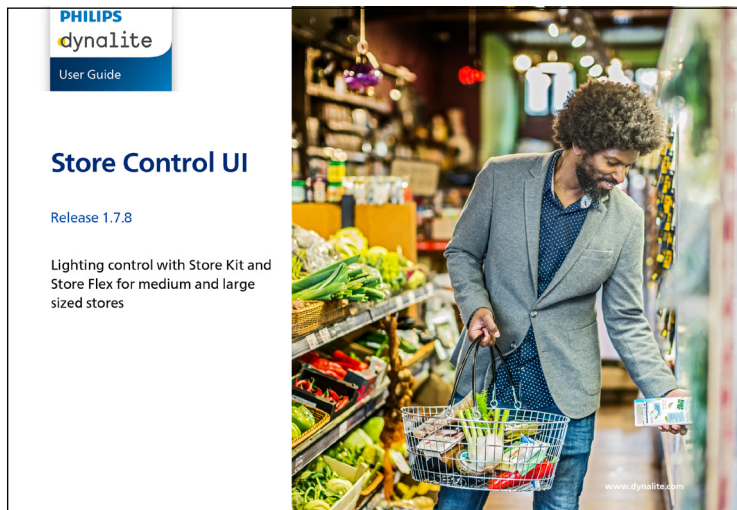
2. Create or edit scenes according to the customer needs. Apply the scenes to regular day to avoid triggering preset 1 at midnight.

3. Check the system status and make sure all zones are operational.

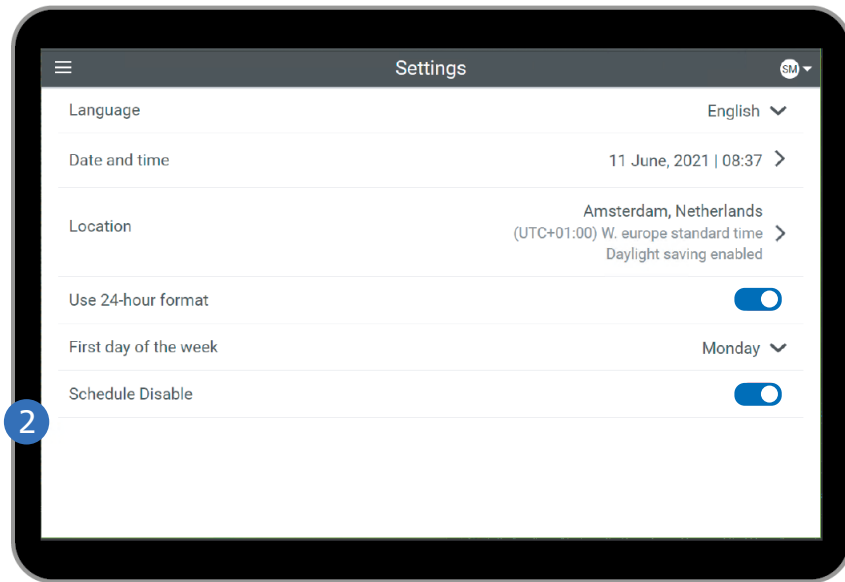
05 Onsite commissioning



4. In the settings, configure according to customer preferences:
 - **Language**
 - **Hour format**
 - **First day of the week**
5. Make sure that **Date and time** and **Location** are set correctly to be sure that the Astro clock works accordingly.
6. Provide a copy of the latest User Guide to the customer.
7. Using the user guide, train the customer on the usage of the system.



05 Onsite commissioning



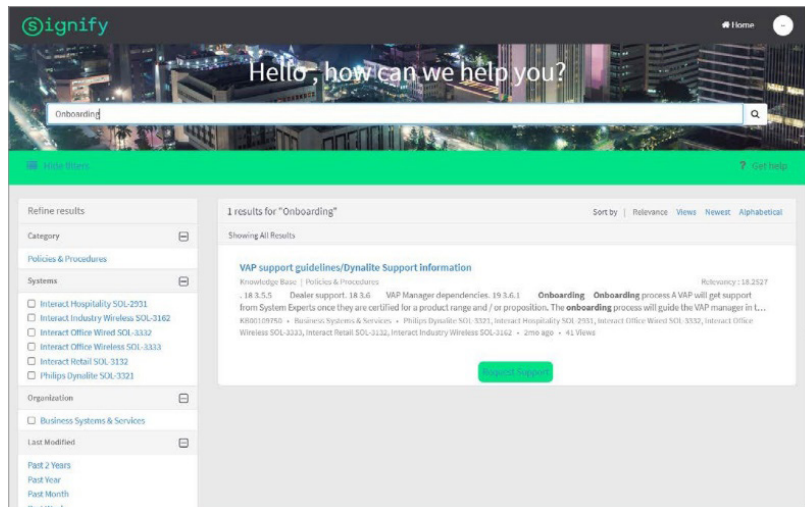
5.6.2 Set the operation mode

The Store Flex system supports inputs from a Building Management System (BMS). In case a BMS is used, it's necessary to disable the Scheduling Mode in the Store Control UI.

1. Login to the Store Control UI and open the **Settings** page.
2. Find the **Scheduling Disable** option and toggle the switch to disable.

With the schedules disabled, the system is intended to be controller by a third party BMS.

06 Post-install support

A screenshot of the Signify webform for submitting a support request. The form is titled 'Dashboard > Webform' and includes fields for 'Subject *', 'System *', 'Type of request *', 'Support Category *', 'Customer Reference', 'Linked Tickets (if Any)', 'Description (Please select a System first)', and 'Email'. There is a large dashed box for uploading files with the text 'Drag and drop files from your computer to this area to upload a new document'. A blue plus icon is in the center of the dashed box. At the bottom right is a 'Submit' button.

6.1 Technical support

6.1.1 Ticketing system (C4CS)

Personnel of Signify

Follow the Learning Path Systems Support ticketing in C4CS. The Learning Path explains how to submit a ticket. Markets and System Centers to create a Business Support Request ticket (BSR) providing the necessary detail, including specified architecture and owner.

Personnel of Customer System Integrators (CSIs)

1. Login to the Signify MyLighting portal.
2. Click on **Technical support**.
3. Search the knowledge base for any information on the subject you want help for.
4. If you don't find relevant information, click **Request Support** at the bottom of the search result.
5. Fill in the webform adding all mandatory details required to support you.

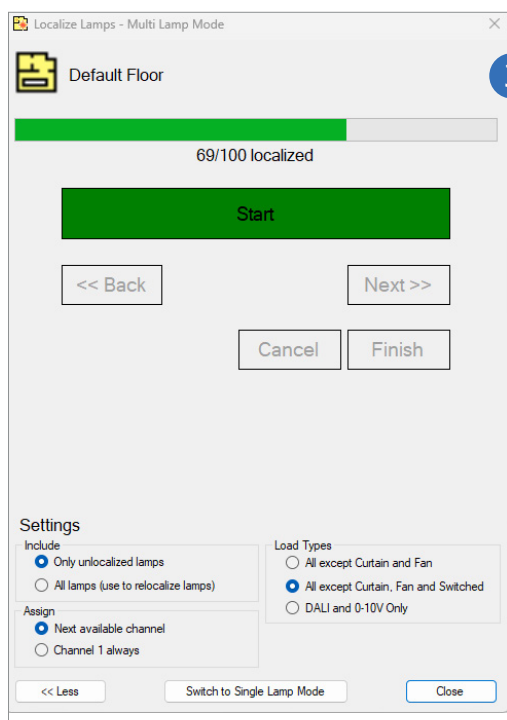
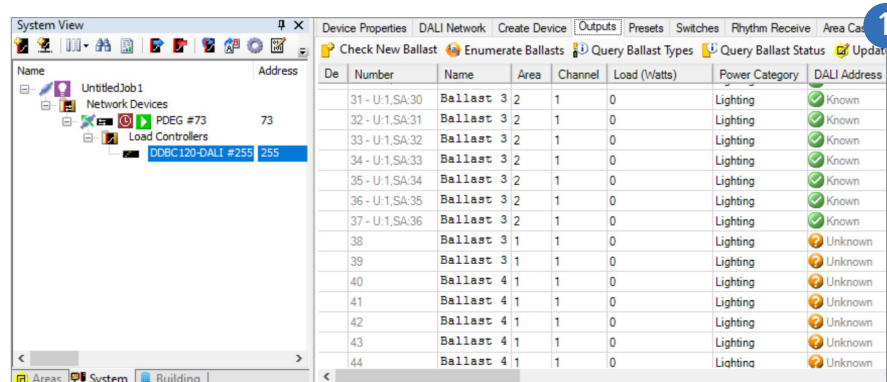
Appendix A – Additional commissioning



A1 Configure DALI individual addressing

A2 Configure DMX for RGB lighting

Appendix A – Additional commissioning



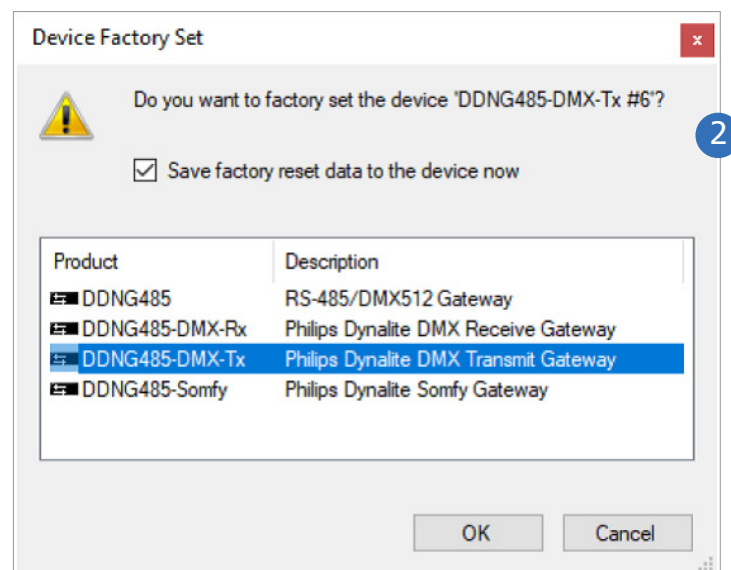
A1 Configure DALI individual addressing

Note

- Applicable for all DALI addressable controllers, like the DDBC120-DALI and DDBC320-DALI.
- First finish firmware upgrades of all controllers.

1. In the **System** view, select a load controller.
2. Select the **Outputs** tab and click **Enumerate Ballasts**. Discovered luminaires receive a *Number* and a green icon with the status **Known**.
3. Select the **Flash** checkbox to flash each discovered physical channel to validate the location.
Or: Right-click an area or floor plan and select **Localize lamps**.
4. Assign the physical channel to the corresponding logical channel on the floorplan.
5. Upload the logical configuration to the Ethernet Gateway after making changes to it. Only then are the changes reflected in the Store Control UI. See section [5.4.4 Load configuration](#).

Appendix A – Additional commissioning



A2 Configure DMX for RGB lighting

Store Flex supports the use of RGB lighting to enhance the experience of the shopper in the store.

A2.1 Setup DDNG485

1. In the **System** view, select the **DDNG485**.
2. Right-click the device and select **Factory Set**. Select **DDNG485-DMX-Tx** and click **OK**. Wait until the process is finished.

Note

The factory reset procedure can take several minutes per device.

3. Right-click the device and select **Firmware Upgrade**. Select the extracted uu-file corresponding to the device. Click **OK**. Wait until the process is finished.
4. Move the device under the Ethernet Gateway. Click **Yes** to confirm.
5. Right-click the device and select **Save To Device**. Select **Save modified data** and click **OK**.

Appendix A – Additional commissioning

Name	Number
IA Retail UI Demo	
UnassignedArea	A1
Retail Area	A2
Parking Lot	A3
Back Office	A4
Canteen	C1
Canteen	C2
Canteen	C3

Channel Properties Physical Channels Unassigned Devices

Filter:

Channel Properties

Number	1
Name	Canteen
Description	
Location	
Type	Red

Channel Load

Lamp Wattage	Not Set
Lamp Quantity	Leading Edge
Total Wattage	Trailing Edge

Relay
0-10 Volts
DSI
LED
Volt Free
Fan
DALI
Leading Edge 4Amp
Curtain
DMX Tx
Green
Red
Blue
Warm White
Cool White
Tunable White
DMX
Coded Mains

A2.2 Setup RGB lighting

1. In the **Areas** view, select the area where RGB lighting is installed.
2. Click **Insert New Channel** three times. Rename the channels.

Important

Three logical channels are required to control red, green and blue. Make sure to give the channels the exact same name.

3. Select the **Unassigned Devices** tab. Expand the Gateways tree and find the unassigned *Physical Channels*. Drag **Physical Channel 1** to the first created *Logical Channel*.
4. Select the first **Logical Channel**. Select the tab **Channel Properties** and find the parameter **Type**. Select the type **Red**.
5. Repeat the previous steps for the second and third channel. Select respectively the type **Green** and **Blue**.
6. Right-click the device and select **Save To Device**. Select **Save modified data** and click **OK**.
7. Upload the logical configuration to the Ethernet Gateway. See section [5.3.6 Load configuration](#).

Appendix B – System components



B1 Lighting network components

B2 Controllers

B3 Optional components

Appendix B – System components



B1 Lighting network components

PDDEG-S or PDEG Ethernet Gateway

The Philips Dynalite PDDEG-S provides gateway services between Ethernet and DyNet devices, enabling secure online access to the Philips lighting control system.

The gateway enables lighting control via the Store Control UI, access to the timeclock and schedule editor functions. It provides bridging functionality between the Ethernet backbone and the DyNet fieldbus devices.

⚠ Important

- The PDEG Ethernet Gateway is not compatible when planning to upgrade to Architecture FLX Multisite.
- Usage of BACnet, also requires a PDDEG-S as central store controller.

📖 Note

The PDEG Ethernet Gateway requires power from the DyNet network or a DDNP1501 power supply.

Appendix B – System components



PDZG-E Wireless Gateway

The Philips Dynalite ZigBee Gateway Ethernet is a wireless communication hub that connects wireless nodes (luminaires or wireless group controllers) to the Dynalite lighting control system via an Ethernet connection to the PDDEG-S.

Appendix B – System components



PDTS Touchscreen

The PDTS offers intelligent control and direct access to scheduling, scene editing, diagnostics and local environmental sensing.

Note

The PDTS Touchscreen requires power from a DDNP1501 power supply.

Appendix B – System components



B2 Controllers

DDBC120-DALI 1-Universe DALI-2 Driver Controller

The Philips Dynalite DDBC120-DALI features a single DALI output, allowing to control of up to 64 DALI devices. It also features 1 x 20 A feed-through switched circuits for DALI driver mains supply.



DDBC320-DALI 3-Universe DALI-2 Driver Controller

The Philips Dynalite DDBC320-DALI features three DALI outputs, allowing control of up to 192 DALI devices. It also features 3 x 20 A feed-through switched circuits for DALI driver mains supply.

Appendix B – System components



DDBC1200 Signal dimmer controller

The Philips Dynalite DDBC1200 features 12 independent output channels, each selectable to DALI Broadcast, 0-10 V/1-10 V or DSI. The device can also be linked to a separate relay module for control of 0-10 V/1-10V drivers.



DDRC420FR Relay controller

The Philips Dynalite DDRC420FR provides control of any type of switched load. This four-channel device supports all types of switched loads up to 20 A inductive.

Appendix B – System components



DDRC1220FR-GL Relay controller

The Philips Dynalite DDRC1220FR-GL provides control of any type of switched load. All types of switched loads up to 20 A inductive are supported. The maximum load may be limited by 500 A inrush rating.



DDMIDC8 Dry contact connections

Dry contact connections allow installation in electrical wall boxes for easy integration with third-party user interfaces. With this option it is possible to integrate BMS or security systems with the lighting system, by receiving input from the external system and run a special task according to the requirements. Multiple DDMIDC8 devices can be used in the system to add more dry- contact inputs required in a project.

Appendix B – System components



DDNG485 RS-485/DMX512 Gateway

The Philips Dynalite DDNG485 is a flexible network communications bridge designed for RS-485 networks. The two opto-isolated RS-485 ports enable the DDNG485 to implement a trunk and spur topology on large project sites, with the bridge providing a high-speed backbone opto-coupled to many lower speed spurs.



SC100 IA Transceiver

The SC100 IA transceiver is the ideal solution to wirelessly connect luminaires connected to a DALI Extender or Xitanium SR Bridge to the Zigbee network. It uses a simple two-wire connection between transceiver and the SR device (SR driver or SR bridge), thus eliminating the need for multiple components and auxiliary devices. The result is a cost effective and easy design-in solution ideal for energy-savings.

Appendix B – System components



Xitanium SR Bridge

The Xitanium SR Bridge is used to control multiple luminaires with one SR sensor or to make existing luminaires sensor ready. The Bridge features all the elements of the SR interface. The SR sensor is connected to the Bridge via the SR interface while a group of luminaires can be controlled both via the Bridge DALI interface and the mains relay integrated in the Bridge.

DALI Extender

The DALI Extender extends the SR bus to the DALI bus and enables multiple applications requiring connecting SR devices to DALI drivers or DALI emergency drivers. The DALI Extender provides supply to the SR bus and the DALI bus.

This device enables longer cost-effective trunking lines with a lower number of sensors, and remote testing of emergency luminaires.

The DALI Extender can be installed independently or be built-in to luminaire.

Note

Currently, emergency lighting is not supported.

Appendix B – System components



B3 Optional components

DUS360CR Multifunction sensor

The Philips Dynalite DUS360CR is a recess mountable 360 degrees multifunction sensor that combines motion detection (PIR), infrared remote-control reception (IR) and ambient light level detection (PE) into one device in multiple applications.



DDNP1501 Network Power Supply

The Philips Dynalite DDNP1501 is a 15 V DC 1.5 A regulated power supply designed to supplement the DyNet network DC supply.



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