Commissioning Guide

Architecture FLX

Multisite - Release 2.1

Connected lighting monitoring and management for all sites and formats, suitable for retail chains

interact

www.interact-lighting.com

Contents

01 General

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1.1 About the document

The document relates to Architecture FLX - Multisite - Release 2.1 connected lighting system.

This document describes functionality of the user interface and how to operate it.

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 meticulously, you must be able to design, install and commission a functioning lighting system.

1.3 Related documents

Refer to other documents for more information:

- **System Guide**
  describes the system design and how this design can support the requirements of a customer.
- **User Guide**
  describes the usage of the Interact Multisite System Manager dashboard and user pages, that are specifically aimed at facility managers and format managers.
- **Security Statement**
  describes end-to-end system security that guarantees data confidentiality, integrity, and availability.
- **Project intake form (Project template)**
  guides and simplifies the onboarding process of a customer and a new site to Interact Multisite System Manager.
- **Bill of Materials**
  overview of all components and their 12nc ordering codes.
- **Technical Note**
  provides information with a focus on additional tasks that require attention only once.

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: Site Gateway)
PDSE	Philips Dynalite Site Enabler app (in short: Site Enabler app)
PDEB	Philips Dynalite Ethernet Bridge (in short: Ethernet Bridge)
PDEG	Philips Dynalite Ethernet Gateway (in short: Ethernet Gateway)
PE	Photo electric
PIR	Passive Infrared
PWM	Pulse-Width Modulation phase cut dimming
STP	Shielded Twisted Pair
UI	User interface

Abbreviation	Explanation
BSR	Business Support Request
C4CS	Ticketing system capturing customer tickets
C-ROC	Signify Customer Remote Operating Center
C-SAT	Customer Satisfaction
CSI	Customer System Integrator
GSO	Global Software Operations
OTRS	Ticketing system capturing corporate tickets
SAP	Enterprise software for customer management

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.
Area	A lighting control area (for example Sales floor or Back of house)
Base Link Area	A Base Link Area in System Builder corresponds with an lighting control area at the site.
Scene	A specific set of light levels that can be edited and recalled
Child area	A lighting control zone (like Bakery or Fresh food) included inside an Area (for example Sales floor)
Logical channel	A lighting control sub-zone included inside a Child area (like Bakery spots or Bakery counter)
Concepts	Light concept including the defined areas, scenes, child areas, logical channels etc. to be used in a format
Schedules	Set of all scheduled events (simple events, special events, holidays) that automatically control the lighting of the sites in a specific format

Term	Definition
Astronomical timeclock	The ability to control and schedule the light levels depending on sunrise and sunset times (day and night mode)
Deployment	A concept and schedule ready for transfer to either one site or multiple sites
Draft (state)	Deployment in preparation
Deployed (state)	Deployment in use
Archived (state)	Deployment no longer in use
Online status	Shows whether the Site Gateway is online or offline
Not requested	No workorders available; site not in execution phase
Under preparation	Workorders created and execution phase in progress
Operational	Workorders are resolved/closed, site operational
Subscription	Actual status of the contract(s) and license(s)
(Not) deployed	Shows whether the site is functional (or not)

1.6 Symbols

The dashboard user interface (UI) uses intuitive symbols and colors. The overview shows an overview of the colors and symbols used.

Item	Definition
/	**Critical issue**, requires immediate attention
/	**Minor issue**, requires attention
/	**Status OK**
	In progress, a process is running in the background
/	**Filter**, hover over the icon to show a selection to limit the output on the screen; shows in color in case a filter is applied
/	**Sort**, click to sort the output on the screen respectively ascending or descending; in case sorting is applied, the colored arrow shows the direction of the sorting
	Action menu, click to show actions related to the purpose of the page
	Rotating wheel, indicating that an action is in progress (for example collection data to show)

Item	Definition
/	**Notification**, messages important for the user, for example upcoming server maintenance; The green dot indicates that new items are available
/	**Additional information dropdown.** The green dot indicates that new items are available
	User profile, language selection
/	**Expand/collapse the side menu**, in expanded view, also the menu name shows

02 System introduction

02 System introduction

2.1 System architecture

The Multisite system offers remote and centrally managing of lighting systems in multiple sites. This enables people working at the headquarters of a brand possibilities in managing the brand promise over the stores, differentiating over different formats of the brand.

The architecture is characterized by two distinguished parts:

- Connected architecture
- Onsite architecture

2.1.1 Connected architecture

Cloud and gateway

The Site Gateway (PDDEG -S) functions as the central ‘store controller’, interconnecting the onsite architecture and safeguarding secure cloud connection. With the gateway being online, and a fully commissioned system, everyone with sufficient access rights can remotely monitor and control and see the data generated by the site in the dashboard. This data is safely stored in the Interact cloud.

Connectivity service

The Site Gateway requires outbound internet access to send all data to the cloud. This access can be provided by:

- **Customer IT**
  Arranges access to the Interact cloud via the internet according to the specifications via the IT infrastructure of the site.
- **IAR Connectivity Service**
  Connectivity service using a 4G modem managed by Signify.

Note

The Interact Connectivity Toolbox simplifies the audit of the onsite IT infrastructure, validating if it is ready to install Multisite system components.

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Retail operations portal
Onboarding and managing all the customers, sites, users, licenses, etcetera is done via the Retail operations portal. Dependent of the nature of the task, the handling is done by either Global Software Operations (GSO) or the Customer Remote Operating Center (C-ROC).

Remote monitoring services
By default, the following remote services and support are offered:

- Helpdesk and service ticketing
- Regular software and firmware updates via cloud
- Remote uptime monitoring of all your sites
- Quarterly performance report
- Annual remote system health check – controller & light points health, report includes optimization suggestions
- Access to your customer portal for all documentation

Remote operation services
Signify optionally also offers remote operations lifecycle services. In this case the Signify Customer Remote Operating Center (C-ROC) maintains the high performance of your connected system over the full lifetime through our comprehensive remote service package:

- We adjust your light upon your needs
- Light levels & schedules bulk updates of all your stores of one format in one go
- Remote system optimization

Licenses
A license subscription is required to get full access to the rich set of multisite features and historical data.

Without license:
- Lighting in all your sites continues to operate
- Local lighting control in every site keeps running
- Read-only access to the multisite dashboard
- Over-the-air security software updates to the cloud and your Site Gateways
- Storage of historical data for 90 days after expiry

With license also:
- Remote lighting control
- Remote system health features
- Remote energy monitoring features
- Remote technical support.
- Alerts and reporting features.
- Local control to adjust lighting of your site(s).

2.1.2 Onsite architecture

The Multisite system currently operates onsite with the following Store topology:
- Wired

The Site Gateway (PDDEG -S) functions as the central ‘store controller’, interconnecting the onsite hardware.

The correct combination of controls hardware creates a robust controls network enabling:
- Scene control with dimming & zoning with addressable DALI support
- Support for DALI Broadcast, switched lighting, plus optional phase, phase cut dimming (PWM), DMX, 0-10V/1-10V dimming
- Daylight & occupancy sensing to dynamically adjust lighting to local conditions
- Local manual override, plus integrations with Building Management Systems (BMS), alarm systems, HVAC

02 System introduction

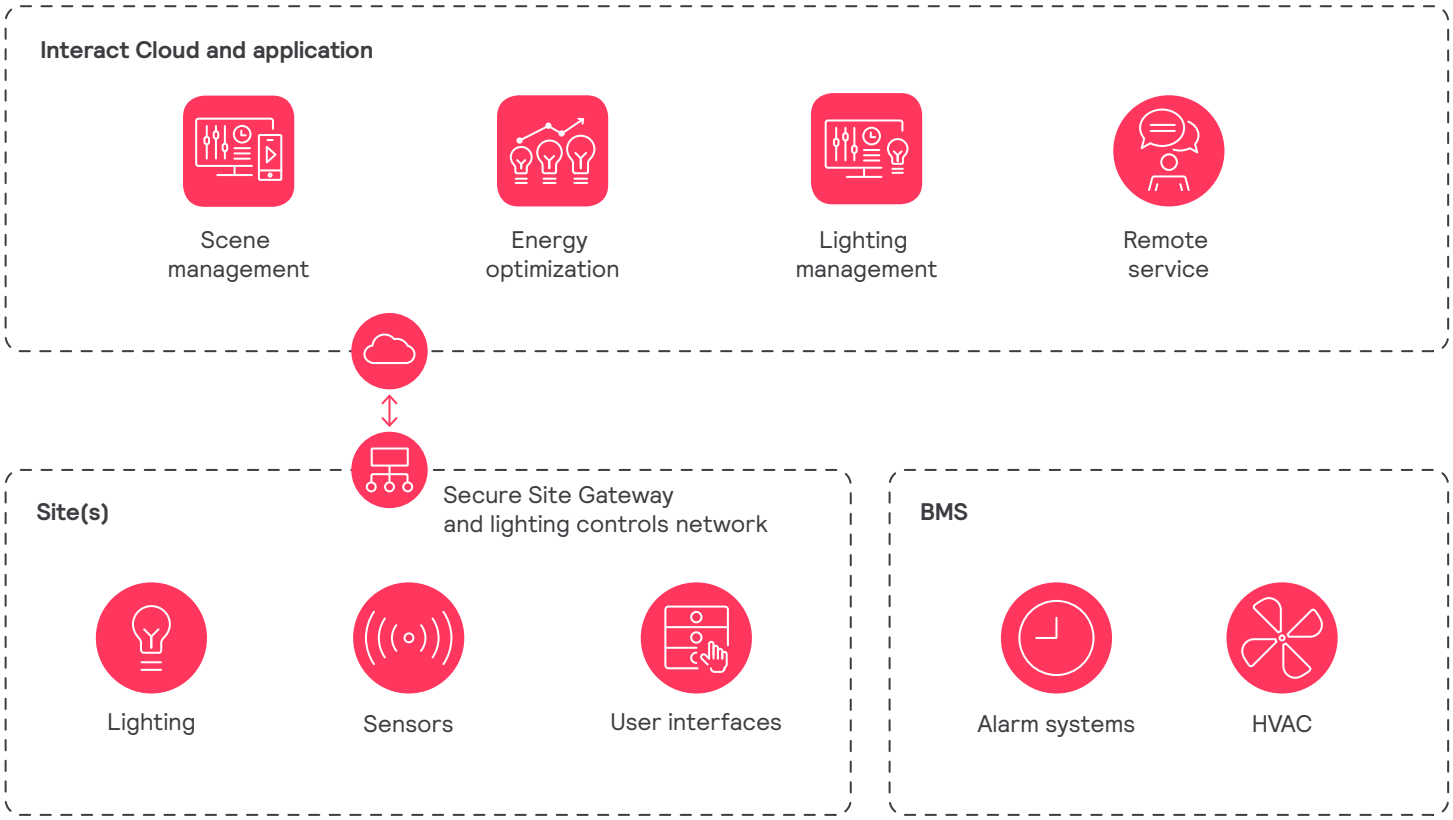
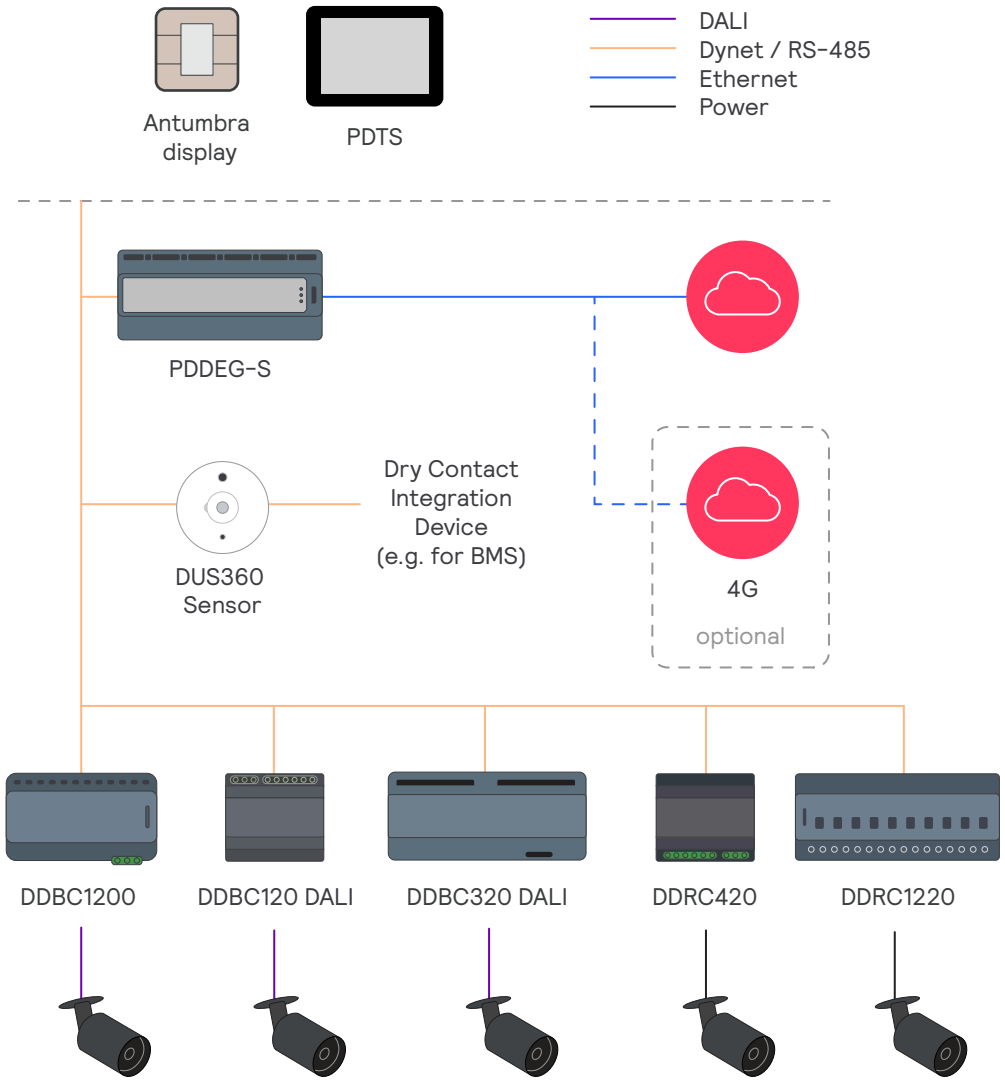


Figure 1. Offering central scene management, lighting management and energy optimization to the local sites via the cloud

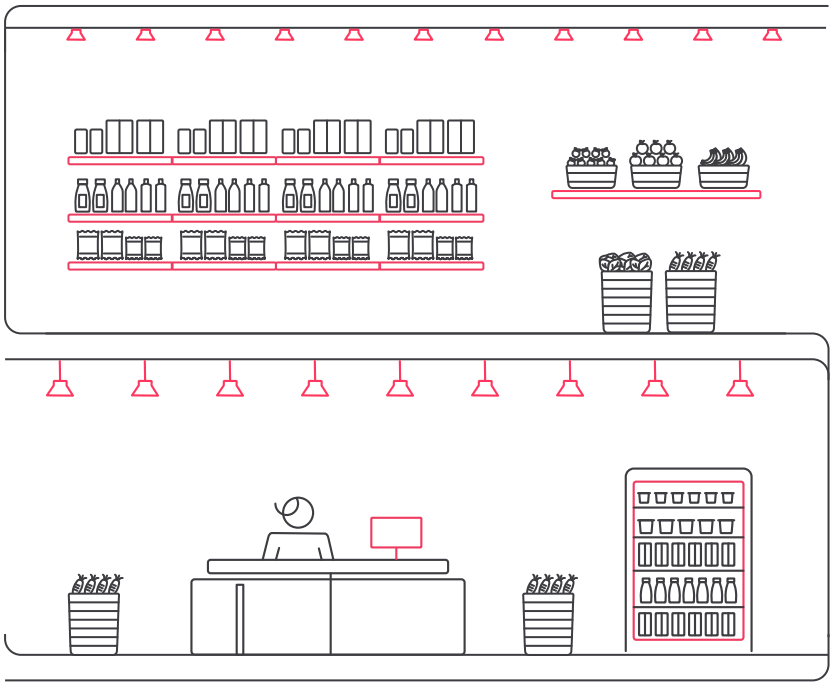


Wired topology

In the wired infrastructure, the Gateway connects to the control equipment by means of DyNet wiring. Luminaires are connected to the load controllers, depending on the type of luminaire by means of power and/or control cables.

Important

The power supply to the PDDEG-S Ethernet Gateway must be continuously available. It's not allowed to switch off the device during the night.

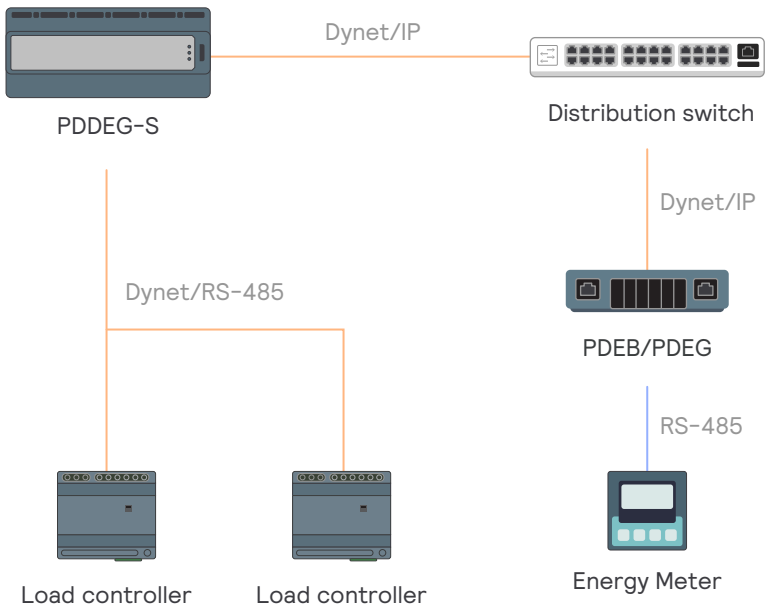


2.1.3 Metered energy topologies

Energy metering requires per metered group an extension of the topology to connect an energy meter. During commissioning, the meters must be added to the System Builder job file and assigned to the correct groups to enable reporting of the energy consumption to the cloud.

The feature can be enabled using the following extensions of the topology:

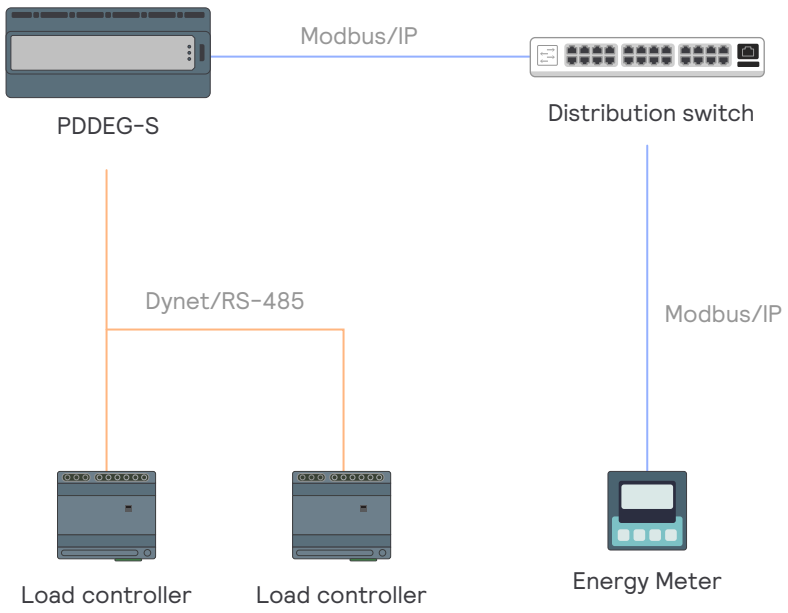
- Adding an Ethernet Bridge (PDEB) or Ethernet Gateway (PDEG) to enable metering using Modbus over RS-485.
- Using the ethernet connectivity of the site gateway (PDDEG-S) to enable metering using Modbus over IP.
- Adding a RS-485 Gateway (DDNG485) to enable metering using Modbus over RS-485.



Topology of metering over RS-485 via PDEB or PDEG

Using Modbus over RS-485 via a PDEB or PDEG

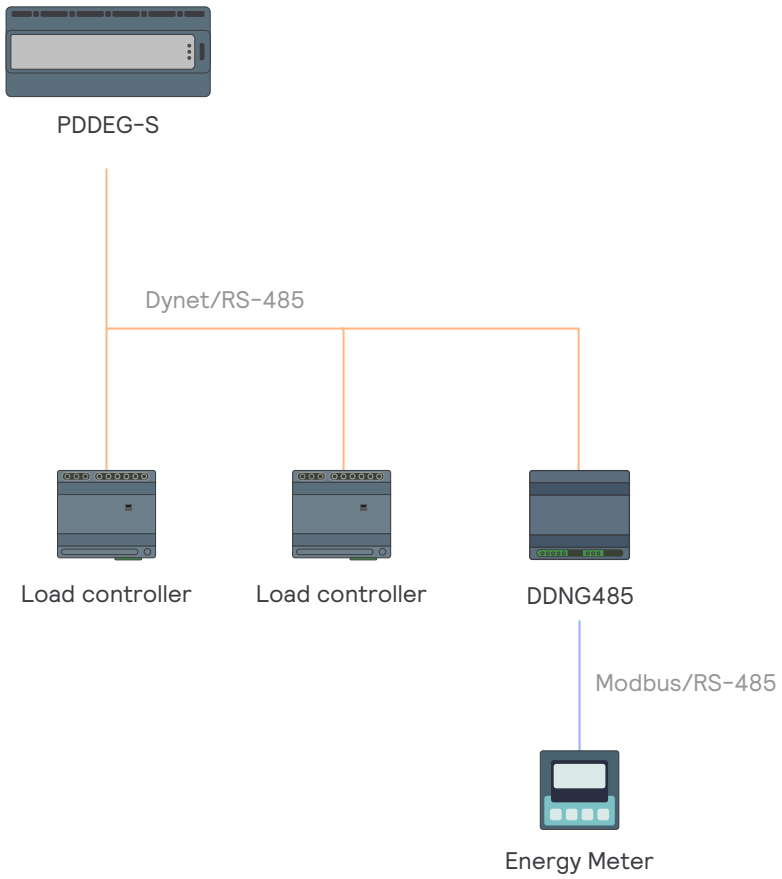
Using Modbus over RS-485 via an Ethernet Bridge (PDEB) or Ethernet Gateway (PDEG), the signals from the Energy Meter are transmitted using the Modbus RS-485 protocol to the Ethernet Bridge or Ethernet Gateway, which device translates it to Dynet over IP and transmits it to the Site Gateway (PDDEG-S). The distribution switch is required as the Site Gateway has only a single RJ45 Ethernet connection, and this device also needs connection with the cloud.



Topology of metering over IP via PDDEG-S

Using Modbus over IP via the Site Gateway

In the case of using Modbus over IP, the signals from the Energy Meter are transmitted directly to the Site Gateway (PDDEG-S). The distribution switch is required as the Site Gateway has only a single RJ45 Ethernet connection and also needs connection with the cloud.



Topology of metering over RS-485 via DDNG485

Using Modbus over RS-485 via a DDNG485

Using Modbus over RS-485 via a RS-485 Gateway (DDNG485), the signals from the Energy Meter are transmitted directly from the RS-485 Gateway to the Site Gateway (PDDEG-S) using the RS-485 protocol. In this topology, a distribution switch is not required.

2.2 IT requirements

The system and related software require some basic settings for the optimal performance.

2.2.1 IT settings

The system requires the following ports to be open for outbound traffic only:

- 53 (DNS)
- 123 (NTP)
- 443 (HTTPS)
- 5671 (MQTT or AMQP)
- 8883 (MQTT or AMQP)

A connectivity test tool is available to check the connection at the site of the customer upfront of installation and commissioning.

See the *FLX Multisite Security Statement* for more information about the requirements concerning the IT settings.

2.2.2 Requirements for the dashboard

The following web browsers support usage of the dashboard:

- Google Chrome
- Microsoft Edge
  (Chromium based versions 75 and higher)
- Mozilla Firefox
- Apple Safari

Note

For performance and security reasons it's best to always use the latest version of the selected web browser.

You can view the dashboard properly on screens with a resolution of 1024x768 dpi, but a higher resolution is recommended.

addressable	broadcast
Scene and schedule management	
Scenes	Scenes
Schedules	Schedules
Flexible rezoning (independent of wiring)	
Energy monitoring	
Notional (verified over lifetime)	Notional
Smart meters	Smart meters
Metered DALI	
Lighting management	
Store online/uptime monitoring	Store online/uptime monitoring
System health (controllers/sensors)	System health (controllers/sensors)
Preventive maintenance	Preventive maintenance (notional)
Light point status (failure/burning hours)	

2.2.3 Requirements for the site enabler app

The site enabler app (Philips Dynalite Site Enabler app) is available for use on mobile devices running on Android or iOS. The following versions of the operating system support the usage of the Site Enabler app:

- Android 9.0 (64-bit) or higher
- iOS 13.0 or higher

2.3 System configuration

The Multisite system is designed to get the full potential out of the DALI control infrastructure. The selection of the controllers also defines the control method:

- DALI broadcast
- DALI addressable

The table shows the differences between the control methods.

03 Intake

03 Intake

The aim of the intake is to allow to tailor the solution exactly to 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.

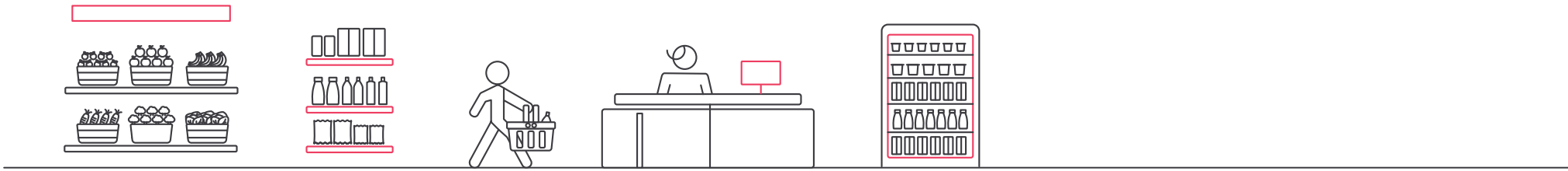
3.1 Formats

With Multisite, it's possible to control lighting scenes, schedules, and behavior for the different areas independently. The combination of settings is defined in a format, That is tailored for deployment to a specific retail format.

3.1.1 Retail formats

The Multisite system is suitable for all kinds of retail formats:

- **Convenience**: Smaller local stores and express formats
- **Supermarket**: Larger supermarkets and DIY retails
- **Hypermarket**: Very large out of town and department stores
- **Distribution centers**: warehouses and dislocated pick-up points



3.1.2 Areas and Scenes

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. Examples of areas:

- Sales floor
- Back of house
- Outdoor

For each area, the **Day & Night Mode** can be selected for lighting to follow sunrise and sunset. Day and night are determined using the astro-clock functionality on the Site Gateway, which applies the Day settings after sunrise, and the Night settings after sunset. This is especially handy for areas that control outdoor lighting.

Each area consists of several *Scenes*. The scenes define the light settings for a specific moment in each area at the site at the site. This to facilitate the different activities at the site. Examples of scenes are:

- Trading/Trading Eco
- Stocking
- Cleaning
- All Off

3.1.3 Child areas and Logical channels

In general, the areas are too big to have sufficient control over all the lighting. For this purpose, the lights in the area are divided into different control zones, the so-called *Child areas*. These child areas are smaller groups of lights that can have their own setting in the area. For the area **Sales floor**, some examples for child areas are:

- Bakery
- Meat
- Cash registers
- Etcetera

To be able to have more detailed control of the lights in the child area, it's necessary to assign the lights to different *Logical channels*. These logical channels help to divide the lights over the different usages of the lights at the site. For example, you can create logical channels for linear lighting, downlights, or for spot lighting.

In simplified use cases, where the child area only has one logical channel, you can give this logical channel the same name as the child area.

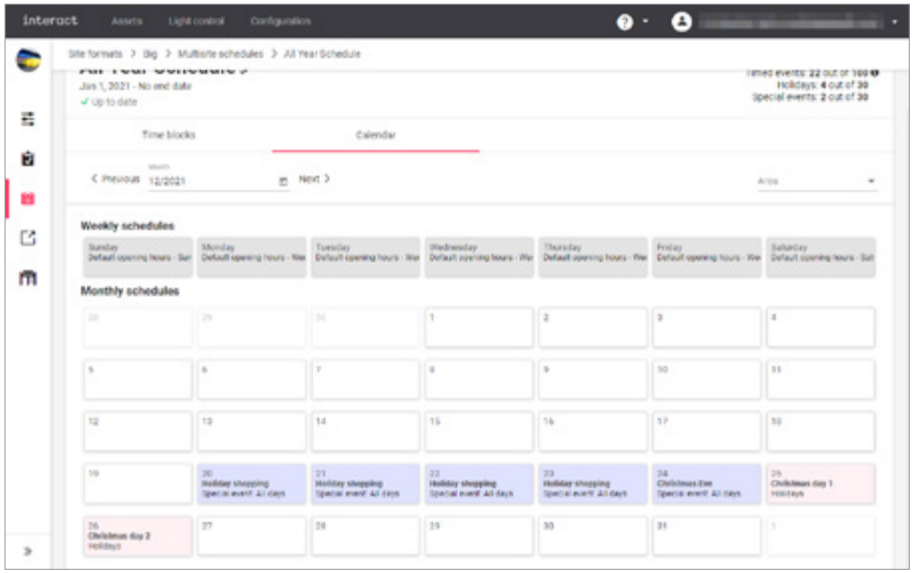


Figure 2. Calendar view showing the days and dates the specific schedules apply to.

3.1.4 Concepts and Schedules

With *Concepts* you define for each scene the actual light settings (dim level and, if applicable, also color) at each logical channel. Once defined, a particular scene can easily be recalled or triggered for an entire area.

To automate the behavior of the lighting system, you can specify *Schedules*. A schedule defines for each separate area the times that specific scenes are activated over the course of a 24-hour cycle. It is possible to define different schedules for different types of events:

- **Simple event**: a 24-hour schedule that occurs often, for example normal weekdays or weekends.
- **Holiday**: one or more recurring days that allow for their own 24-hour schedule, for example (national) holidays (site can also be closed).
- **Special event**: a 24-hour schedule that occurs only one time. A special event can span multiple days and can be used for opening hours that are applicable for special occasions, for example during a special season.

3.2 Users and user roles

Below an overview of the users and the user roles that have interaction with System Designer and Interact Multisite System Manager. Note that there's a clear distinction between users handling offsite and onsite taksk. See Appendix B Roles and responsibilities for more information.

3.2.1 Users handling offsite tasks

Offsite tasks involve site preparation and design, but also system monitoring and maintenance without requiring someone present at the site.

Operations

A completed *Project template (intake form)* is the basis to create tickets. Tickets are required for creating a new customer and/or a new site, and creating, submitting, and enabling new licenses. These tickets will be handled by Global Software Operations (GSO).

When finished, a request to the Signify Customer Remote Operating Center (C-ROC) is necessary to onboard the new site. C-ROC then creates work orders for design and installation and assigns these to the designer(s) named in the Project template. After activation of a site, the C-ROC remains involved to monitor the systems and provides assistance in case of any issues.

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 lighting design needs to be translated into a controls design. The controls designer combines the information provided in the project template and the reflected ceiling plan using System Builder or System Designer. The output of the design is a bill of material for the controls, a project file, and an installation summary for upload into the Interact cloud.

Note
A technician license of System Builder is required before you can use System Designer.

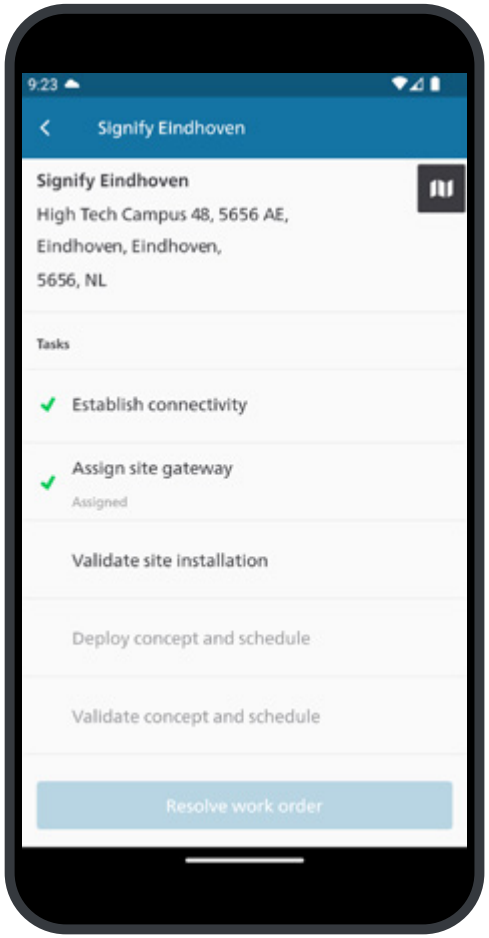
After the upload is complete, the controls designer uses the Interact Multisite System Manager to create and/or extend areas, channels, and scenes for the customer.

3.2.2 Users handling onsite tasks

Onsite tasks like installation and commissioning typically require to have 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



Uses dedicated work orders in the Site Enabler app to:

- check and establish IT/cloud connection,
- install the Site Gateway and assign it to the cloud by scanning the QR-code on the device,
- install and wire the Dynalite network controllers including the sensors and control panels,
- take care to setup the lighting system,
- deploy the project file into the onsite installation,
- perform a visual inspection using the app to validate all areas and channels,
- deploy the default concept and schedules from the cloud and validate them,
- resolve the work order, indicating the site is finalized; the user pages should show “Ready to use” for the site.

3.2.3 Users at the end customer

Facility manager
The main task of the facility manager is to ensure proper management and maintenance of the sites he is responsible for. This includes coordinating maintenance and adjustments to onsite equipment, infrastructure, and installations.

The facility manager uses Interact Multisite System Manager to:

- Scene & schedule management
  - Viewing of current status only
  - Emergency cases
  - Etcetera
- Energy monitoring
  - Notional energy
  - Metered energy
- Lighting management
  - Centralized name conventions
  - Etcetera

Format manager
The responsibility of the format manager is to update current brand formats, develop and implement new formats and concepts, including design and layout.

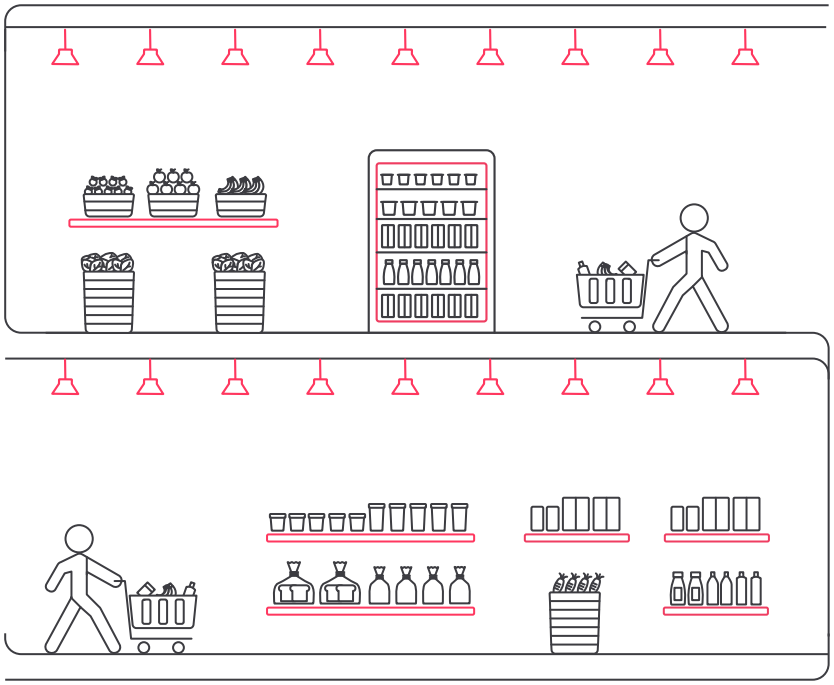
The formula manager uses Interact Multisite System Manager to:

- Scene & schedule management
  - Remote adjustments
  - Deployment of concept
  - Access to (groups of) stores in the format
  - Etcetera

Store manager
The store manager is responsible for the day-to-day operation of the store, including inventories and personnel, but also to maximize the customer engagement and improving sales.

The store manager has access to:

- Local temporary manual override via wall button switch or wall panel



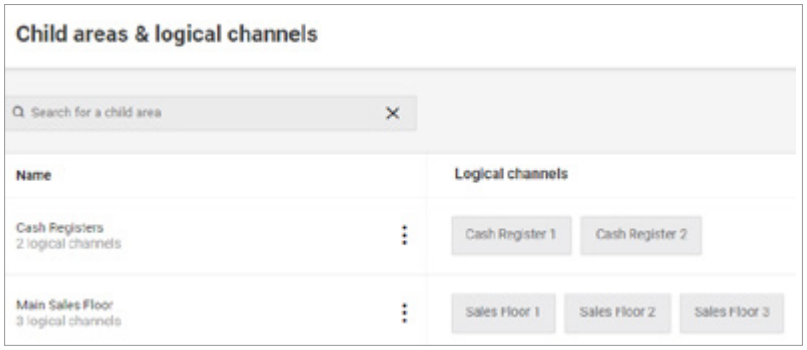
Store staff

Store staff includes cashiers, stocking personnel etcetera, using local temporary manual override when required.

3.2.4 Maintenance and Service providers

Maintenance and Service providers can provide remote services to the retailer.

Third party personnel with the correct licenses and entitlements can login to the dashboard and execute facility and format manager roles. The Signify C-ROC is also fully capable of providing these services against additional cost.



3.3 Project template and tickets

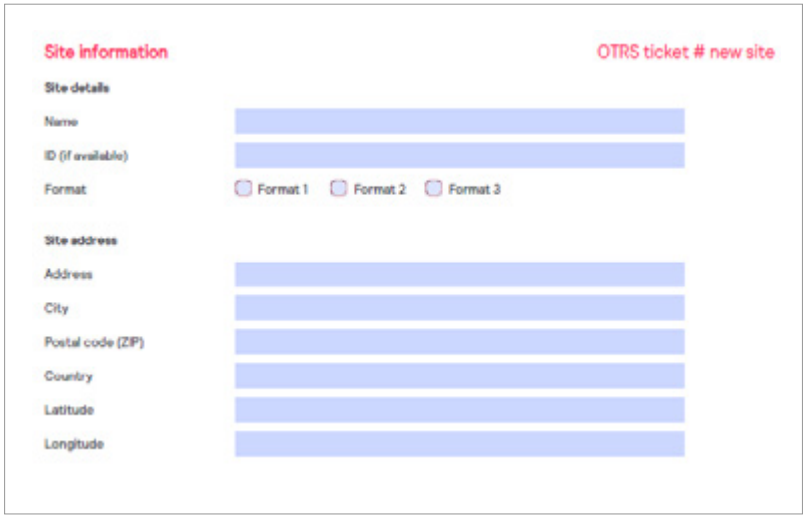
3.3.1 Project template

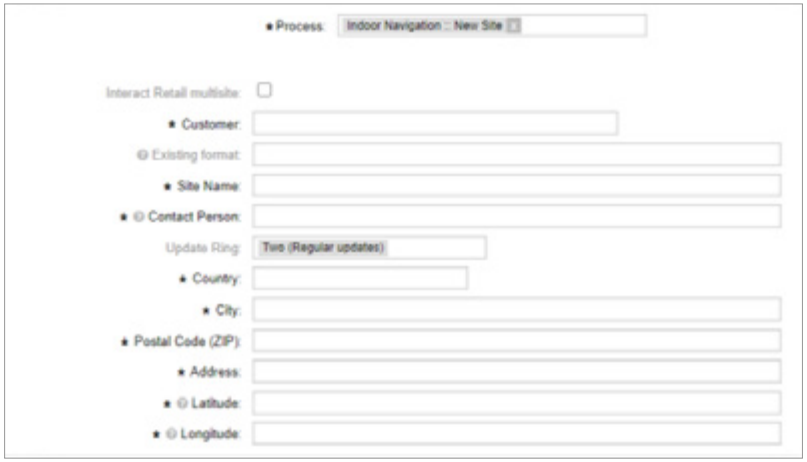
All customer information as described in the previous sections is collected in the Project Template (also known as Intake Form, see the *IA-Retail Project Template*). Each section corresponds with a step in the offsite preparation of the project execution.

The Information concerning the customer, services, site, project, and end users needs to be submitted in tickets. The Signify Customer Remote Operating Center (C-ROC) uses the tickets to enable the site in the cloud. A complete process requires tickets in the following systems:

- C4CS
- OTRS

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 sections 4.3 Prepare the dashboard in the cloud and 4.4 Prepare the System Builder job file.





3.3.2 C4CS tickets

The C4CS tickets are required to onboard the site to C-ROC:

- Create a contract in SAP on the account of the customer.
- In C4CS, create an Installed base ID number using the address of the site

Note

The SAP contract number and the Installed base ID number are required for C-ROC onboarding and OTRS tickets.

- In C4CS, create a ticket for C-ROC to onboard the site. This ticket includes the monthly Energy report and Remote monitoring service.
- On customer request, create a C4CS ticket to enable the optional Remote operating service. C-ROC provides this service to the customer.

Tip

Create a BSR-ticket (Business Support Request) in C4CS upfront to ensure remote support by a system expert.

3.3.3 OTSR tickets

Via OTRS you can create all required software 12nc's and onboard all new sites. The tickets to create in OTRS include:

- new customer (not applicable for an existing customer)
- new site
- new license (also covers license extensions)
  - IAR multisite standard license
  - IAR connectivity license (EU/US; for usage of a 4G-router to enable connectivity to the cloud)

Note

For this ticket, a SAP contract number and Installed base ID number are required

- new user
  - At project start, request only the designer and site engineer
  - At handover, also request the users facility manager and format manager
- new work order
  - Design
  - Onsite commissioning
- change request

Note

The user account must be registered in Microsoft Azure Active Directory.

03 Intake

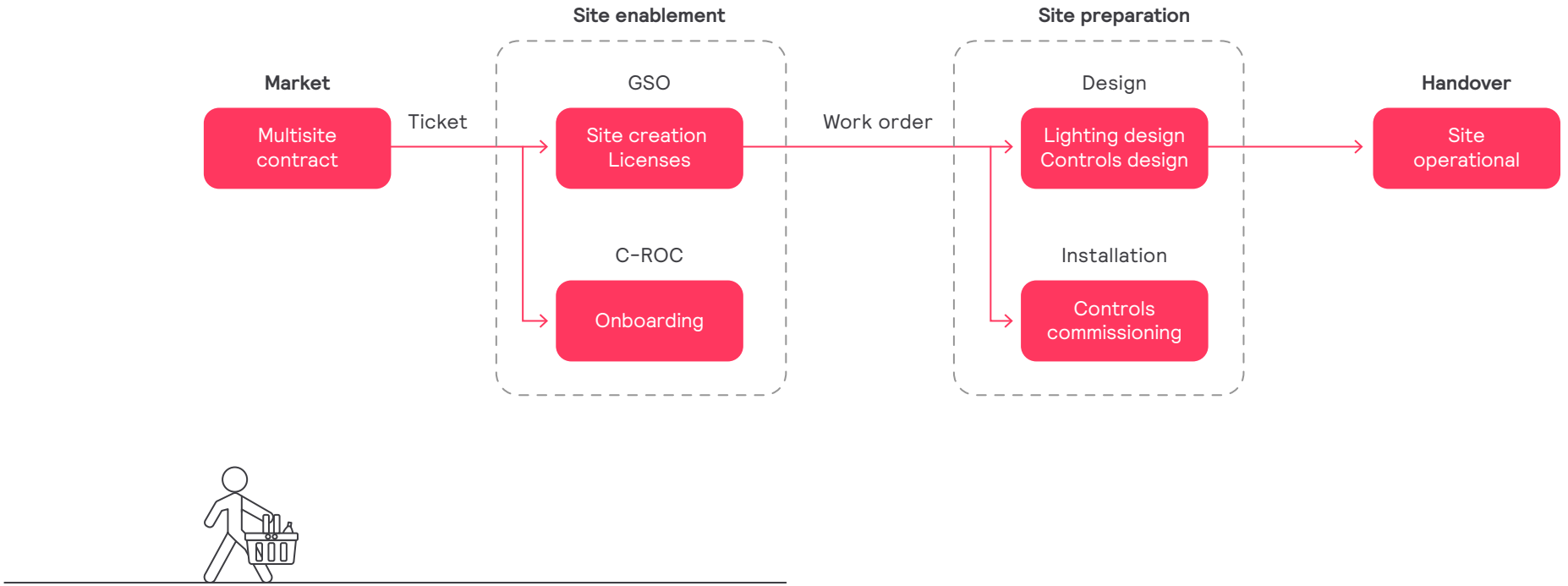


Figure 3. High level overview of project execution

3.4 Design, installation, and commissioning process

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. We provide the installer with an easy-to-use app that guides him step by step through commissioning and validation.

3.4.1 Off-site and on-site activities

The offsite and onsite activities follow a specific workflow. Some characteristics in this workflow are:

- Work orders arrange a secure and well-defined access control; only users with sufficient access rights can access the files for the site.
- Centralized digital storage ensures a more efficient workflow, mitigates errors and double work.
- Offsite preparation for a flexible and cost saving implementation; expert knowledge onsite is not necessary.
- The workflow wizard follows a clear workflow with well-defined handshakes.

Offsite preparation

Trained experts carry out the off-site preparation that consists of the following steps:

- **Kick-off**
  - Complete project template and requirements document based on customer input and alignment,
  - Request work orders to assign designer(s) and installer(s) to the project.
- **Detailed lighting design**
  - Creation of the reflected ceiling plan.
- **Detailed controls design**
  - Creation of the project file and upload to the cloud.
  - Preparation of the dashboard in the cloud for the customer.
- **Ordering**
  - Order products (lighting and controls).

Onsite installation

The installer takes care of the on-site installation that consists of the following steps:

- **Installation**
  - Work order manages access to the site
  - All lights and controls installed
  - Establish connectivity of the Site Gateway
- **Commissioning**
  - Download of the project file and prepare the Site Gateway
  - Cloud provisioning of the gateway
  - Finalize and deploy project configuration
- **Validation**
  - End-to-end validation from cloud to light
  - Final project file updated in the cloud
- **Site delivery**
  - Work order is resolved, site is “Ready to use”
  - Handover of the site to the customer

3.4.2 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.

3.4.3 Philips Dynalite Site Enabler app

With the Philips Dynalite Site Enabler app installed on a mobile phone, the installer follows a step-by-step wizard using work orders to activate the gateway, validate the system and resolving the work orders to enable the site “Ready to use”.

04 Offsite preparation

04 Offsite preparation

4.1 Onboarding

A series of tickets need to be handled by Global Software Operations (GSO) and the Customer Remote Operations Center (C-ROC) to onboard a new site. Onboarding needs te be finished before requesting licenses and creating work orders.

4.1.1 Request system activation

- The market initiates system activation by generating and submitting a license request ticket.
- Licenses handle access to specific parts of the system related to dedicated roles, in some cases in combination with work orders.
- Work orders are used to assign specific tasks (design, installation, and commissioning) to dedicated roles.

4.1.2 Assignment of roles

The project template can be used to specify the people and their contact details to a specific role. There are roles defined that are applicable for Signify and partner personnel as well as roles for the customer and/or service provider:

Signify and partner roles:

- Main contractor
- Lighting designer
- Controls/site designer
- Installer/site designer

Customer and service provider roles:

- Facility manager
- Format manager for each specific format
- Third party service provider

Note

For training and demonstration purposes, it's advised to grant Signify representatives both facility and format manager roles.

See Appendix B Roles and responsibilities for more information.

Assignment of roles is to be requested at Customer Remote Operating Center (C-ROC).

4.2 System design

The system design of the Multisite system is different when compared to a standard Dynalite system. Multisite 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.

4.2.1 System characteristics

During design and commissioning of an Multisite system, pay attention to the following system characteristics:

1. The Multisite system combines a modular Dynalite control topology with a user interface developed for a retail store. Currently, multiple types of control components in the system are supported:
   - DALI individual addressable luminaire controllers
   - DALI broadcast controllers
   - Phase cut dimmable controllers
   - Pulse Width Modulation (PWM) controllers
   - Relay controllers
   - 0-10 V/1-10 V/DSI controllers
   - Dry contacts
   - Sensors and user interfaces
   - For load controllers tested and verified for the Store system, see section 4.2.3 Controls design for the types.
2. A System Builder (SB) job file including a basic configuration is available for faster creation of a project specific job file.

3. 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 areas. For instance, Fresh food, Bakery, etc. These names are shown in the UI.

4.2.2 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 a (AutoCAD) drawing influences the speed and accuracy of the controls design.

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

4.2.3 Controls design

While using System Designer, it generates:

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

Limitations

The Site Gateway requires a fully available and functioning internet connection at the day of installation. This connection must be secure and available 24/7. Also, a firewall preventing inbound communication is of the highest importance.

See the *FLX Multisite Security Statement* for further details of required ports to be opened, protocols that need to be enabled, etcetera. This document can be found on the Signify Partner Portal and should be discussed upfront with the IT representative of the customer.

Note

Each site equipped with Multisite generates an expected average traffic of 1 GB/month.

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 (spur) 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.

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.

To overcome a voltage drop, or 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.

Wired controllers

The specifications of each controller type limit the number of luminaires that can be connected. Refer to the product data sheets for detailed information. The given limitations:

DDBC1200

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

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.

DDBC300-D

- Three DALI outputs, allowing to control up to 192 DALI devices.

DDBC320-D

- 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.

DDRC420FR

- Four switched feed-through outputs at 20 A (inductive), maximum device load 80 A
- Rated inrush current: 500 A

DDRC1220FR-GL

- 12 switched feed-through outputs at 20 A (inductive), maximum device load 180 A
- Rated inrush current: 500 A

4.2.4 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 spur 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.

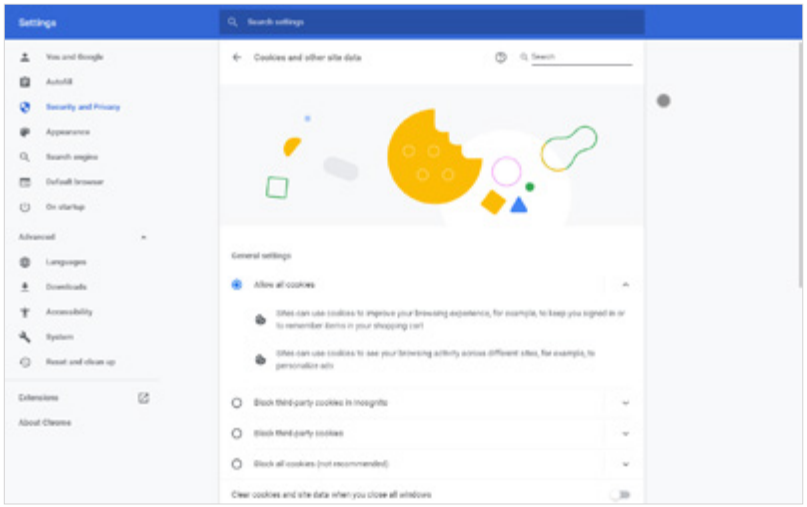
DALI conductor diameter

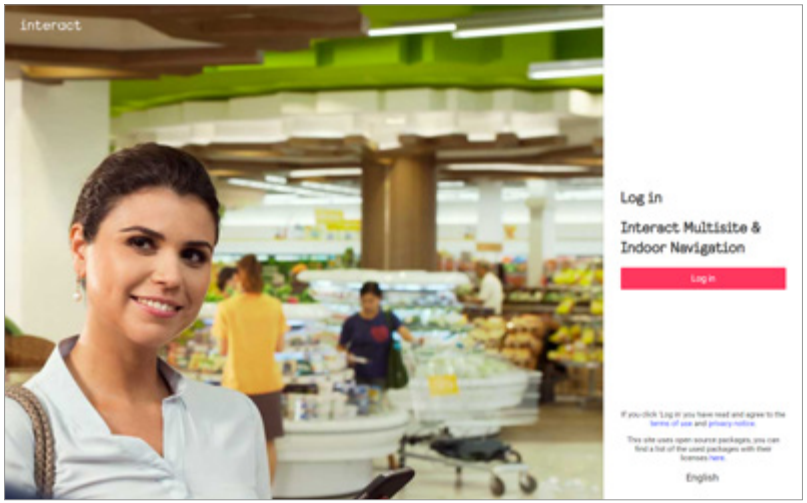
Length		Cross section	
≤ 100 m	≤ 330 ft	0.5 mm^2	AWG 20
100 to 150 m	330 - 500 ft	0.75 mm^2	AWG 18
150 to 300 m	500 - 1000 ft	1.5 mm^2	AWG 16

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 with regard to maximum cable lengths etcetera.

Physical connection testing
The 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.





4.3 Prepare the dashboard in the cloud

Before you start preparations in the cloud:

1. Open an appropriate web browser, see section 2.2.2 Requirements for the dashboard.
2. In the web browser settings, change the cookies setting to **Allow all cookies**.

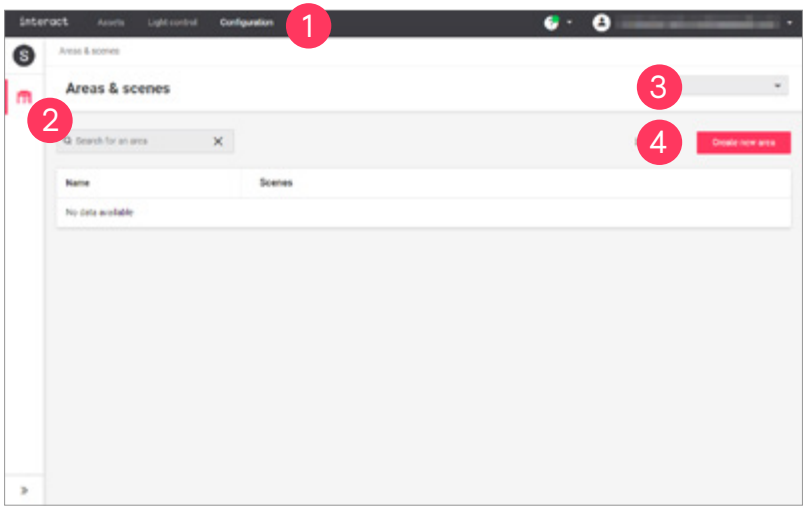
Note

The image shows the setting on Google Chrome. The procedure to change this setting differs per browser.

3. Browse to the web page with the address: www.eu.retail.interact-lighting.com
4. Click **Login** and follow the steps to login to the dashboard.

Note

In this guide, we use the demonstration project as an example. Where the desired configuration can differ, the steps to follow are identical.



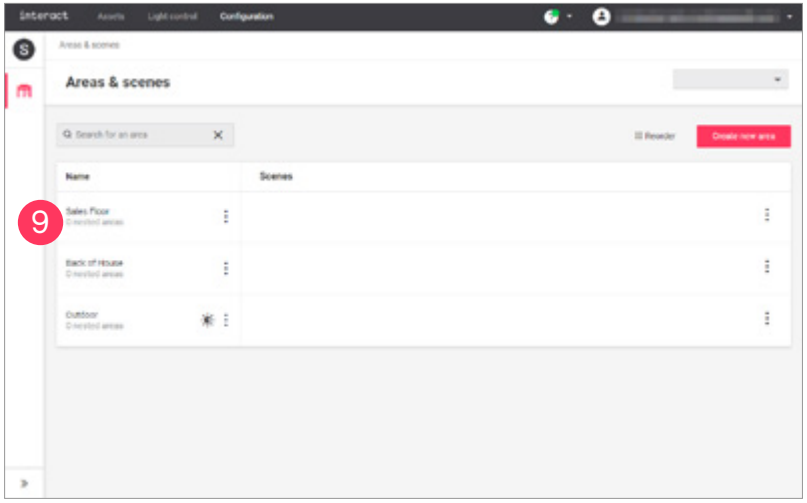
Important

Be aware of possible impact when adding or editing parent areas, scenes, child areas and logical channels. Therefore, this should be done with caution. Selecting **None** or a **Format** results in:

- **None**: create a general set of parent areas and scenes, and child areas and logical channels that can be assigned to specific formats afterwards. See section 3.1 Formats.
- **Format**: create parent areas and scenes, and child areas and logical channels directly for the selected format. These settings can be assigned to other formats afterwards too.

4.3.1 Add parent area

1. In the menu, click **Configuration**.
2. Select **Areas & scenes**.
3. Select **None** or a **Format**.
4. Click **Create new area**.



5. Enter the ID number for the area.

Important

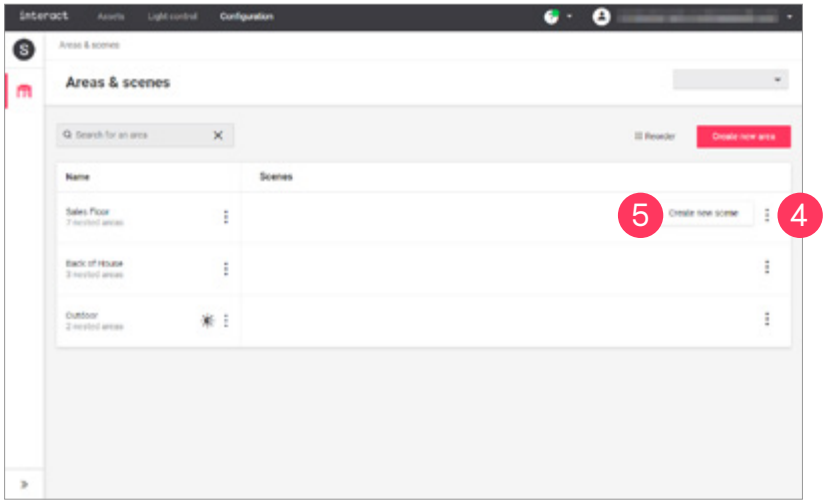
- It's advised to use consecutive IDs consistent on newly created parent areas, starting from area ID 2.
- Make sure to use identical ID numbers and names for the parent areas in both the cloud and System Builder.

6. Enter the **Name** of the area.
7. Optionally, select the checkbox **Day & Night Mode** to enable this option.
8. Click **Save**.

Note

- Enabling the day and night mode activates automatic switching of the area by the system based on sunrise and sunset.
- Areas with the day and night mode enabled can be identified by the icon.

9. Add all required parent areas by repeating the steps above.



4.3.2 Add scene

1. In the menu, click **Configuration**.
2. Select **Areas & scenes**.
3. Select **None** or a **Format**.
4. With the mouse, in the **Scenes** column next to the area to add the scene to, hover over the action menu icon (⋮).
5. Click **Create new scene**.

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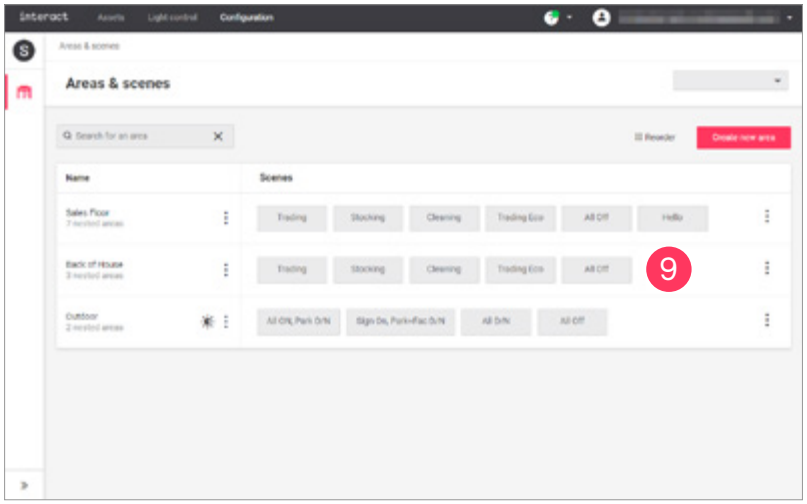
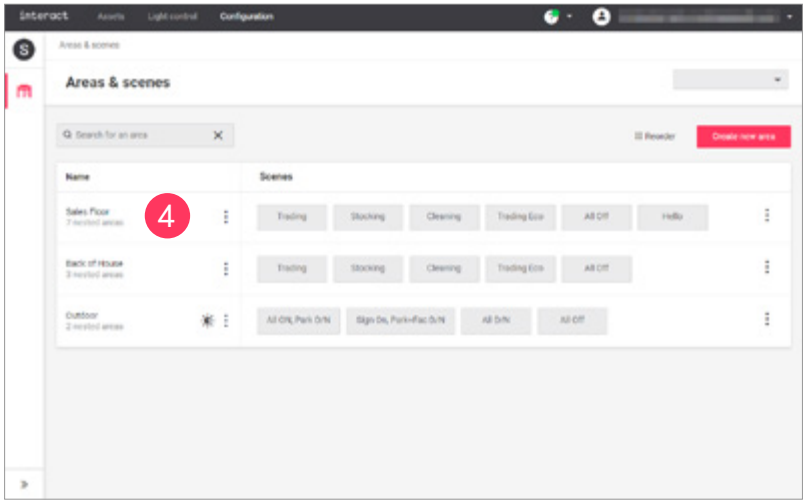


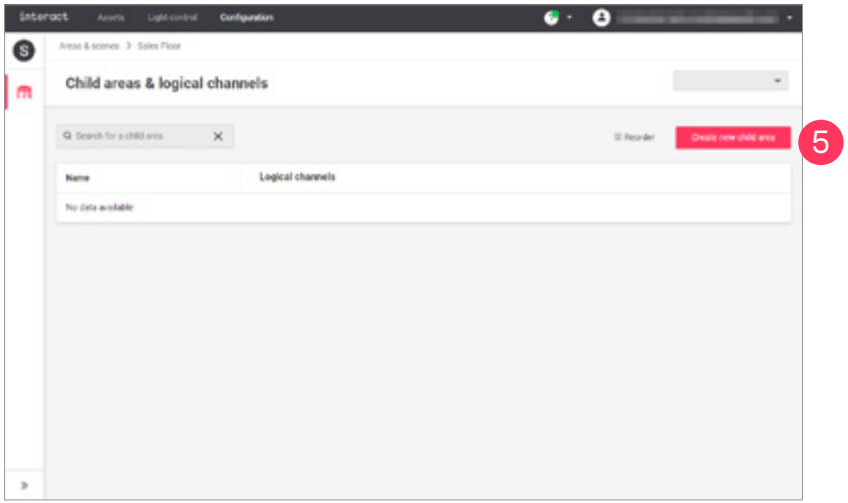
6. Enter the **ID** number for the scene.

Important

- It's advised to use consecutive IDs consistent on newly created scenes, starting from ID 1.
- Make sure to use identical ID numbers and scene names for the presets in both the cloud and System Builder.
- Per parent area, the IDs of the scenes may restart.

7. Enter the **Name of the scene**.
8. Click **Save**.
9. Add all required scenes for each area by repeating the steps above.





4.3.3 Add child area

1. In the menu, click **Configuration**.
2. Select **Areas & scenes**.
3. Select **None** or a **Format**.
4. Click an **Area** to show the list of child areas.
5. Click **Create new child area**.

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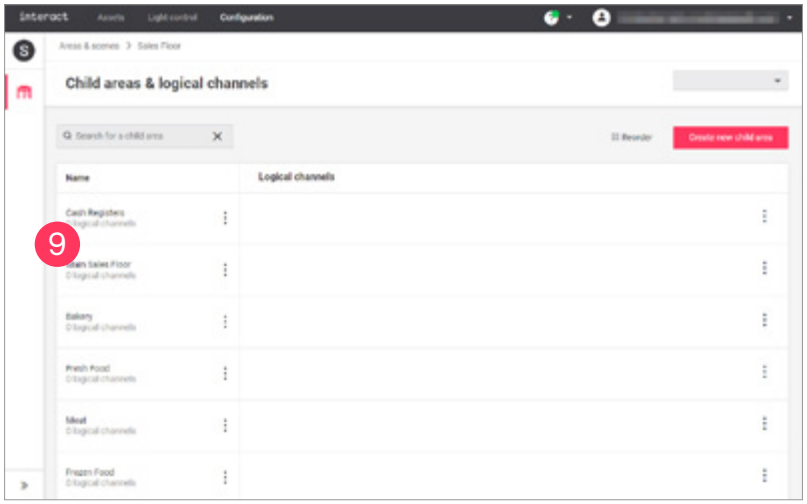
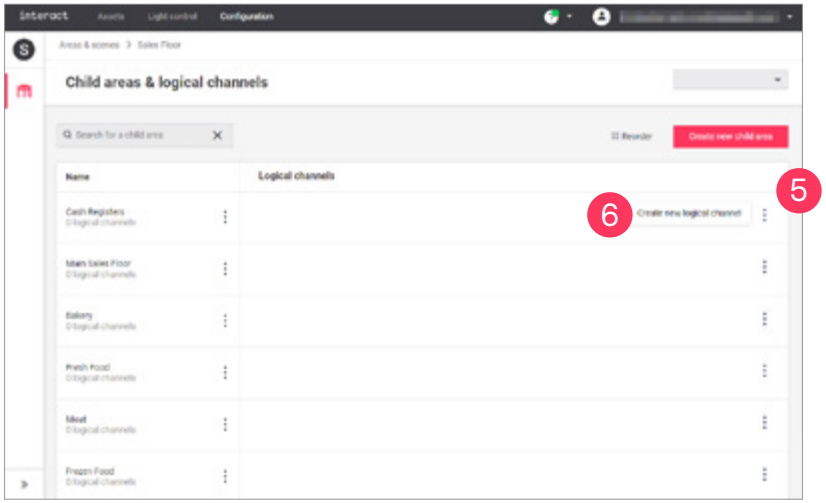


6. Enter the **ID** number for the child area.

Important

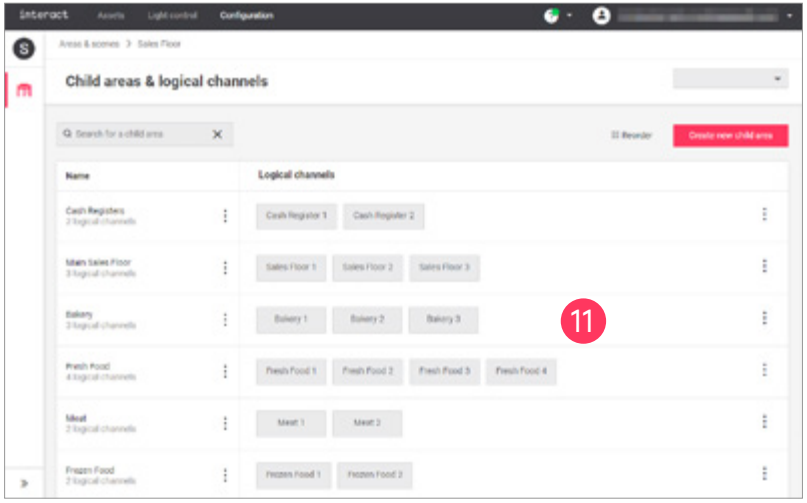
- It's advised to use consecutive IDs consistent on newly created child areas.
- It's suggested to assign the child area ID taking the ID of the parent area as a base. For example: the first child area of the area with ID **2** will get **21** as ID.
- Make sure to use identical ID numbers and names for the child areas in both the cloud and System Builder.

7. Enter the **Name** of the child area.
8. Click **Save**.
9. Add all required child areas by repeating the steps above.



4.3.4 Add logical channel

1. In the menu, click **Configuration**.
2. Select **Areas & scenes**.
3. Select **None** or a **Format**.
4. Click an area to show the list of child areas.
5. With the mouse, in the **Logical channels** column next to the child area to add the channel to, hover over the action menu icon (⋮).
6. Click **Create new logical channel**.



7. In the dropdown menu, select the type of logical channel, set by default to **Dimming/Switching**.

Note

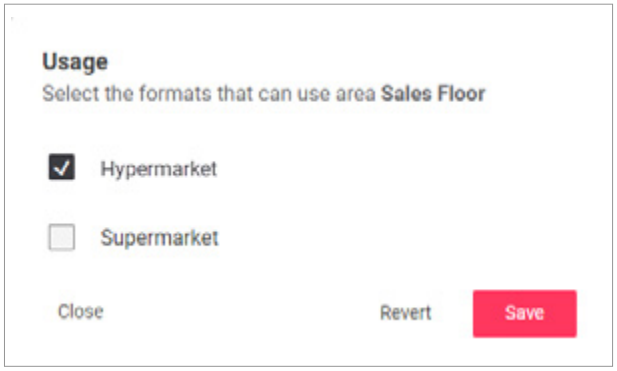
Select the type RGB when the use of the channel is intended for, for example, colored accent lighting.

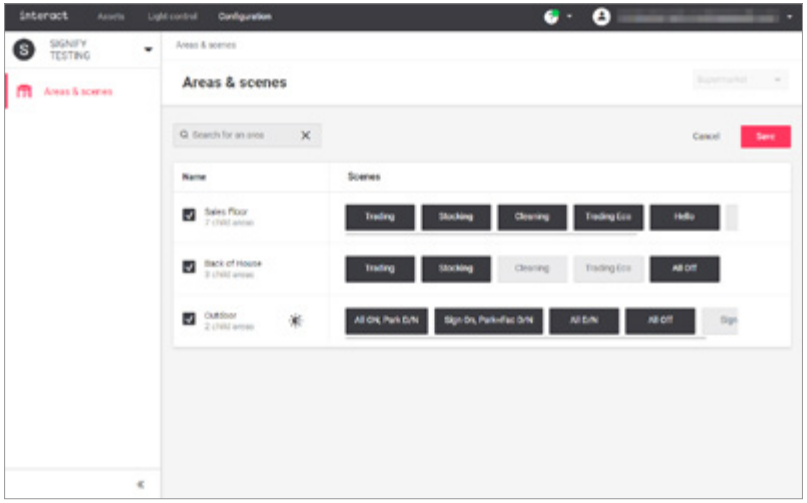
8. Enter the **ID** number for the channel.

Important

- It's advised to use consecutive IDs consistent on newly created logical channels, starting from ID 1.
- Make sure to use identical ID numbers and names for the logical channels in both the cloud and System Builder.
- Per child area, the IDs of the logical channels may restart.

9. Enter the **Name** of the channel.
10. Click **Save**.
11. Add all required logical channels for each child area by repeating the steps above.





4.3.5 Edit usage of areas, scenes and channels

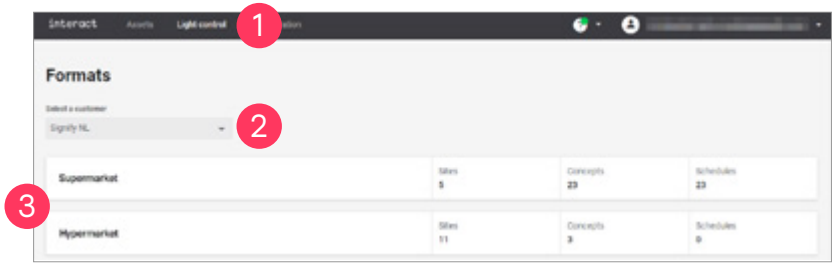
There are multiple ways to edit the usage of areas, scenes, and channels for the available formats.

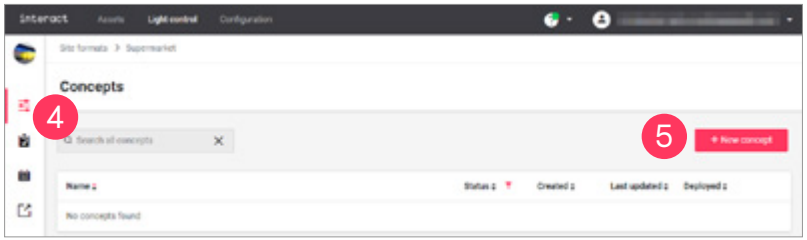
Edit usage for all formats

1. Select the format **None** (no format).
2. Click:
   - **Areas & scenes**
   - An **Area** to optionally click an area to show the list of child areas and logical channels.
3. Hover over the action menu icon (⋮) and select **Usage**.
4. Select the usage in the popup.

Select usage for a specific format

1. Select the format **None** (no format).
2. Click:
   - **Areas & scenes**
   - An **Area** to optionally click an area to show the list of child areas and logical channels.
3. Click **Edit usage**. Select the check box to enable (child) areas and select the scenes or logical channels to enable them.
4. Click **Save**.





4.3.6 Add concept

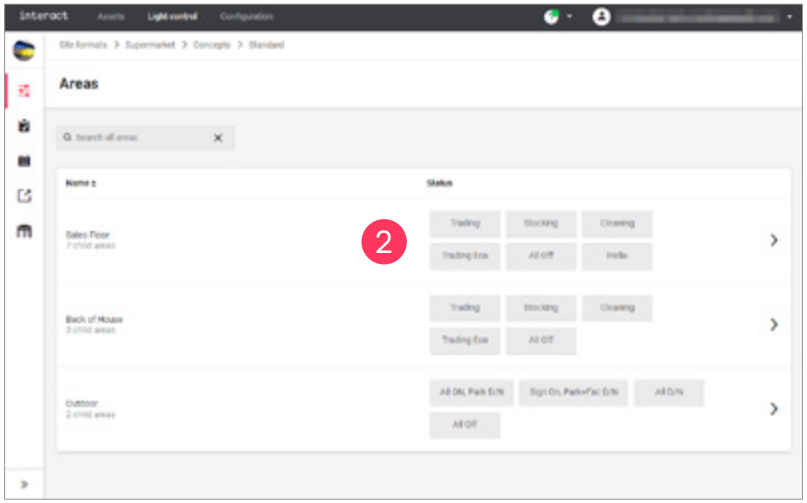
Each format requires a concept. The Site Enabler app deploys the concept during commissioning of the site.

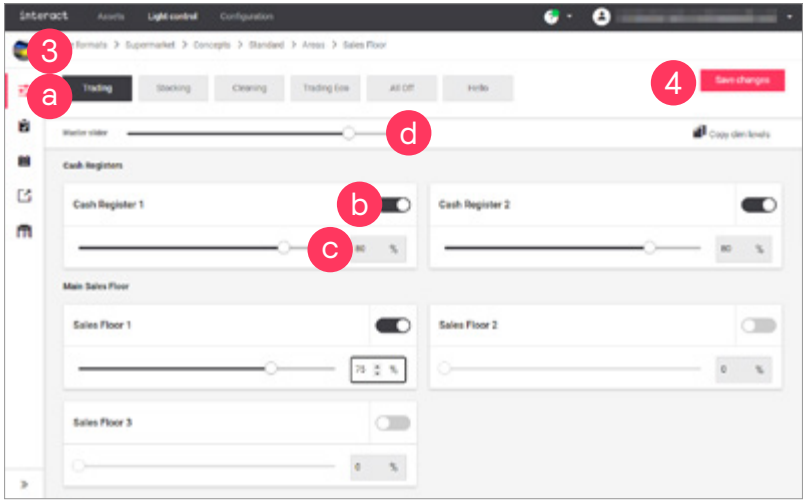
Important

Make sure to create a concept with realistic light levels, preferably according to the wishes of the customer.

Create concept

1. In the menu, click **Light control**.
2. If applicable, in the dropdown **Select a customer**, select the customer.
3. Select a format.
4. Click **Concepts** ( ).
5. Click **+ New concept**.
6. Give the concept a name and click **Create**.





Edit concept

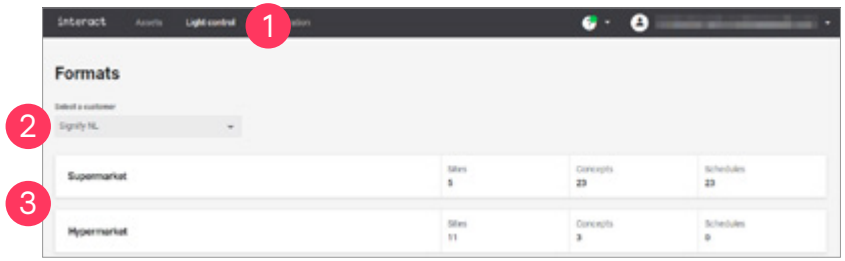
Note

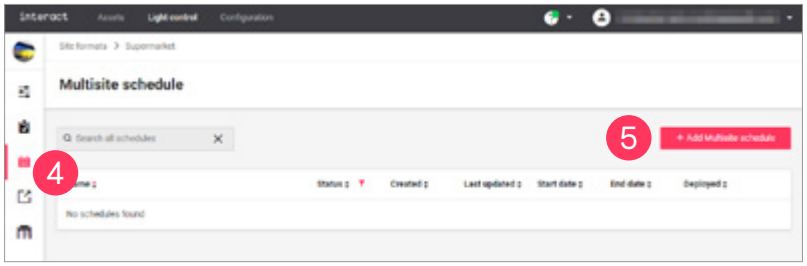
- You can only edit concepts with the status **Draft**.
- The scene that you edit shows dark. Select another scene to start editing the settings of this scene.

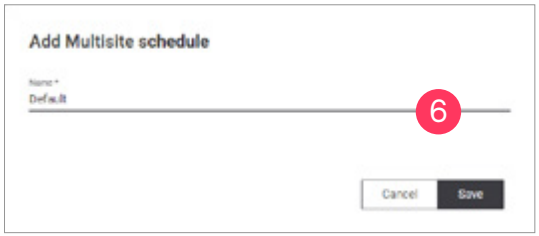
1. Click on the name of the concept you just created.
2. Click on the row of an area to start editing.
3. Start editing the light settings for the area:
   a. Select a scene to edit its light settings
   b. Switch the zone ON or OFF.
   c. Move the dim slider to adjust the light level; or: Enter the value in the box.
   d. Use the **Master slider** to change the relative dim level of all zones that are switched to ON.
4. Click **Save changes**.
5. Repeat for the other scenes in the area.
6. Repeat for the other areas.

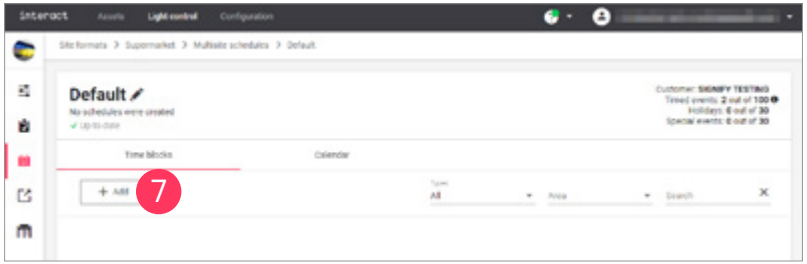
Tip

See the *User guide* for more information about editing concepts.









4.3.7 Add schedule

Each format requires a schedule. The Site Enabler app deploys the schedule during commissioning of the site.

> **Important**
> Make sure to create a schedule with a realistic timeline, preferably according to the wishes of the customer.

Create new schedule

1. In the menu, click **Light control**.
2. If applicable, in the dropdown **Select a customer**, select the customer.
3. Select a format.
4. Click **Schedules** ( ).
5. Click **+ Add Multisite schedule**.
6. Give the schedule a name and click **Save**.
7. Click **+ Add** to start creating the schedule.

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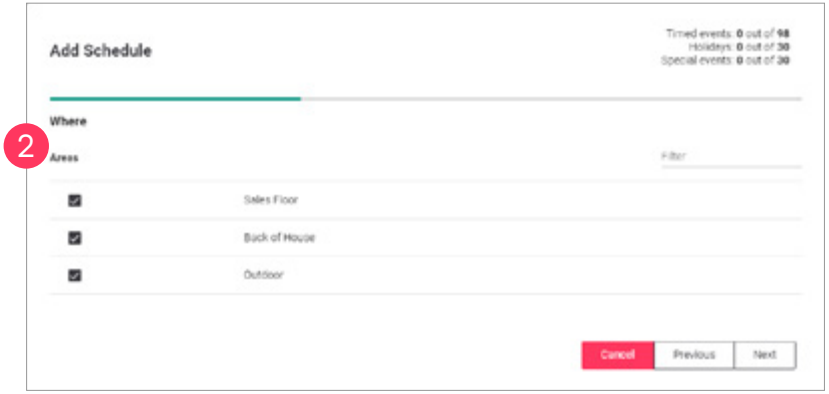


Add the schedule

When creating and editing schedules, keep in mind that the wizard follows a structured order:

- **When**: start/end date, weekdays, and months
- **Where**: area(s) the schedule applies to
- **What**: what happens on the defined times

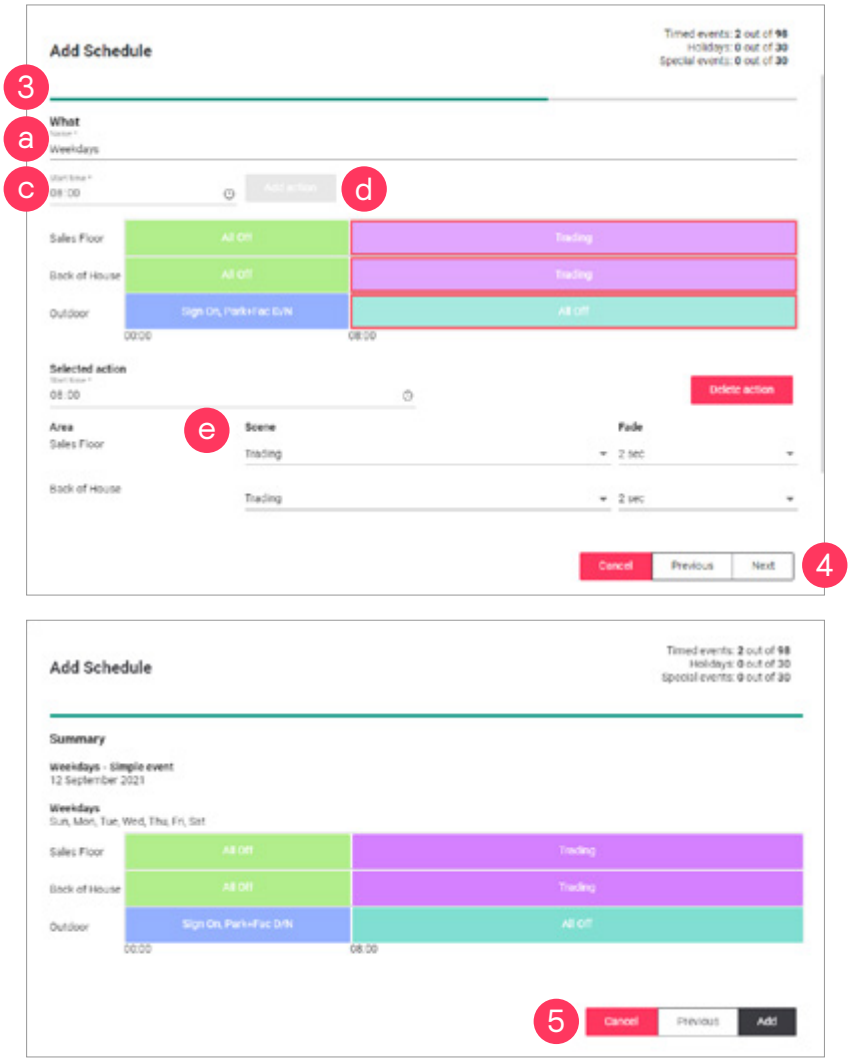
1. On the *When* page, make the below calendar selections:
   a. Select the **Type** of event.
   b. Click the calendar ( ) to select the **Start date**.
   c. Click the calendar ( ) to select the **End date** (optionally).
   d. Clear/select the days for the **Weekly Pattern**.
   e. Clear/select the months for the **Monthly Pattern**.
   f. Click **Next**.

Note

When creating a **Special event**, specify an **End date** in the far future. Select a date using the calendar and change the year manually to, for example, 2099.

2. On the *Where* page, select the **Areas** the schedule applies to and click **Next**.

04 Offsite preparation



3. On the *What* page, make the timer selections:
   a. Enter the **Name** for the schedule.
   b. Select the *Unknown* schedule and select the **Scene** and **Fade**.
   c. Click the clock (🕒) to define the **Start time** for the next timeframe.
   d. Click **Add Action**.
   e. Select the **Scene** and **Fade**.
4. Repeat for other timeframes. Make sure to select the **Scene** and **Fade** for all timeframes on the timeline. Click **Next**.

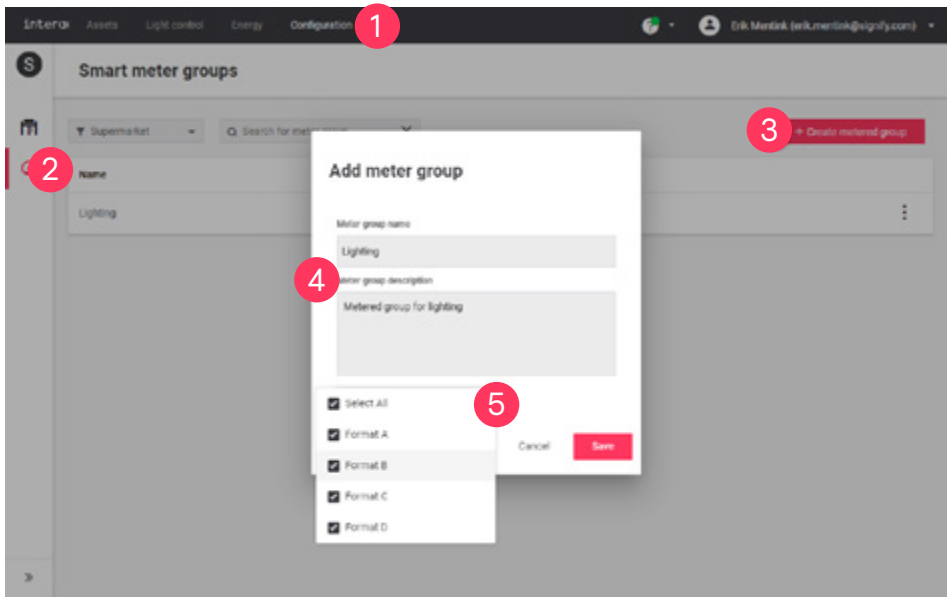
Important

Always make sure that the timeline covers 24 hours. A timeframe labeled *Unknown* is not allowed.

5. Check the settings. Click **Previous** to make changes to the schedule.
   Or: Click **Add** to close the wizard and add the schedule to the list.

Tip

See the *User guide* for more information about editing schedules.



4.3.8 Prepare energy metering in the cloud

Note

Preparation of energy metering is only required when smart meters are used to measure energy consumption. Otherwise, this step can be skipped.

1. Browse to the Interact Multisite System Manager pages and in the menu, click **Configuration**.
2. Select **Smart meter groups**.
3. Click **Create metered group**.
4. Enter a **Group name** for the metered group and provide a **Group description**.
5. Click the dropdown and select **Select All**. Click **Save**.

Note

Currently it's not possible to limit the selection to a few formats only.

6. Add all required metered groups (power zones) by repeating the steps above.

4.4 Prepare the System Builder job file

4.4.1 How to design the system

In general, there are the following methods to design the system:

- Using classic System Builder
- Using the System Designer feature in System Builder

Benefits of using System Designer compared to classic System Builder:

- 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.

Important

Make sure to always align the names and IDs for the areas, child areas, logical channels, and scenes, as created in section 4.3 Prepare the dashboard in the cloud.

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 6.1.2 Ticketing system (C4CS) how to do that.

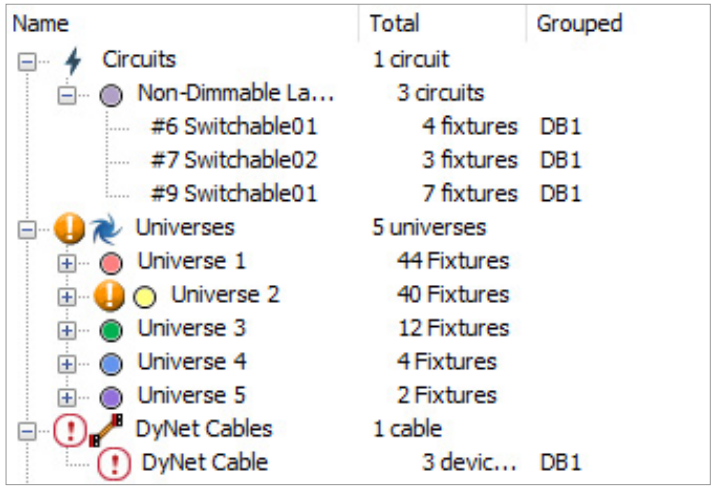
Tip

Find 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.

4.4.2 Using System Designer

- After the technician license is enabled, 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:
  1. *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.
  2. *7. Add Distribution Boards:* Consider the expected cable lengths when finding a good position for the distribution board(s) on the floor plan.
  3. *10. Group Fixtures:* Use **Draw DALI Cable** to connect the DALI controlled luminaires, both broadcast and addressable.
     Use **Draw Fixture Group** for switchable luminaires.



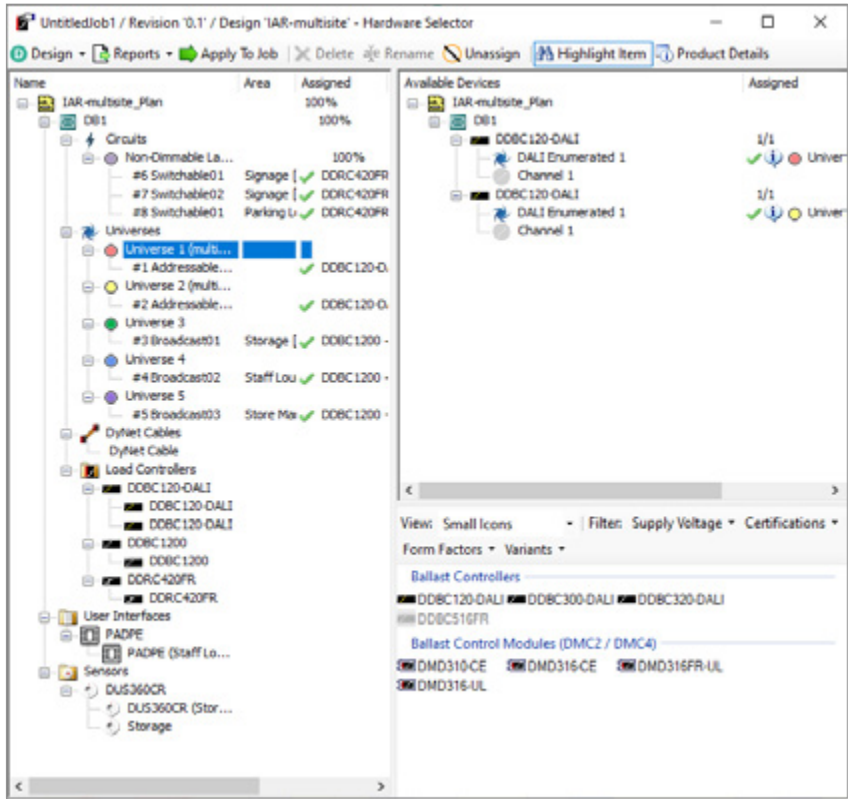
Note

- 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.

4. *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).
5. *12. Draw Areas:* Only draw areas that were defined as *Child areas* (for example: cash registers, main sales floor, etcetera). The main areas are created later.

Important

Make sure to use identical ID numbers and names for the child areas in both the cloud and System Builder. See section 4.3.3 Add child area.

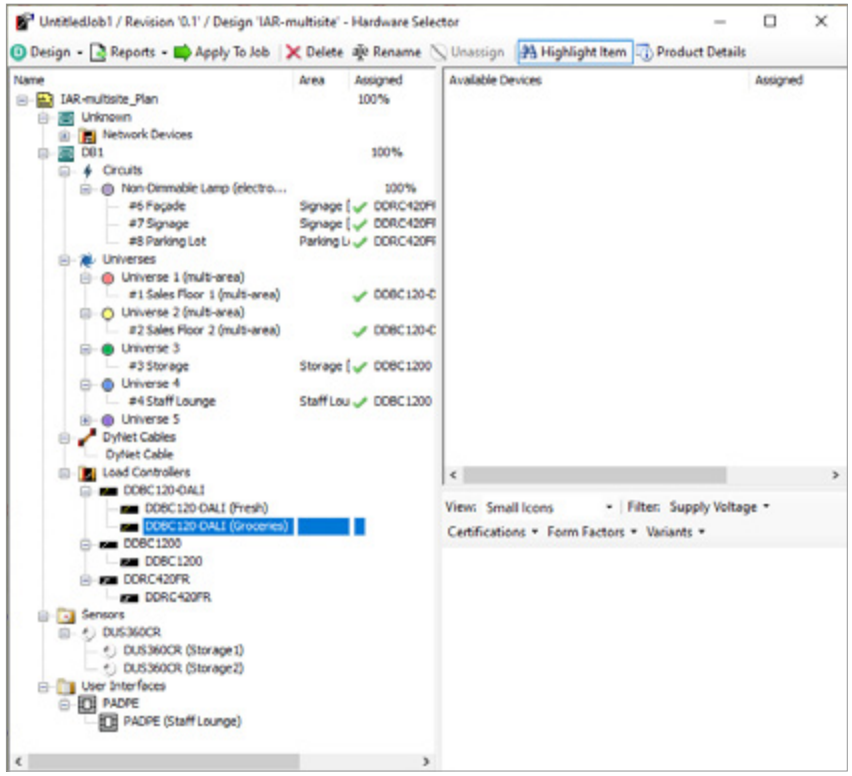


6. *13. Draw DyNet Cable:* When drawing DyNet cables, also make sure to connect the cable to a distribution board. If controllers are added to the distribution board in step 15, the symbol (!) disappears.
7. 15. Select Hardware: Click **Open Hardware Selector Window** and in the left panel select a **Circuit** 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 section 5.3.2 Configure DALI individual addressing.

04 Offsite preparation

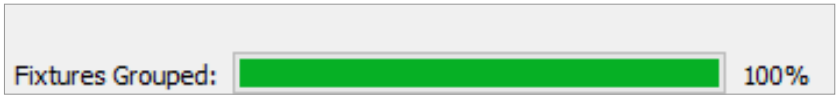


8. *15. Select Hardware:* In the left panel, select a Circuit or DALI universe and assign it by drag and drop to the appropriate controller in the right panel.
9. *15. Select Hardware:* In the left panel, select all added devices (load controllers, sensors, user interfaces) one by one and click **Rename** 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.

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



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** () to close the **System Designer** feature.

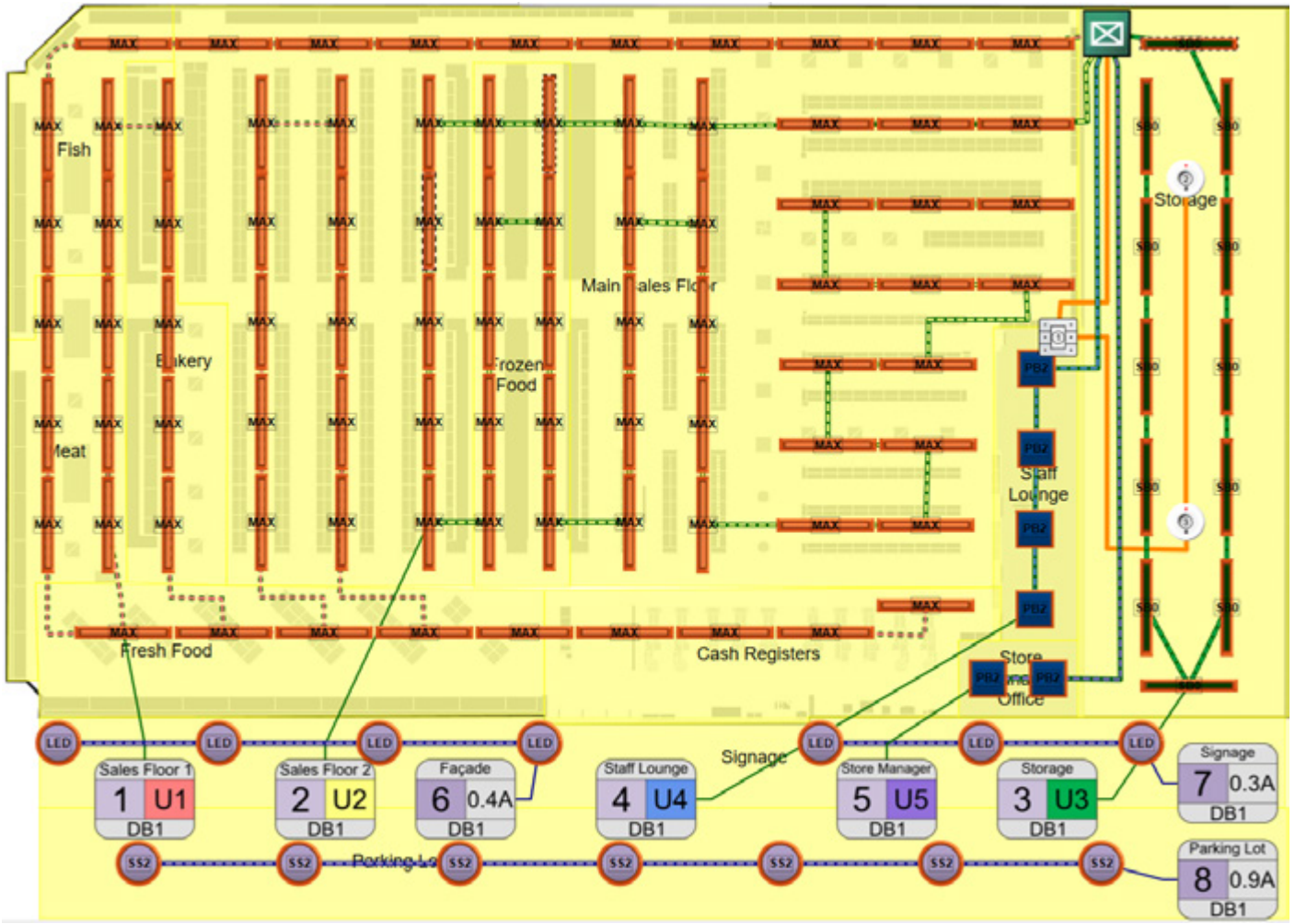
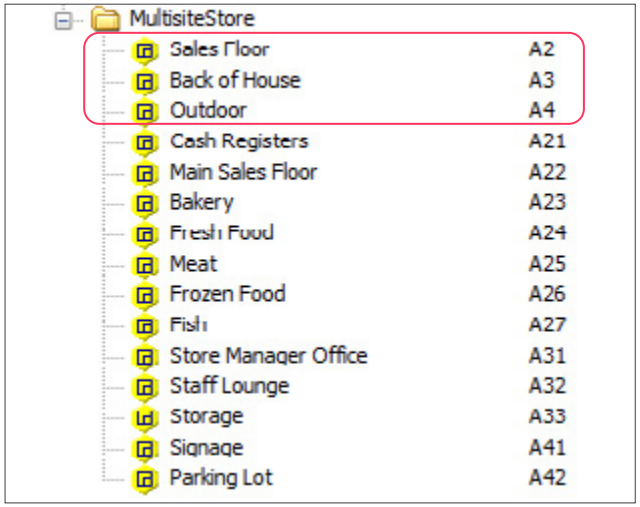


Figure 4. Possible result after using System Designer



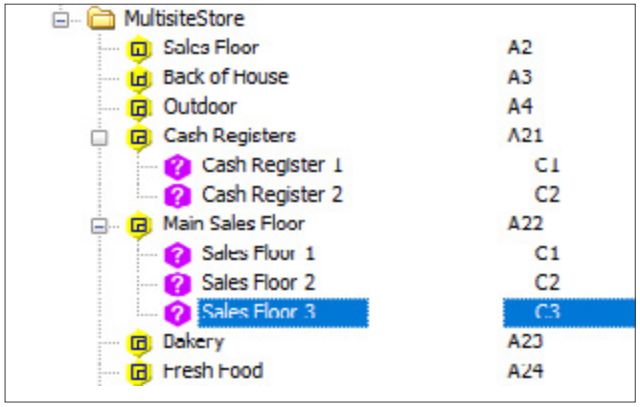
4.4.3 Finalize logical hierarchy

Create parent areas

1. In the **Areas** view, click **Insert New Area**.
2. Create the Parent Areas according to the *Project Template*.

Important

Make sure to use identical ID numbers and names for the parent areas in both the cloud and System Builder. See section 4.3.1 Add parent area.



Create logical channels (DALI enumerated)

Prepare the logical channels for use with DALI enumerated universes. You need these logical channels in the Onsite commissioning.

Note

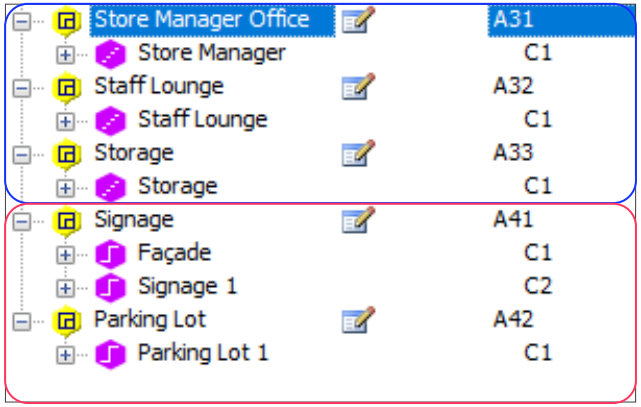
Create the logical channels in the corresponding child areas according to the *Project Template*.

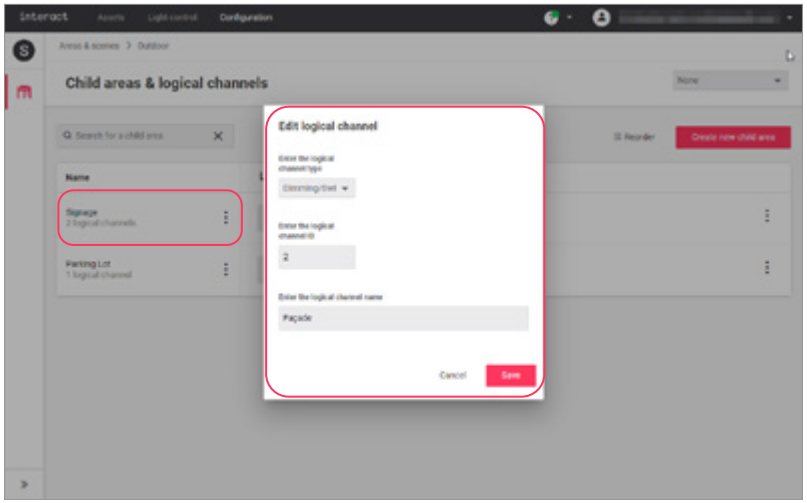
1. In the **Areas** view, select the desired **Child area**, for example *Cash Registers*.
2. Click **Insert New Channel** to create a new logical channel.
3. Create the logical channels according to the project template.

Important

Make sure to use identical ID numbers and names for the logical channels in both the cloud and System Builder. See section 4.3.4 Add logical channel.

4. Repeat for all logical channels in child areas using DALI enumerated.





Rename logical channels (DALI broadcast and Relay)

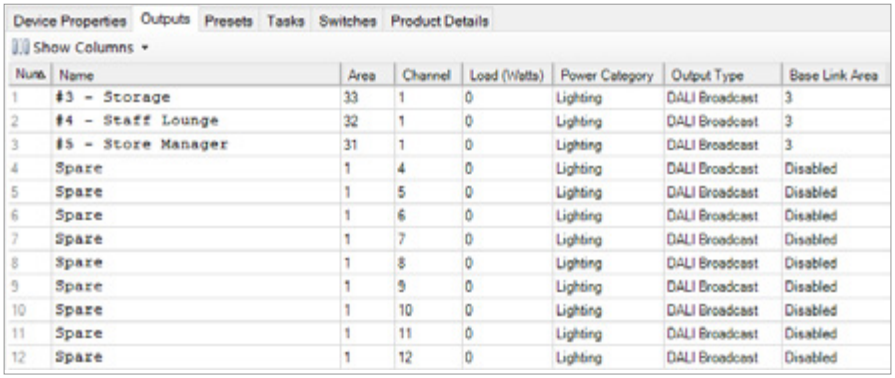
In the Hardware Selector, you assigned logical channels to a physical channel on the broadcast and relay controllers.

1. On the **View** menu, click **Areas View**.
2. In the **Areas** view, select a child area that is assigned to a DALI broadcast ( ) or Relay ( ) controller.
3. Right-click on the logical channel and select **Rename**.

Important

Make sure to use identical ID numbers and names for the logical channels in both the cloud and System Builder. See section 4.3.4 Add logical channel.

4. Repeat for all other logical channels that are assigned to a DALI broadcast or Relay controller.


Device Properties | Outputs | Presets | Tasks | Switches | Product Details

Show Columns

Num.	Name	Area	Channel	Load (Watts)	Power Category	Output Type	Base Link Area
1	#3 - Storage	33	1	0	Lighting	DALI Broadcast	3
2	#4 - Staff Lounge	32	1	0	Lighting	DALI Broadcast	3
3	#5 - Store Manager	31	1	0	Lighting	DALI Broadcast	3
4	Spare	1	4	0	Lighting	DALI Broadcast	Disabled
5	Spare	1	5	0	Lighting	DALI Broadcast	Disabled
6	Spare	1	6	0	Lighting	DALI Broadcast	Disabled
7	Spare	1	7	0	Lighting	DALI Broadcast	Disabled
8	Spare	1	8	0	Lighting	DALI Broadcast	Disabled
9	Spare	1	9	0	Lighting	DALI Broadcast	Disabled
10	Spare	1	10	0	Lighting	DALI Broadcast	Disabled
11	Spare	1	11	0	Lighting	DALI Broadcast	Disabled
12	Spare	1	12	0	Lighting	DALI Broadcast	Disabled

Assign child areas to corresponding parent area

Note

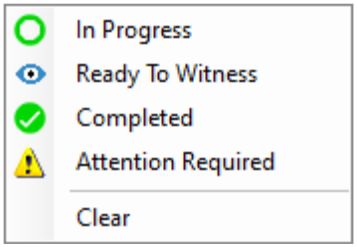
- In the offsite preparation, it's only possible to set **Base Link Areas** (BLA) and **Loads** for channels of broadcast and relay controllers.
- Configuration of enumerated channels is part of Onsite commissioning. See section 5.3.2 Configure DALI individual addressing.
- The ID of the **Base Link Area** is the same as the ID of the parent area to which the child area belongs.

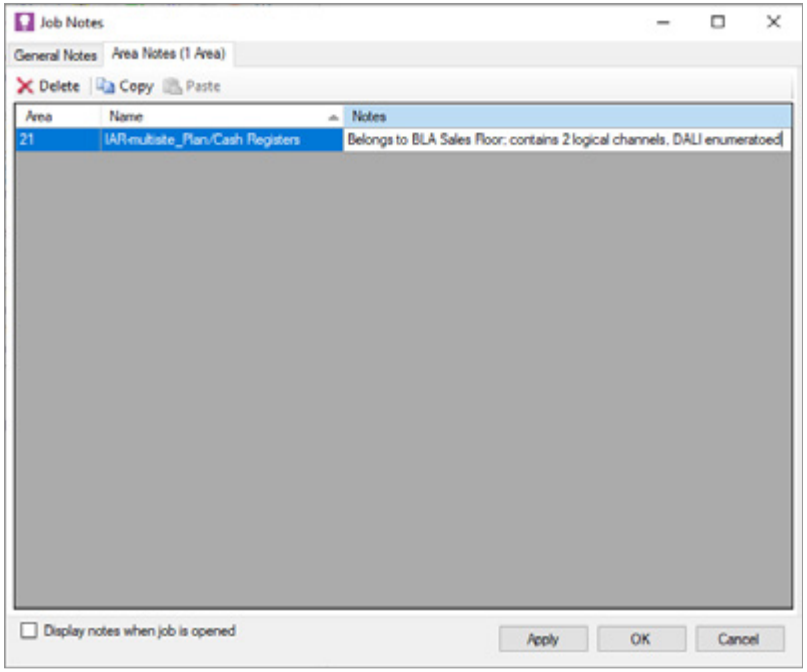
1. In the **System** view, open the tree of the *Load Controllers* and select a controller.
2. On the **Outputs** tab, in the column **Base Link Area**, enter the number of the parent area the **Physical Channel** links to.

Note

You can also draw the Base Link Areas in the Floor Plan View. Click next to (**Draw Area Region**) and select **Draw Base Area Region**.

3. Fill in the **Load** in Watts and set the **Power Category** of the physical channel to **Lighting**.





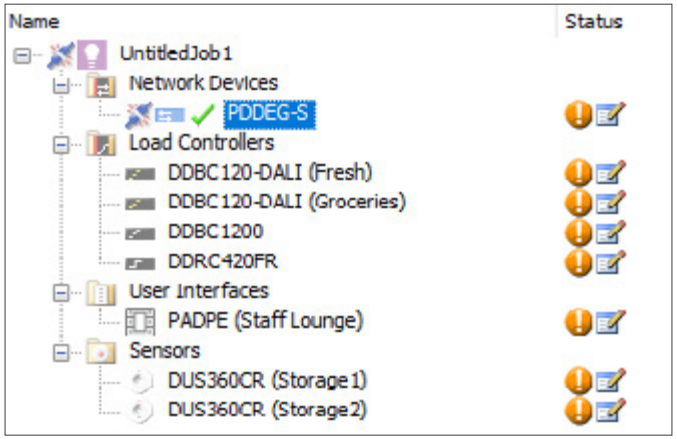
Add status and notes to areas

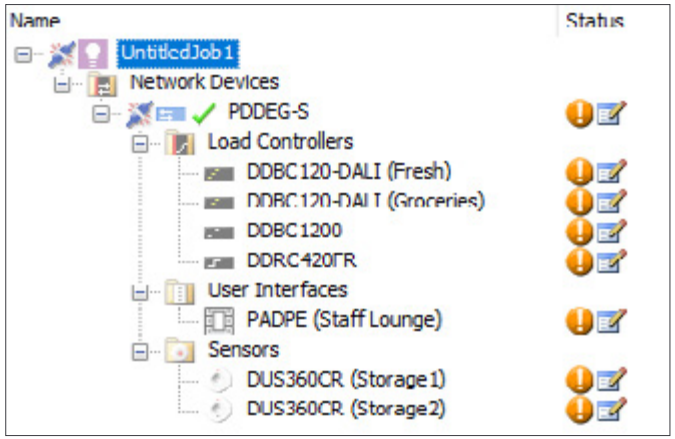
In System Builder, you can set the status of areas and also leave notes. This additional information is stored in the job file and can help the engineer onsite with commissioning of the site.

1. Right-click on the name of a child area and select **Set Status**. Select the status of choice (for example **Attention Required** to add an area note).
2. You can also right-click on the name of a child area and select **Add Area Note**.

Tip

With an area note, you can explain that a child area (*Cash Registers*) belongs to a specific parent area (*Sales Floor*) and give a summary of some details (*contains two logical channels, DALI enumerated*) for the onsite commissioning.





Add the Site Gateway

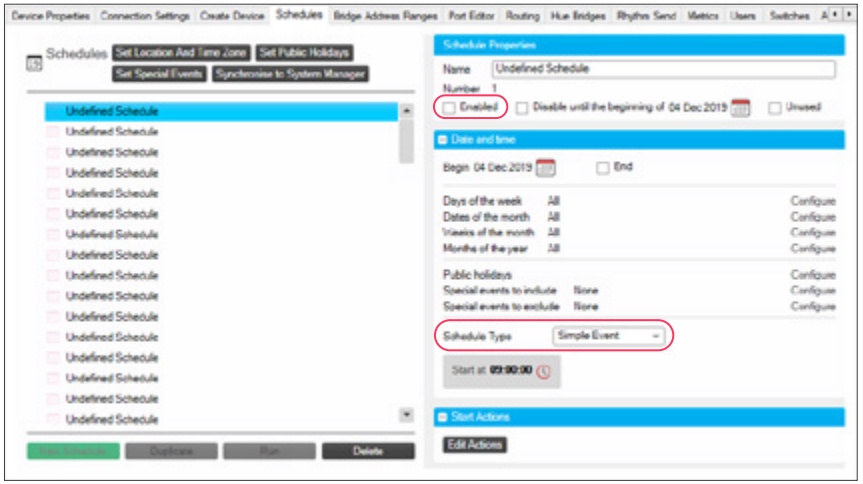
1. In the **System** view, click **Insert Device from List**.
2. Select the **Network Devices** tab.
3. Under *Gateways - Ethernet*, double-click the **PDDEG-S**.
4. The **PDDEG-S** is added to the topology.

Important

The power supply to the PDDEG-S Ethernet Gateway must be continuously available. It's not allowed to switch off the device during the night.

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.



4.4.4 Configure Site Gateway

Configure schedules

A total of 100 empty and disabled schedules must be available.

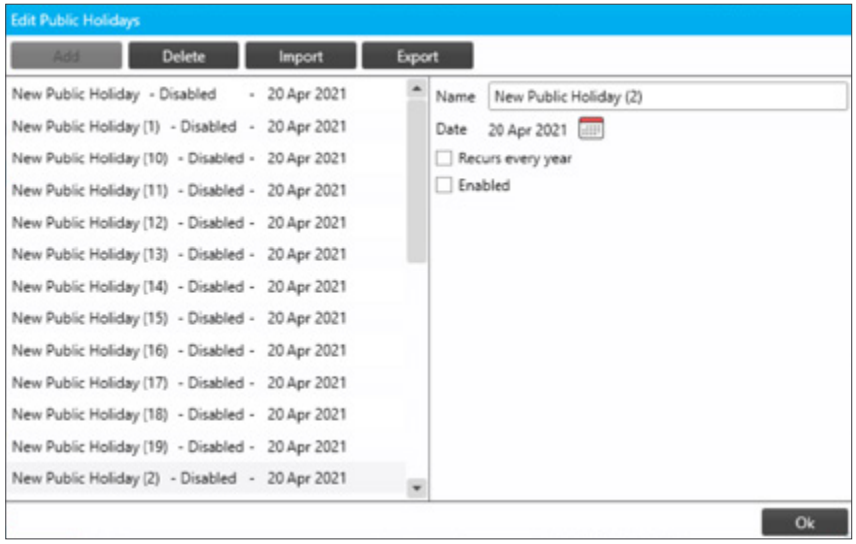
1. In the **System** view, select the **PDDEG-S**.
2. On the **Schedules** tab, check if there are 100 *Undefined Schedules* available. Make sure that all schedules are disabled.

Note

Clear the checkbox **Enabled** to disable the schedules. Make sure that for all schedules, the *Schedule Type* is set to **Simple Event**. Especially check from schedule 41 and higher.

Tip

It's possible to add up to 100 schedules. Reaching that number inactivates the button **New Schedule**.



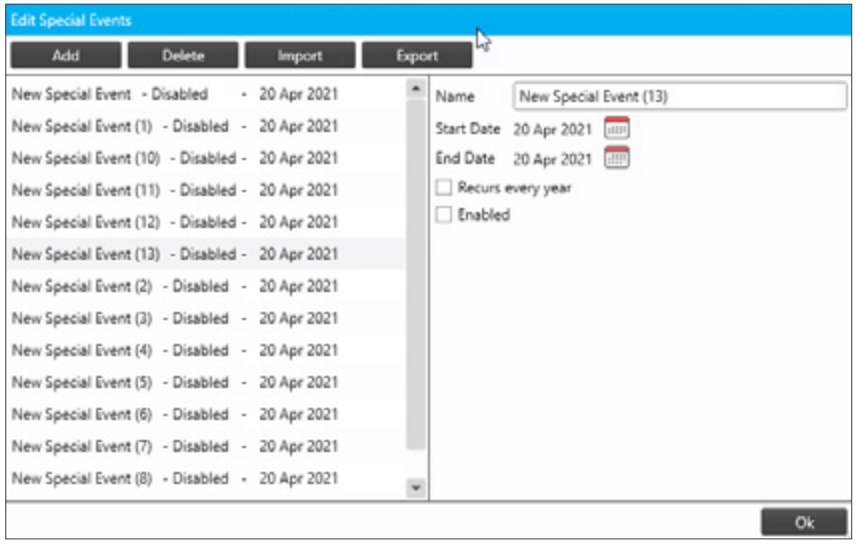
Configure public holidays

A total of 30 disabled public holidays needs to be created.

1. On the **Schedules** tab, click **Set Public Holidays**. Click **Add**.
2. Select the created *New Public Holiday* and clear the **Enabled** checkbox.
3. Repeat the steps for all 30 public holidays. Click **OK**.

Tip

It's possible to add up to 30 public holidays. Reaching that number inactivates the button **Add**.



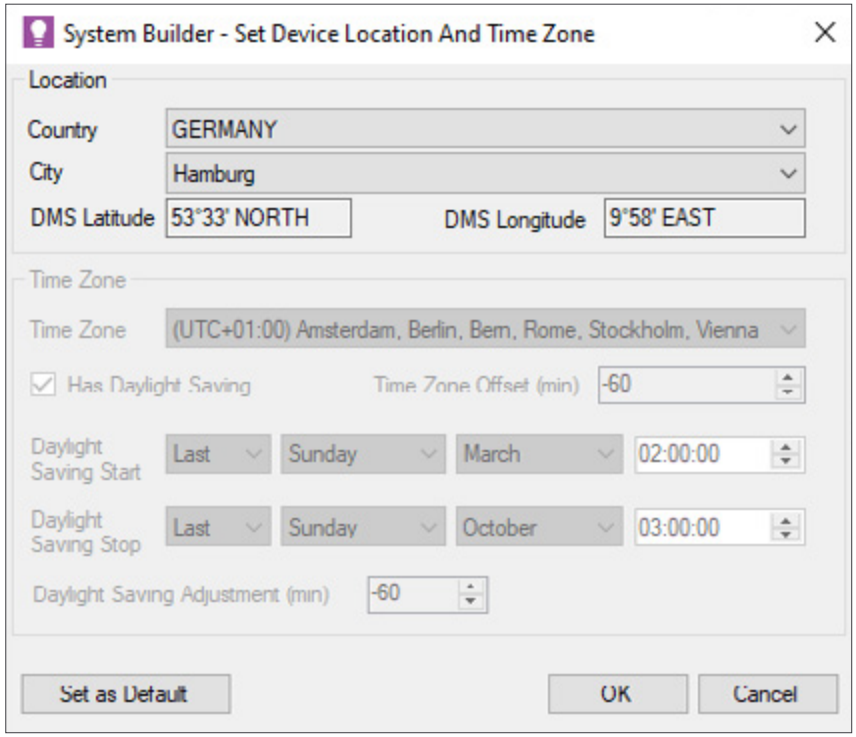
Configure special events

A total of 30 disabled special events needs to be created.

1. On the **Schedules** tab, click **Set Special Events**. Click **Add**.
2. Select the created *New Special Event* and clear the **Enabled** checkbox.
3. Repeat the steps for all 30 special events. Click **OK**.

Tip

It's possible to add up to 30 special events. Reaching that number inactivates the button **Add**.

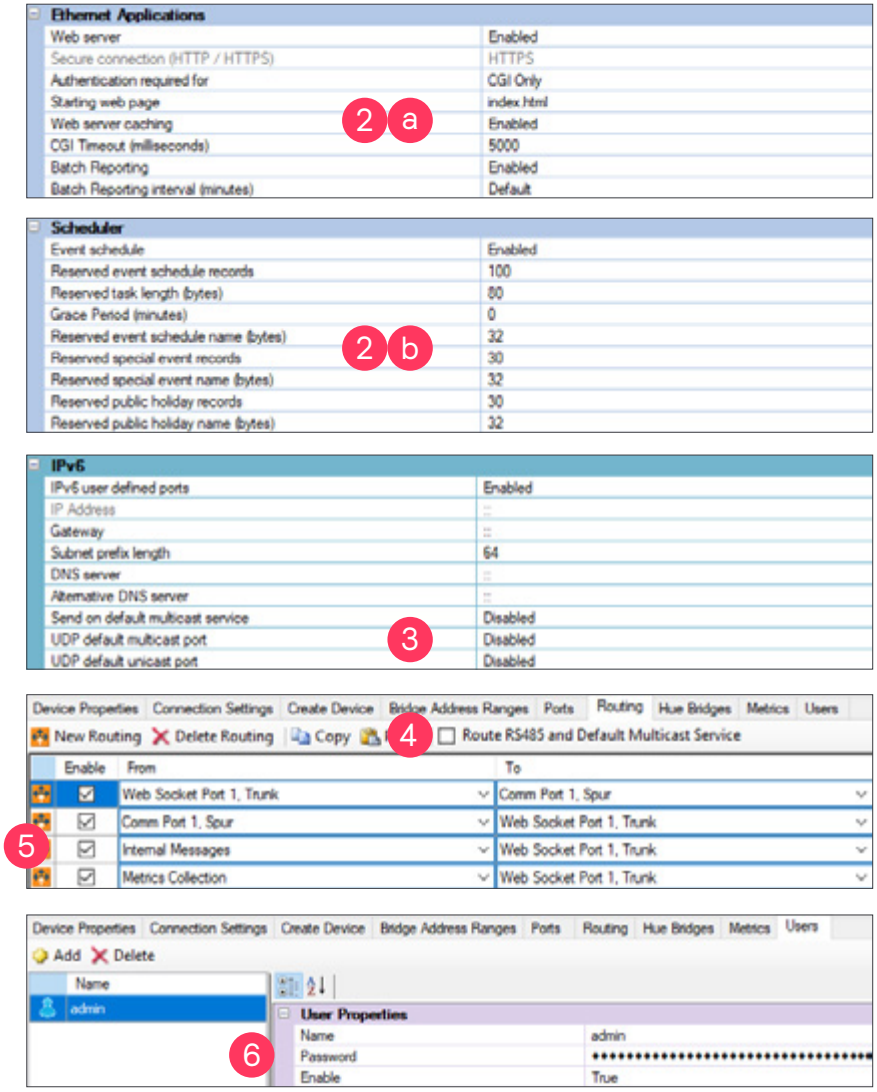


Set location and time zone

1. On the **Schedules** tab, click **Set Location And Time Zone**.
2. In **Country**, select the country where the site is located.
3. In **City**, select a city reflecting the correct time zone for the site.
4. Click **OK**.

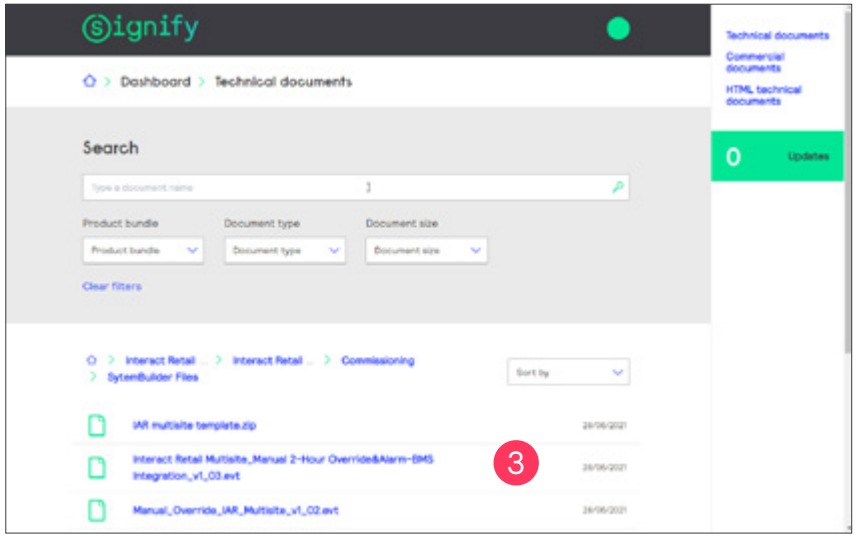
Note

In most cases, selecting the country and city is sufficient to reflect the correct time zone. If no proper location is available from the list, select **Custom** from the country list and enter the **DMS Latitude** and **DMS Longitude**.



Check and edit Gateway settings

1. In the **System** view, select the **PDDEG-S**.
   Click **Advanced**.
2. On the **Device Properties** tab, check the settings:
   a. In the section *Ethernet Applications*:
      - *Authentication required for:* **CGI Only**
      - *Batch Reporting:* **Enabled**
   b. In the section *Scheduler*:
      - *Reserved event schedule records:* **100**
      - *All Reserved [...] schedule name (bytes):* **32**
      - *Reserved special event and public holiday records:* **30**
3. On the **Ports** tab, in the section **IPv6**, set the following:
   - *Send on default multicast service:* **Disabled**
   - *UDP default multicast port:* **Disabled**
   - *UDP default unicast port:* **Disabled**
4. On the **Routing** tab, clear the **Route RS485 and Default Multicast Service** checkbox.
5. Make sure the leave the default settings of the **Web Socket Port** and **Routing**.
6. On the **Users** tab, in the section *User properties*, leave the defaults for the admin user as is.



4.4.5 Integration of manual override, BMS and alarm

Configure manual override with Antumbra

Note

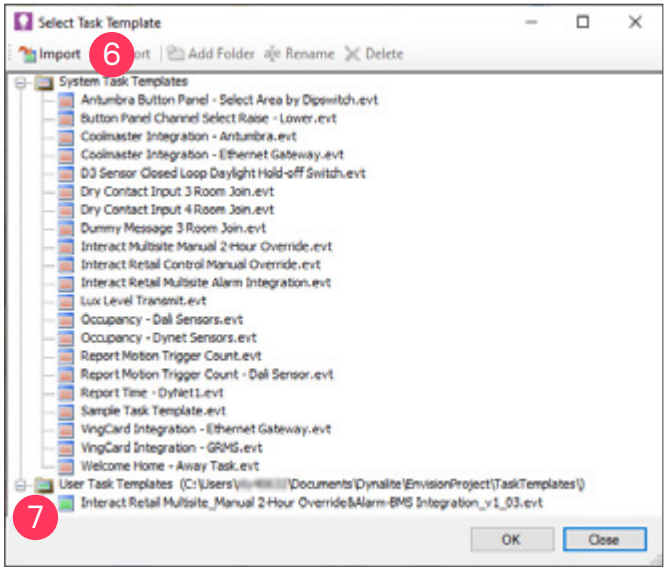
This configuration is optional, depending on the requirements of the customer or project.

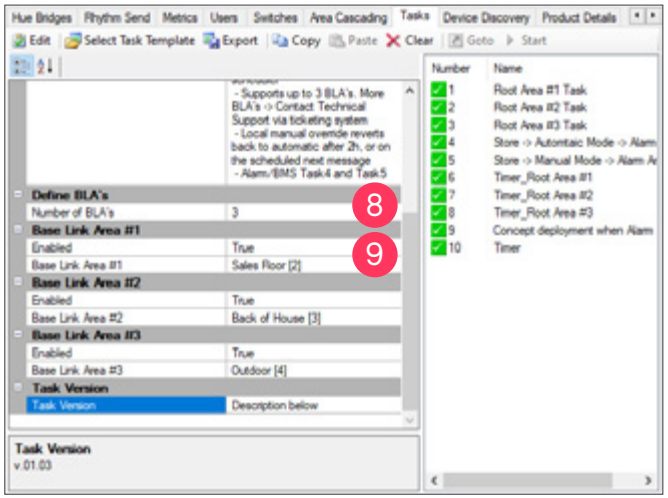
Because the system should run on automatic mode most of the time, the duration of a manual override is limited to maximum two hours. To achieve this, a task needs to be enabled.

1. Login to the *Signify Partner Portal* and select **Technical documents**.
2. Select **Signify Only** > **Retail** > **Interact Retail** > **IAR Multisite** > **Commissioning**.
3. Right-click the file *Interact Retail Multisite_Manual 2-Hour Override&Alarm-BMS Integration_v1_03.evt* and click **Save link as**.

Tip

The file extension probably changes to .txt. It's not necessary to change this back to .evt.





4. In the **System view**, select the **PDDEG-S**.
5. On the **Tasks** tab, click **Select Task Template**.
6. Click **Import** and find the file in the file system. Select the file and click **Open**.

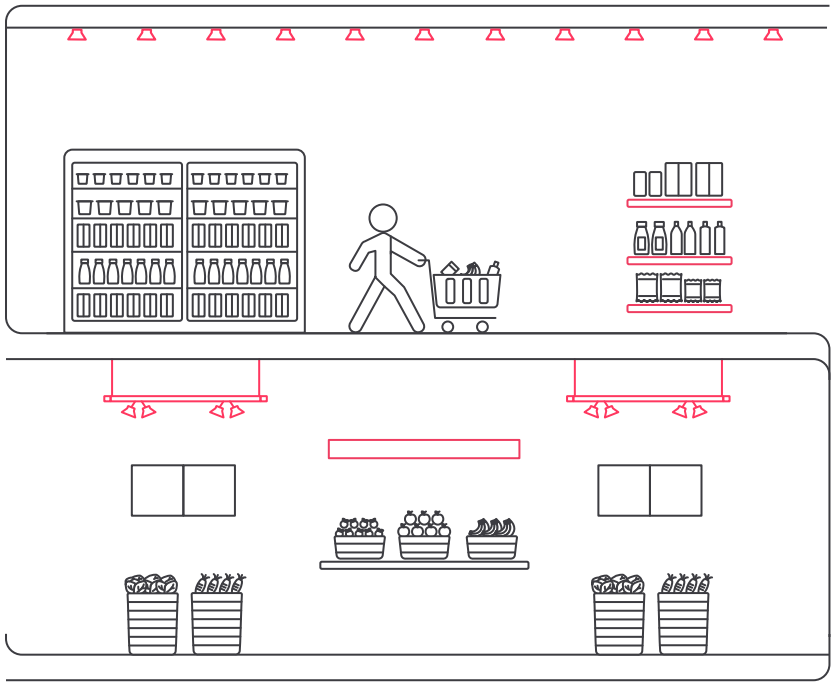
Tip

If necessary, change the filter from **Evt Files (*.evt)** to **All Files (*.*)**.

7. Select the imported file and click **OK**.
8. Select the number of *Base Link Areas* (BLAs).
9. Find the *Base Link Area #1*, for *Enabled* select **True** and select the **Area** that corresponds with the created *Base Link Area*.
10. Repeat for the other *Base Link Areas*.

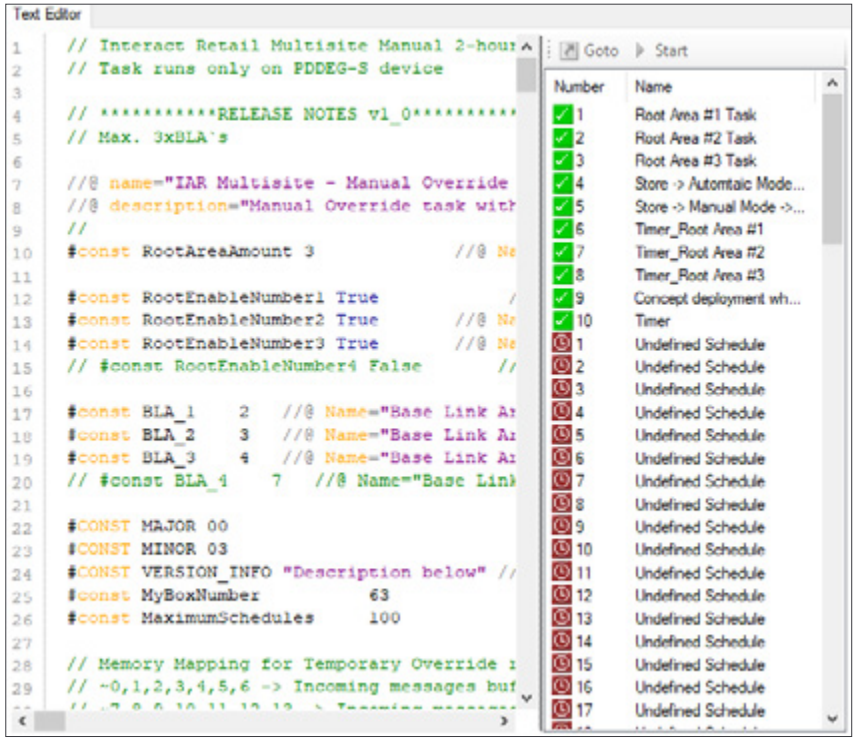
Note

- It's possible to define up to three Base Link Areas for manual override functionality. Contact your Signify representative in case more BLAs are necessary.
- The 2-hour timer feature for the manual override requires additional configuration of a join byte. See section 4.4.9 Configure user interfaces for more information.



Configure manual override with touch screen

It's possible to configure existing Store/StoreWise installs equipped with a DTP100/PDTS touchscreen to Multisite. See Appendix D Upgrade of a Store system with touch screen.

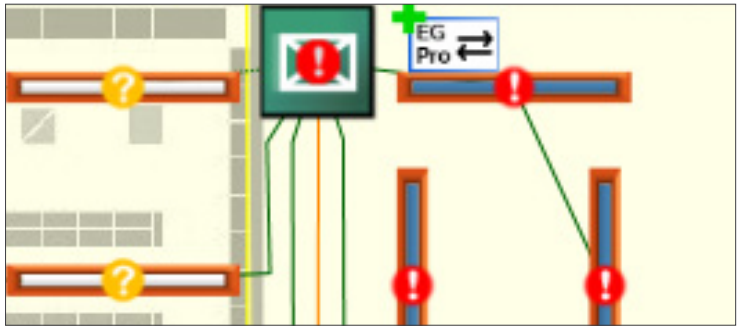


Configure Alarm/BMS system

The task template *Interact Retail Multisite_Manual 2-Hour Override&Alarm-BMS Integration_v1_03.evt* allows to integrate an alarm with Multisite. When arming the alarm, all running schedules will be overridden until the alarm is physically stopped.

Note

The alarm integration task is loaded to the Site Gateway. In Store/StoreWise, the alarm is integrated with the system via a dry contact. An additional link between the dry contact and task on the Site Gateway must be established to be able to trigger the tasks. See section 5.3.5 Configure Dry contact connections for more information.



Add gateway to the Building view (floor plan)

1. Place the Site Gateway by drag and drop to the distribution board on the floor plan.

Figure 5. Difference between scenes with or without Day & Night Mode enabled.

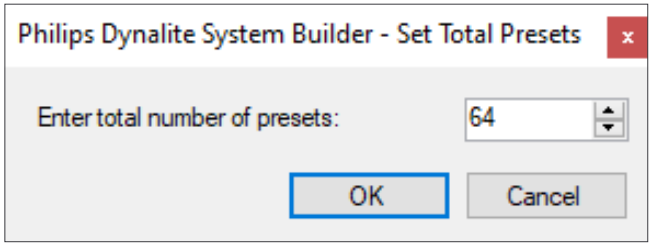
4.4.6 Placeholder presets

Like we did for the parent and child areas, and the logical channels, also the scenes as we created in section 4.3.2 Add scene require an equivalent in the job file we are creating in this section. This equivalent is found in the placeholder presets. In order for the customer to recall and create their own scenes, we need to create empty presets that act as placeholder for the scenes we prepared in the cloud, but also for future scenes.

Each scene requires a corresponding preset per parent area (BLA) and child area. Scenes with Day & Night Mode enables require two presets, as these will be presented with two sliders in the cloud.

Important

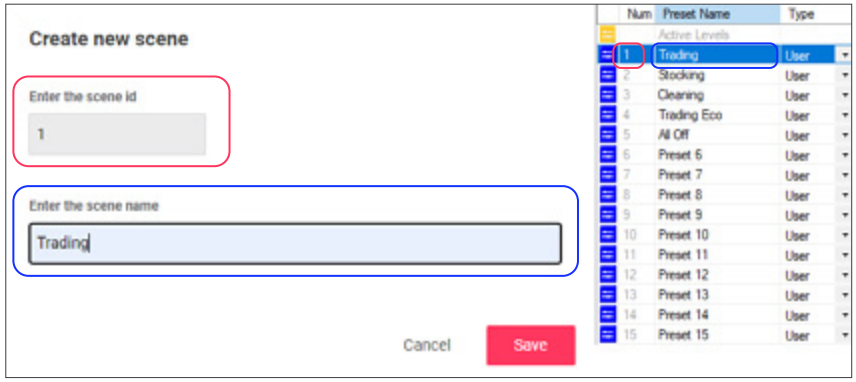
Make sure to always align the names and IDs of the presets with the scenes as created in section 4.3.2 Add scene.



Create presets for parent areas

In the project template, several presets are defined and agreed with the customer. To give the customer the possibility to create their own presets, you need to create more presets than defined in the project template.

1. In the **Areas** view, select a parent Area. Select the tab **Preset Editor**.
2. On the tab **Preset Editor**, select **New |** > **Set Total Presets**.
3. Enter the total number of **64** presets and click **OK**.
4. Repeat the steps for all parent areas.

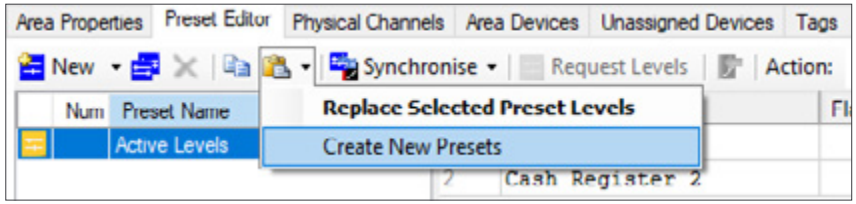


Rename the presets

1. In the **Areas** view, select a parent Area.
2. On the **Preset Editor** tab, right-click on the preset and select **Rename**.
3. Align the name of the preset with the name of the scene with the corresponding ID on the dashboard.

> **Important**
> Make sure to use identical ID numbers and scene names for the presets in both the cloud and System Builder. See section 4.3.2 Add scene.

4. Repeat the steps for all scenes defined in the project template.



Copy the presets

1. In the **Areas** view, select a parent Area.
2. On the **Preset Editor** tab, select all presets you created and click **Copy**.
3. Select a child area that is linked to the parent area.
4. Select all presets and click **Delete Preset**.
5. Select > **Create New Presets**.
6. Repeat for all child areas linked to a parent area.

Important

Keep in mind to copy the presets from the parent area to the corresponding child areas.

4.4.7 Configure controllers

The preparation of DALI differs per control method:

- **DALI Individual Addressing:** no preparation done; commissioning is part of the onsite activities. See section 5.3.2 Configure DALI individual addressing for more information.
- **DALI Broadcast:** preparation done with System Designer, where the channels are connected to the corresponding circuits and distribution board.
- **Dry contact interface:** can be configured for Manual 2-hour override, which provides the functionality to overrule running scene with a different preset, which reverts to the previously scheduled scene after two hours. Can also be configured to provide integration with alarms systems. Make sure to configure the dry contacts according to the wishes of the customer.

Before configuration, make sure to load the specific task to the PDDEG-S Ethernet Gateway. See section 4.4.5 Integration of manual override, BMS and alarm.

- When configuring for **Manual 2-hour override**, make sure to:
  a. Change the *Join* byte to **0x83**.
  b. Set the *Function* to **Preset**.
  c. Select the *Preset* associated with the Dry contact.
- When configuring for **Alarm integration**, make sure to:
  a. Change the *Join* byte to **0x85**.

  And complete the configuration onsite (see section 5.3.5 Configure Dry contact connections for more information):
  b. Set the *Function* to **Custom**.
  c. On the PDDEG-S, start task 5 (Alarm armed)
  d. On the PDDEG-S, start task 4 (Alarm disarmed)

- All controllers (DALI, relay, etcetera) need to have a unique name. When the same type of controller exists multiple times in the system, make sure to change the name of each of the controllers and make it unique, for example *DDBC1200 #1*, *DDCBC1200 #2*, etcetera. To rename a device: in the **System** view, simply right-click the device and select **Rename**.
- Give the **Outputs** of the controllers the ID of the correct **Base Link Area**. See section 4.4.3 Finalize logical hierarchy.

Note

Make sure that that each child area may contain only one Master Channel.

4.4.8 Configure sensors (on-site)

Sensors can add the following functionalities to the system:

- **Daylight sensing:** sensor that adapts the lighting in the assigned area or for the selected channel based on the ingress of daylight. This is called 'Daylight Harvesting'. Most daylight sensors also have the possibility for occupancy sensing.
- **Occupancy sensing:** sensor that detects the presence of people and switches the lights ON/OFF or to the desired pre-configured preset.

Commissioning of sensors follows the standard Dynalite rules and is handled in two stages:

- Offsite preparation
- Onsite commissioning

Note

For onsite commissioning, it's recommended to have Torch sign on feature enabled, and/or IR control.

04 Offsite preparation

Offsite preparion

Following the System Designer step, sensors should be located on a floor plan. This means the sensors have been selected and assigned to certain areas and have been given a unique name in System Builder.

Motion Control – specific configuration

- Verify to which area the sensor is configured.
- Specify if the sensor should control a parent area (BLA) or a child area.
- Configure **Join** byte to **0x81**.
- When configuring the sensor to a child area, set the link with the correct BLA (tab *Motion control* > *Advanced* > *Logical Address-BLA*).
- Modify and configure specific sensor settings if required.
- Create the desired amount of presets and assign actions.
- Use resend inhibit period to avoid over-flooding the DyNet network.

Daylight Harvesting – specific configuration:

- Verify to which area the sensor is configured.
- Specify if the sensor should control a parent area (BLA) or a child area.
- Select type of loop (using closed loop control disable open loop control and other way around).
- Specify if sensor should control all channels in the area or only a specific channel.
- Configure **Join** byte to **0x82**.
- When configuring the sensor to a child area, set the link with the correct BLA (tab *Motion control* > *Advanced* > *Logical Address-BLA*).
- Modify and configure specific settings for open or closed loop regulation, if required.
- Create presets (closed loop) or define bands (open loop) with agreed settings.
- Disable Motion Control if it's not required.

Note

For onsite commissioning of the sensors, it's recommended to enable the **Torch sign on** feature, and/or use an IR control.

4.4.9 Configure user interfaces

User interfaces (UI) are part of the system for manual control. The following types of UIs are available:

- Antumbra button, touch, and display
- Revolution series panels
- PDTS touch screen, DTP100 is supported

Commissioning of sensors follows the standard Dynalite rules and is handled in two stages:

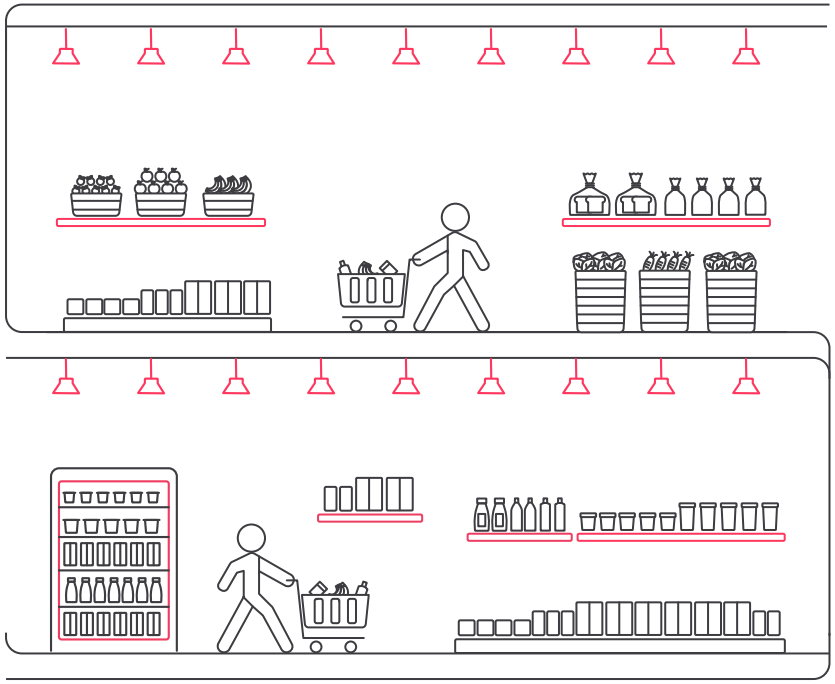
- Offsite preparation
- Onsite commissioning

Offsite preparion

Following the System Designer step, UIs should be located on a floor plan. This means the UIs have been selected and assigned to certain areas and have been given a unique name in System Builder.

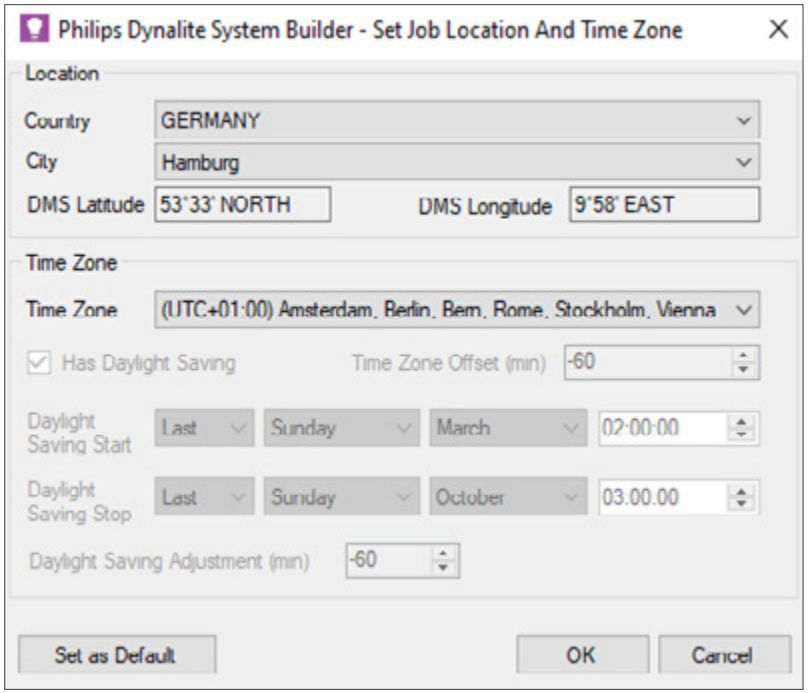
Antumbra – specific configuration

- Make sure to configure all buttons according to the wishes of the customer. The buttons can be configured to control either parent areas (BLA) or child areas.
- For each preset button, configure **Join** byte to **0x83**. This configuration enables the 2-hour manual override in case you imported the corresponding task.
- For the Antumbra Display, it's possible to add additional features, including displaying time, local temperature, icons, logos etcetera.



Touch screen – specific configuration

It's possible to configure existing Store/StoreWise installs equipped with a DTP100/PDTS touchscreen to Multisite. See Appendix D Upgrade of a Store system with touch screen.



4.4.10 Check location and time zone of the job file

It's important to set the correct location and time zone of the job file, despite that this procedure has similarities with *Set location and time zone* in section 4.4.4 Configure Site Gateway which basically does the same for the Site Gateway.

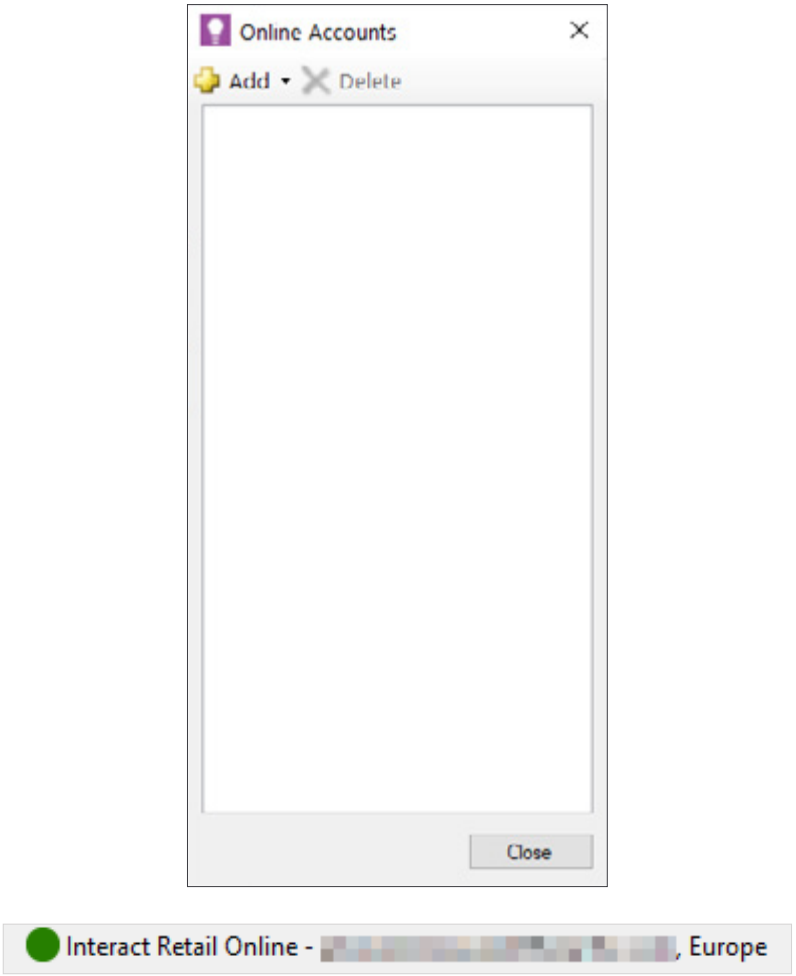
Important

Make sure to set the location and time zone to the actual location, especially when working abroad and possibly in a different time zone.

1. On the **Tools** menu, click **Set Location and Time Zone**.
2. Check and if necessary change the **Location** and **Time Zone**.
3. Make sure to click **OK**.

Important

It's mandatory to click **OK**, also if you didn't change the location and time zone settings.



4.4.11 Save job file to the cloud

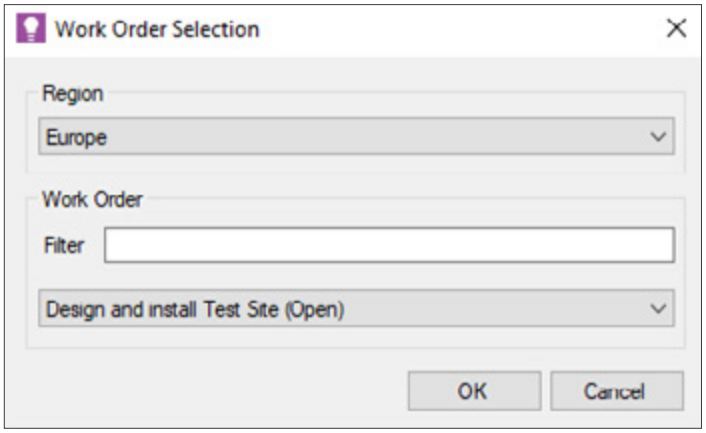
Once the preparation of the job file is finished, it needs to be uploaded to the cloud to make it available for onsite commissioning.

Login to the cloud

1. On the **Tools** menu, click **Online Accounts...**.
2. Click **Add** and select **Retail Account...**.
3. Select the **Region** and click **OK**.
4. Select your account to login to. If required, fill in your password.

Note

- Your user account must be registered in Microsoft Azure Active Directory before you can login to the Retail Account.
- The status bar at the bottom shows your connection status and the region you're connected to.

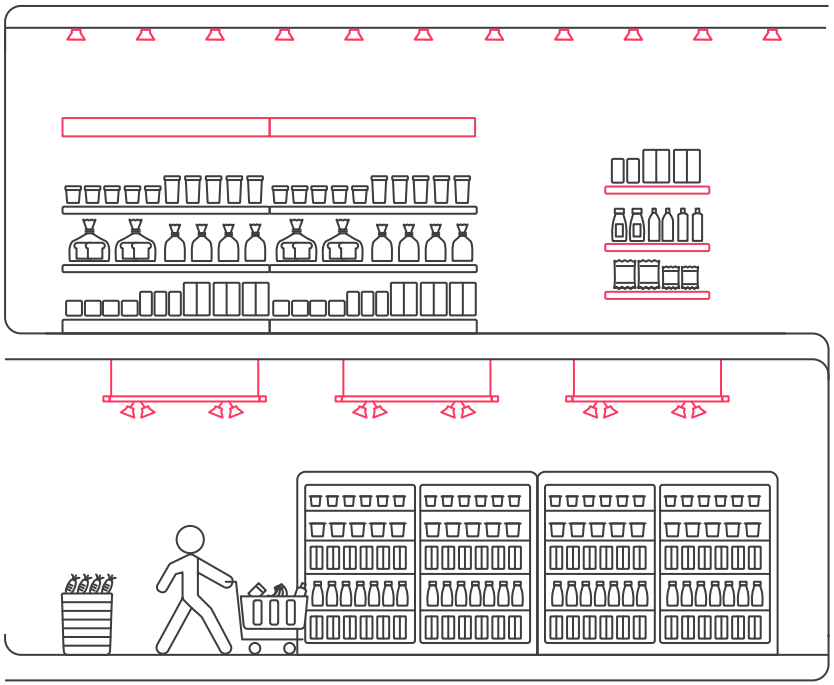


Save job file

1. On the **File** menu, click **Save As** and select **Save Job To Cloud**.
2. Find and select the applicable work order.
3. When the work order is completely fulfilled, select the **Set as Resolved** checkbox. Click **OK**.
4. Close the job file.

Note

Selecting the **Set as Resolved** checkbox closes the design work order.



4.5 Configure metered energy

Note

Configuration of energy metering is only required when smart meters are used to measure energy consumption. Otherwise, this step can be skipped.

Preparations

Before you start creating the configurations for metered energy, make sure to:

- Obtain and read the most recent documentation of the selected meter
- Make sure that you understand the specifications of the selected meter and how to implement it
- Always follow the installation manual of the meter; contact the support line of the manufacturer of the meter in case of any questions

4.5.1 Open job file from the cloud

Important

Make sure that you save the job file to the cloud and close it before you start the procedures in this section.

1 Open System Builder and check if it's connected to the Interact Retail cloud.

If not, login to the cloud. See section 4.4.11 Save job file to the cloud.

2 On the **File** menu, click **Open** and select **Open Job From Cloud**.

3 Find and select the applicable work order. Click **OK**.

4 Continue configuring Modbus metering:

- Modbus RS-485: see section 4.5.2 Configure Modbus RS-485 metering
- Modbus IP: see section 4.5.3 Configure Modbus IP metering

4.5.2 Configure Modbus RS-485 metering

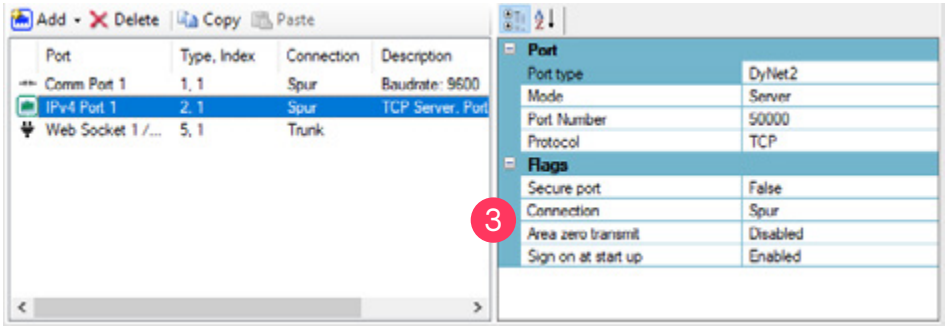
There are multiple methods to configure RS-485 metering:

- Using an Ethernet Bridge (PDEB) or Ethernet Gateway (PDEG)
- Using a RS-485 Gateway (DDNG485)

Note

Although the configuration of the meter is identical between the devices, there are some differences in the configuration of the gateway.

- Procedures that start with an **Important** notification are only applicable for the mentioned situation.
- Procedures without a notification are generic and applicable for all situations.

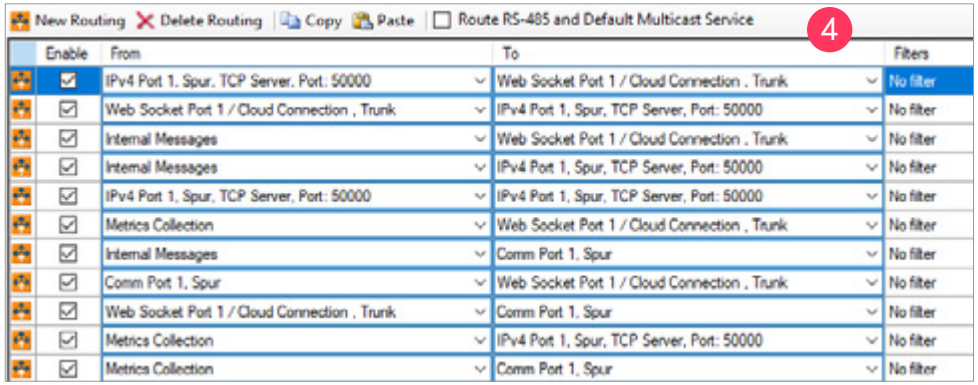


Configure PDDEG-S Site Gateway

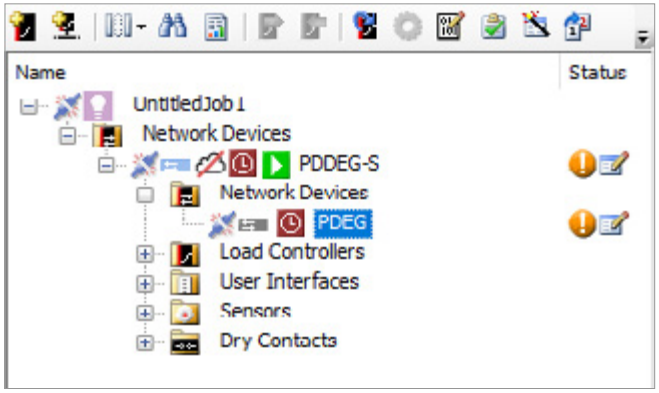
Important

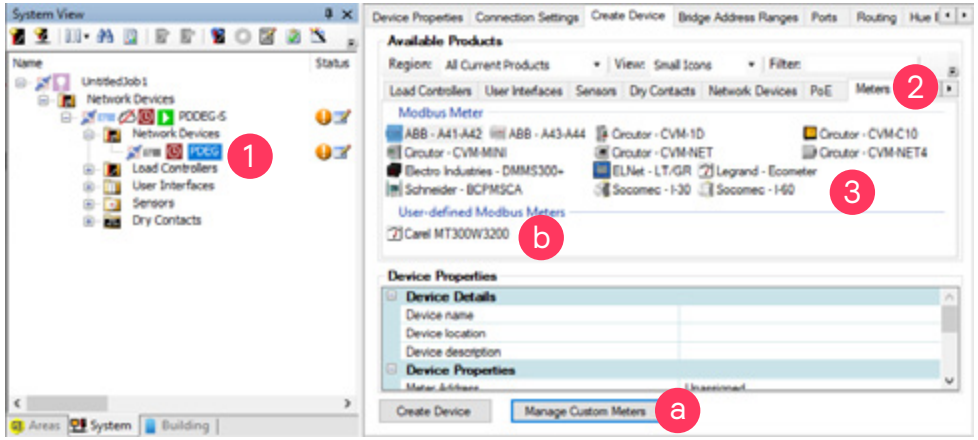
This procedure is only applicable when configuring Modbus RS 485 metering using a PDEB or PDEG.

1. In the **System** view, select the **PDDEG-S**.
2. On the **Ports** tab:
   a. Change the setting *Use static IP address* to **True**.
   b. Click **Add** and select **IPv4 Port**.
3. Configure the IPv4 port using the following settings:
   a. *Port type* **DyNet2**
   b. *Mode* **Server**
   c. *Port Number* **50000**
   d. *Protocol* **TCP**
   e. *Secure port* **False**
   f. *Connection* **Spur**
   g. *Area zero transmit* **Disabled**
   h. *Sign on at start up* **Enabled**



4. On the **Routing** tab, click **New Routing** to add additional routs. Use the dropdowns to configure the routs. See the image for all settings:
   a. IPv4 Port 1
   b. Web Socket Port 1
   c. Internal Messages
   d. Metrics Collection.





Add gateway

1. In the **System** view, select the **PDDEG-S**.
2. On the tab **Create Device**, select the tab **Network Devices**.
3. Double-click the **PDEB**, **PDEG** or **DDNG485**.

Note

Make sure to add the correct device to the job file.

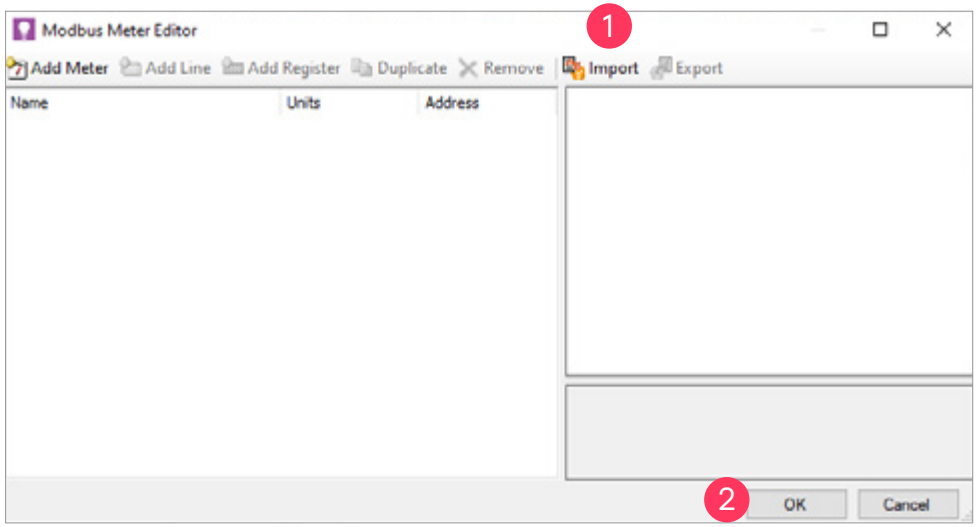
Add Modbus meter

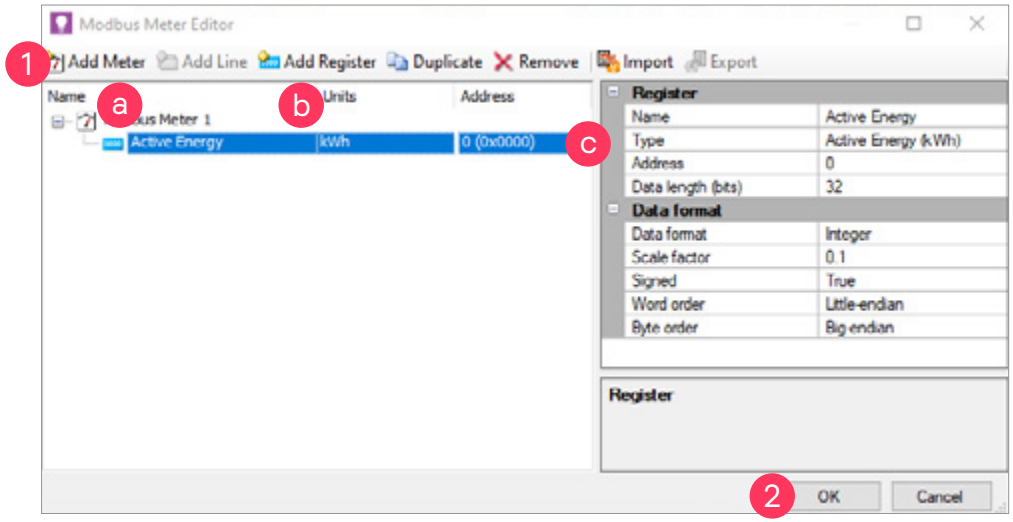
1. In the **System** view, select the inserted gateway (PDEB, PDEG or DDNG485).
2. On the tab **Create Device**, select the tab **Meters**.
3. Under *Modbus Meter*, select the correct meter from the list;

   Or: Insert a user-defined meter:

   a. Click **Manage Custom Meters** in case the meter is not in the list. See Configure custom Modbus meter how to configure the custom meter.

   b. Under *User-defined Modbus Meters*, find the custom meter. Drag and drop it under the inserted gateway (PDEB, PDEG or DDNG485).





Configure custom Modbus meter

When you have selected to manage a custom meter:

1. Click **Import** and find a pre-configured configuration file of the meter in the file system. Select the file and click **Open**.

Note

This document shows a pre-configured Carel meter.

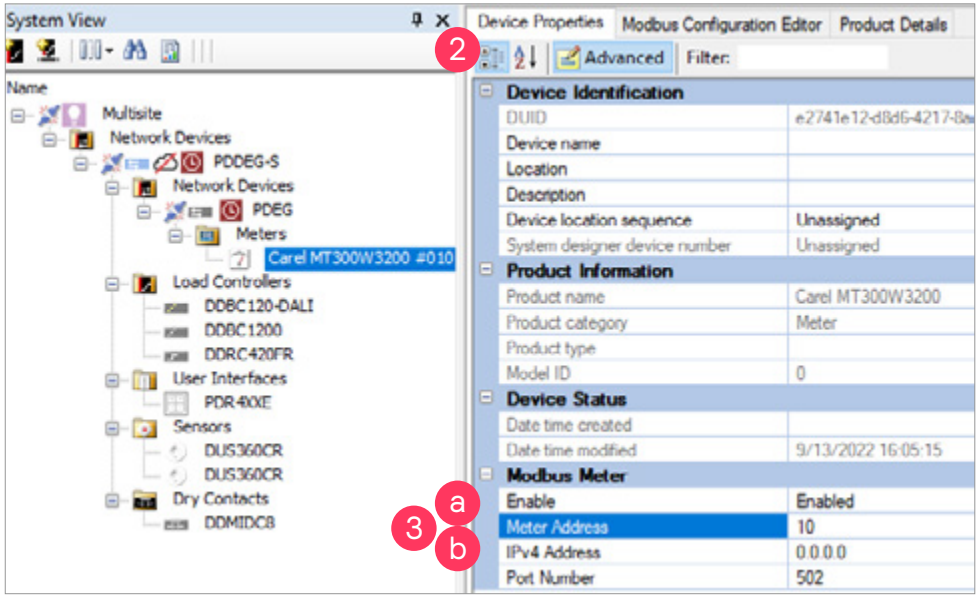
Or: Configure a custom meter from scratch:

   a. Click **Add Meter**.
   b. Click **Add Line** and **Add Register** for every phase the meter reads.
   c. Configure the **Active Energy Register** with an **Active Power Modbus Address**, correct **Data length** and **Data format** according to the technical documentation that belongs to the meter.

Note

Add three lines and three registers for a 3-phase meter.

2. Click **OK**.
3. Insert the meter under the gateway (see Add Modbus meter).

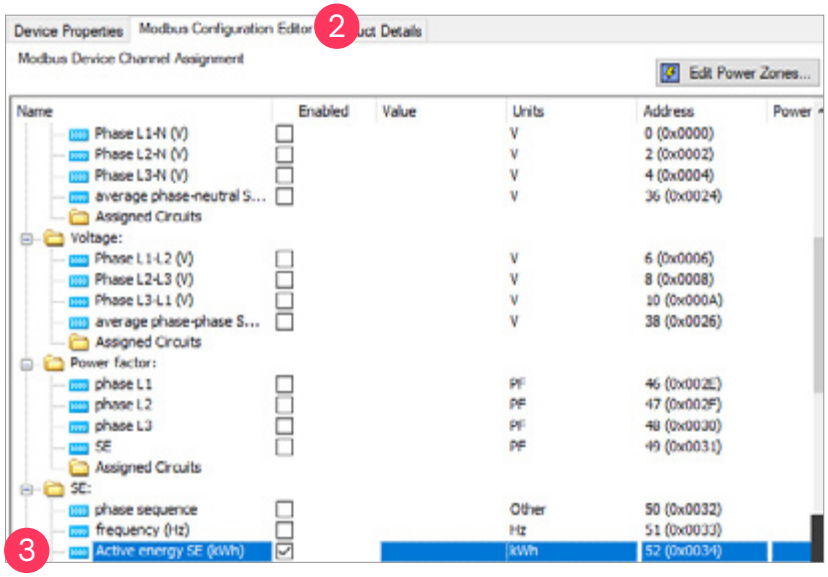


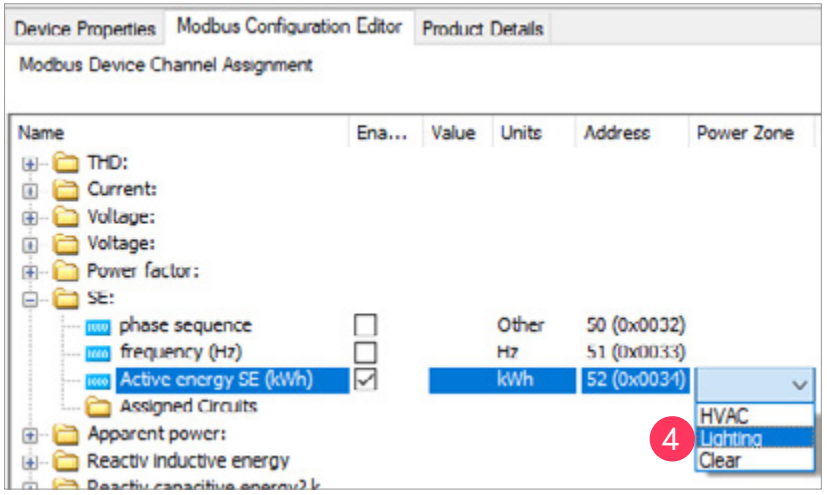
Enable Modbus meter

1. In the **System** view, select the inserted meter.
2. Select the tab **Device Properties**.
3. In the section *Modbus Meter*:
   a. Make sure to **Enable** the meter.
   b. Configure the *Meter Address* in a range between **0** to **255**.

Note

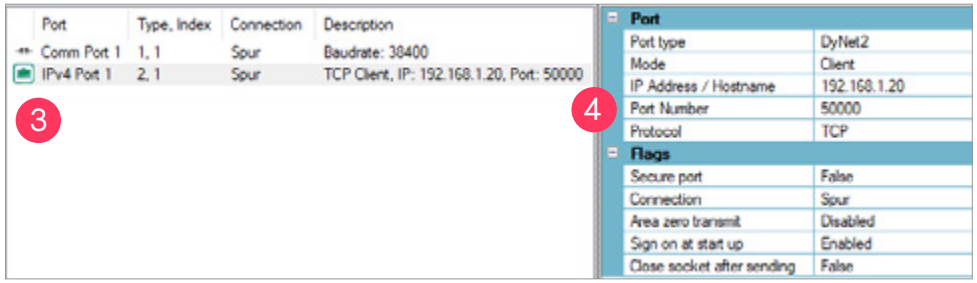
Make sure to use the identical meter address as the address configured on the Modbus meter.

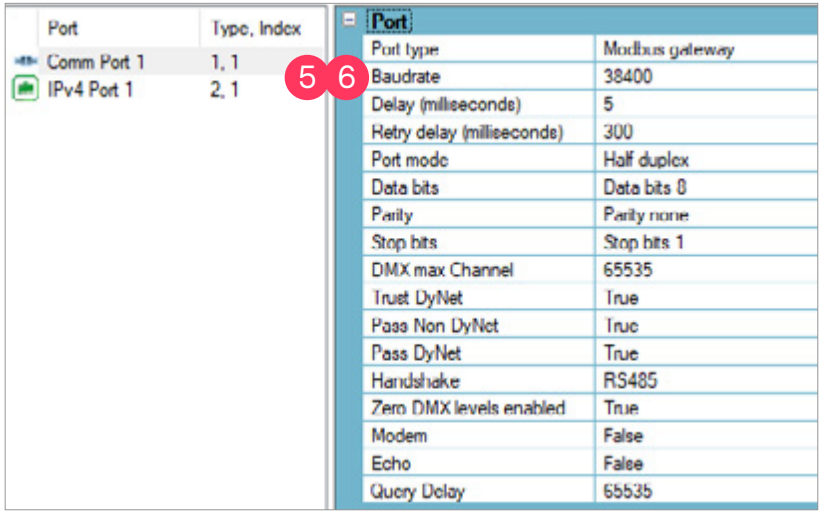




Configure Power Zones

1. In the **System** view, select the inserted meter.
2. Select the **Modbus Configuration Editor** tab.
3. Select the checkbox to enable the **Active energy SE** (kWh) register (Carel meters use address **52**).
4. In the column *Power Zone*, select an appropriate **Power Zone** to the **Active Energy register**.





Configure PDEB/PDEG as Modbus gateway

Important

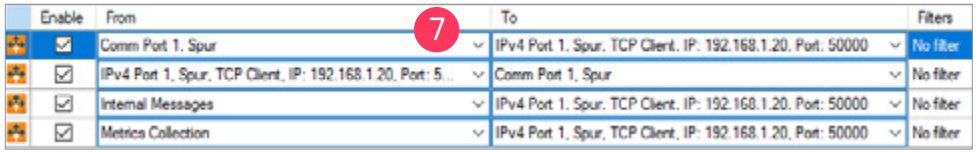
This procedure is only applicable when configuring Modbus RS 485 metering using a PDEB or PDEG.

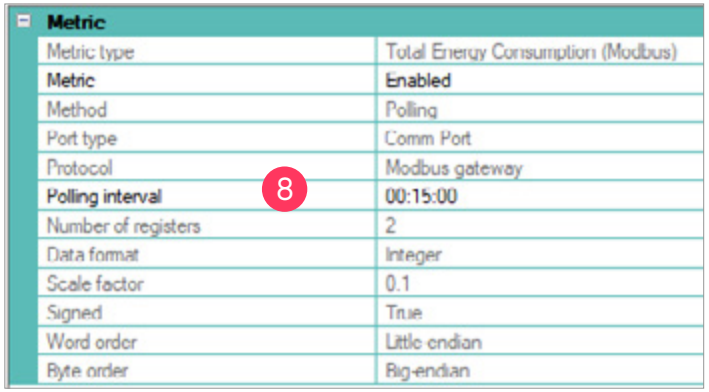
1. In the **System** view, select the **PDEG** (or **PDEB**).
2. On the **Ports** tab, configure the listed settings on the PDEG or PDEB:
   a. *IP Address*
   b. *Gateway*
   c. *Subnet*

Note

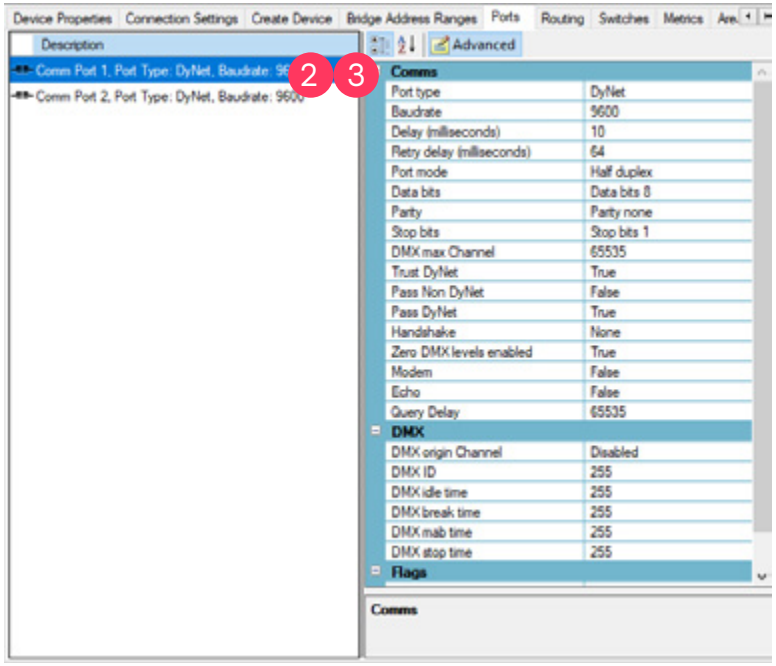
The IP address of the PDEG or PDEB must be in the same range as the IP address of the PDDEG-S.

3. Make sure that you have the **Comm Port 1** and **IPv4 Port 1** available. Delete any other port.
4. At *IP Address / Hostname*, fill in the IP address of the PDDEG-S Site Gateway.
5. On the **Ports** tab, select **Comm Port 1**.
6. Configure the settings for **Comm Port 1**. See the image for all details.





7. On the **Routing** tab, cross check the routing setting.
8. On the **Metrics** tab, make sure that the *Polling Interval* for **Total Energy Consumption** is set to **15 minutes** (00:15:00).
9. Save the job file to the cloud. See section 4.4.11 Save job file to the cloud.

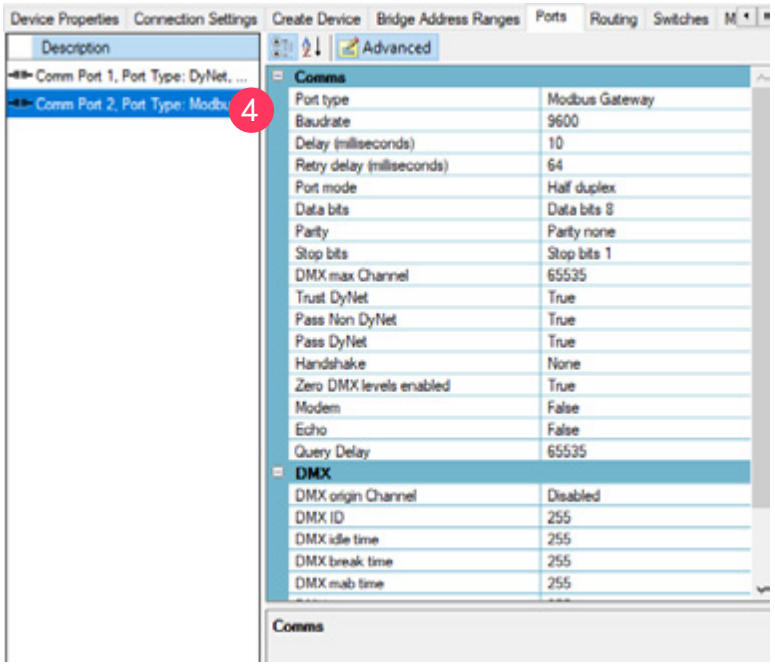


Configure DDNG485 as Modbus gateway

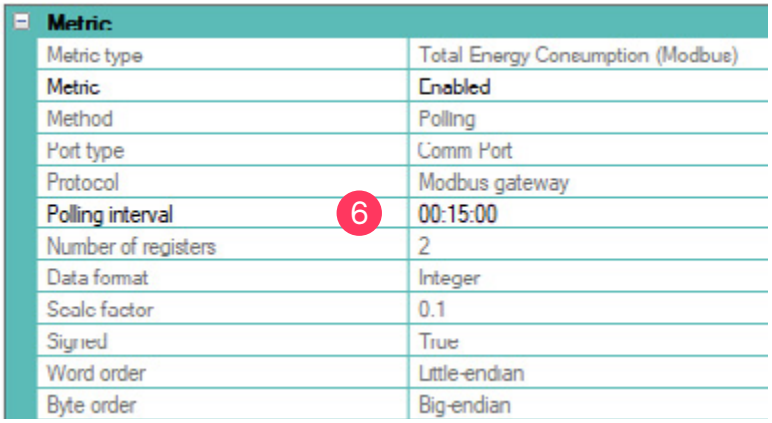
Important

This procedure is only applicable when configuring Modbus RS 485 metering using a DDNG485.

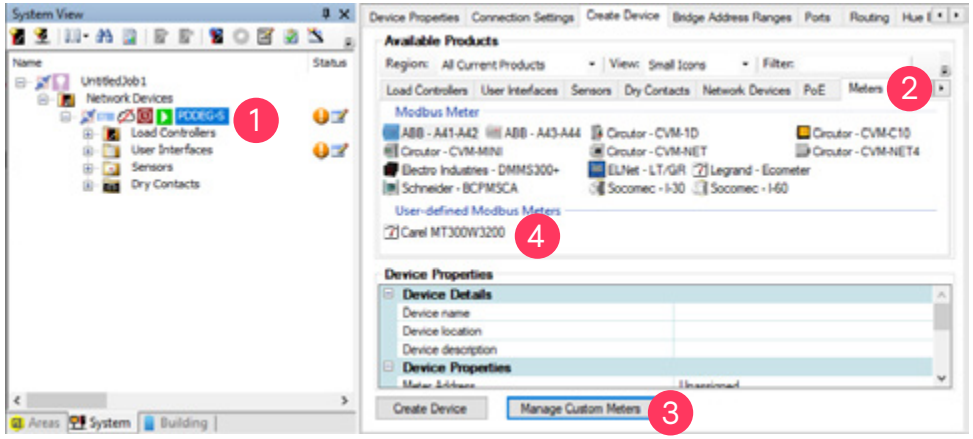
1. In the **System** view, select the **DDNG485**.
2. On the **Ports** tab, select **Comm Port 1**.
3. Configure the settings for Comm Port 1. See the image for all details.



4. Repeat the previous steps for **Comm Port 2**. See the image for all details.



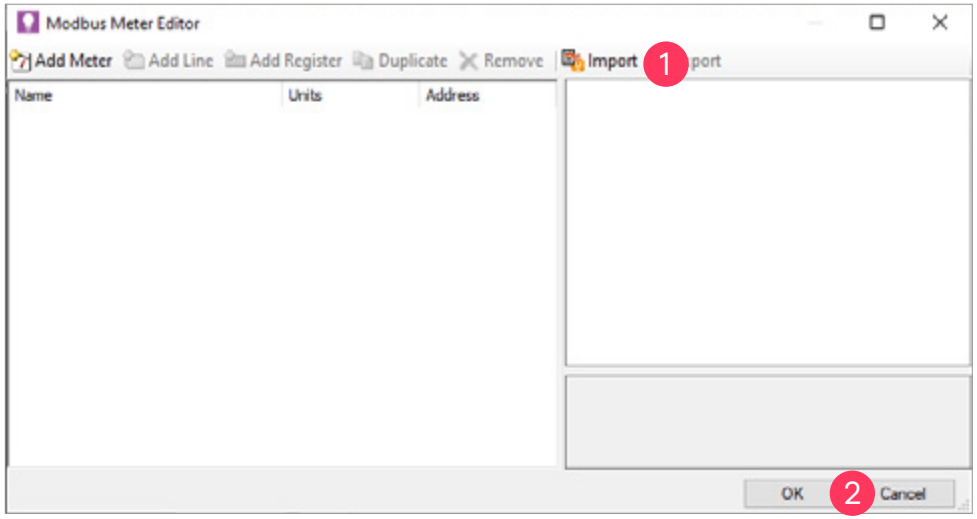
5. On the **Routing** tab, cross check the routing setting. See the image for all details.
6. On the **Metrics** tab, make sure that the *Polling Interval* for **Total Energy Consumption** is set to **15 minutes** (00:15:00).
7. Save the job file to the cloud. See section 4.4.11 Save job file to the cloud.

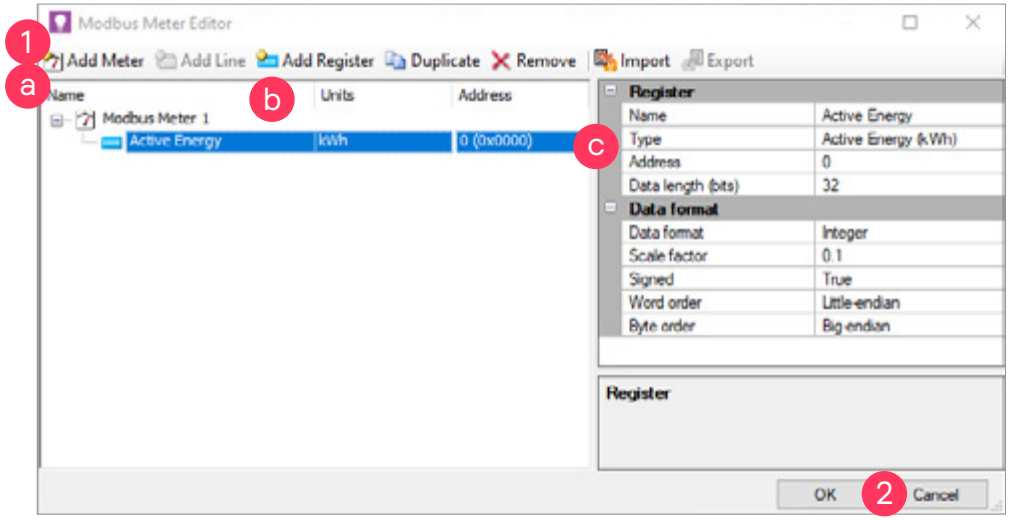


4.5.3 Configure Modbus IP metering

Add IP meter

1. In the **System** view, select the site gateway (**PDDEG-S**).
2. On the tab **Create Device**, select the tab **Meters**.
3. Click **Manage Custom Meters**. See Configure custom IP meter how to configure the custom meter.
4. Under *User-defined Modbus Meters*, find the custom meter. Drag and drop it under the site gateway (PDDEG-S).





Configure custom IP meter

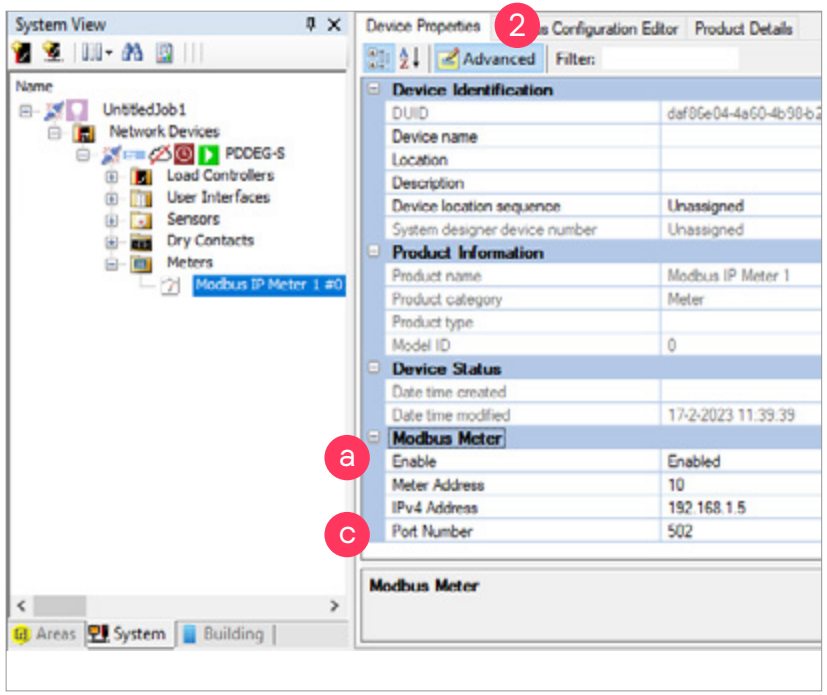
When you have selected to manage a custom meter:

1. Click **Import** and find a pre-configured configuration file of the meter in the file system. Select the file and click **Open**.
   Or: Configure a custom meter from scratch:
   a. Click **Add Meter**.
   b. Click **Add Line** and **Add Register** for every phase the meter reads.
   c. Configure the **Active Energy Register** with an **Active Power Modbus Address**, correct **Data length** and **Data format** according to the technical documentation that belongs to the meter.

Note

For a 3-phase meter you need to add three lines and three registers.

2. Click **OK**.
3. Insert the meter under the gateway (see Add IP meter).

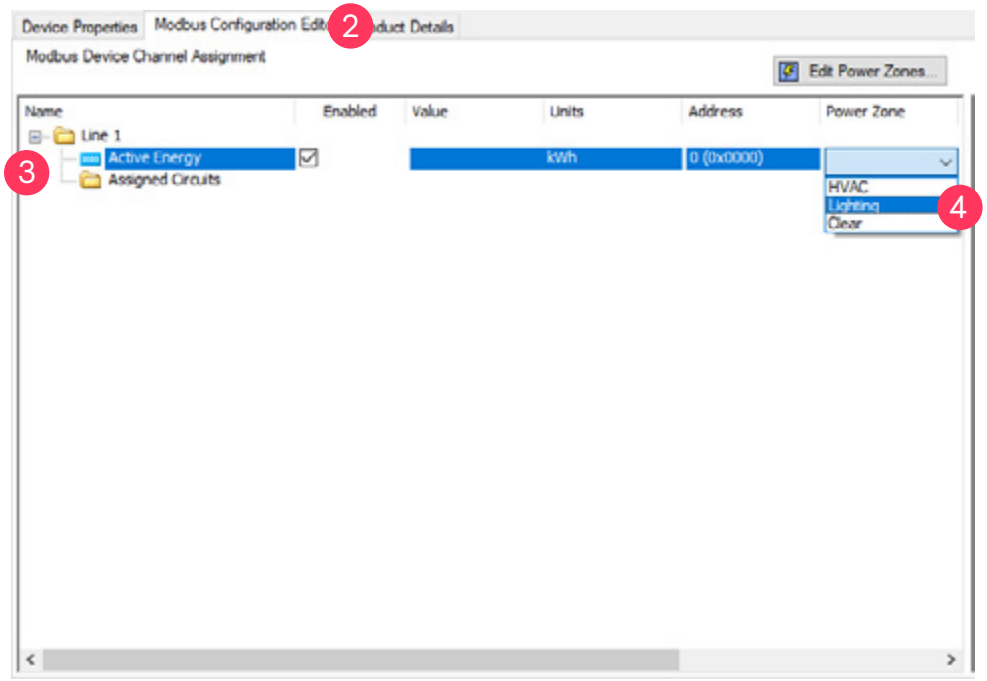


Enable IP meter

1. In the **System** view, select the inserted meter.
2. Select the tab **Device Properties**.
3. In the section *Modbus Meter*:
   a. Make sure to **Enable** the meter.
   b. Configure the *IPv4 Address* of the meter.
   c. Configure the *Port Number* of the meter.

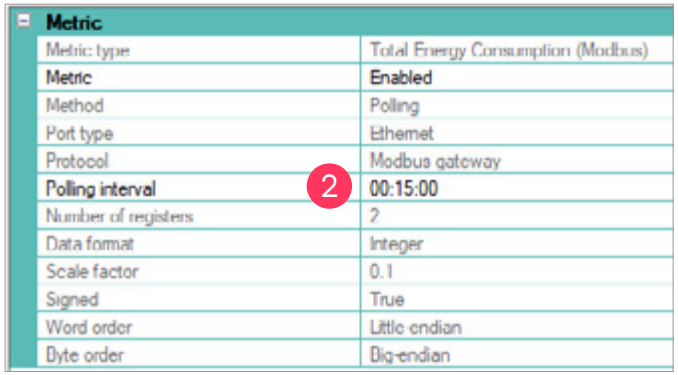
Note

- The IP address and Port Number parameters are configured on the IP meter.
- In some cases, also the Meter address can be configured on the IP meter. Always make sure to use the identical meter address as the address configured on the meter.



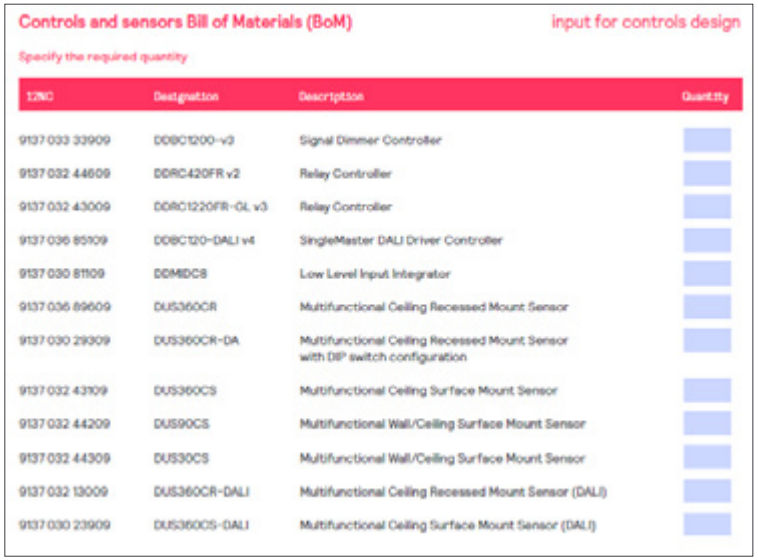
Configure Power Zones

1. In the **System** view, select the inserted meter.
2. Select the **Modbus Configuration Editor** tab.
3. Select the checkbox to enable the **Active energy** register.
4. In the column *Power Zone*, select an appropriate **Power Zone** to the **Active Energy register**.



Configure PDDEG-S as Modbus gateway

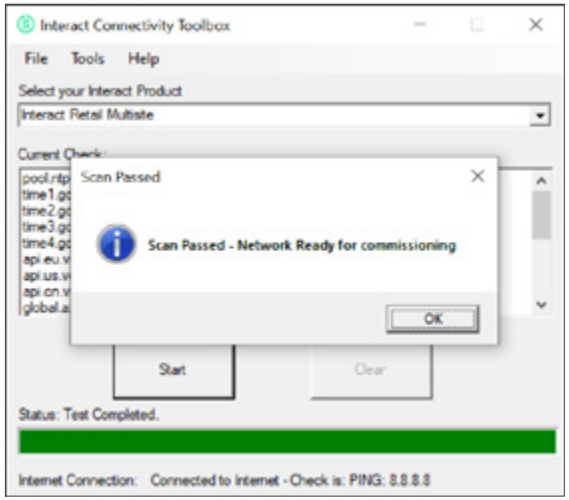
1. In the **System** view, select the site gateway (**PDDEG-S**).
2. On the **Metrics** tab, make sure that the *Polling Interval* for **Total Energy Consumption** is set to **15 minutes** (00:15:00).
3. Save the job file to the cloud. See section 4.4.11 Save job file to the cloud.



Controls and sensors Bill of Materials (BoM) — input for controls design

Specify the required quantity

12NC	Designation	Description	Quantity
9137 033 33909	DDBC1200-v3	Signal Dimmer Controller	
9137 032 44609	DDRC420FR v2	Relay Controller	
9137 032 43009	DDRC1220FR-GL v3	Relay Controller	
9137 036 85109	DDBC120-DALI v4	SingleMaster DALI Driver Controller	
9137 030 81109	DDMIDC8	Low Level Input Integrator	
9137 036 89609	DUS360CR	Multifunctional Ceiling Recessed Mount Sensor	
9137 030 29309	DUS360CR-DA	Multifunctional Ceiling Recessed Mount Sensor with DIP switch configuration	
9137 032 43109	DUS360CS	Multifunctional Ceiling Surface Mount Sensor	
9137 032 44209	DUS90CS	Multifunctional Wall/Ceiling Surface Mount Sensor	
9137 032 44309	DUS30CS	Multifunctional Wall/Ceiling Surface Mount Sensor	
9137 032 13009	DUS360CR-DALI	Multifunctional Ceiling Recessed Mount Sensor (DALI)	
9137 030 23909	DUS360CS-DALI	Multifunctional Ceiling Surface Mount Sensor (DALI)	



4.6 Plan installation

4.6.1 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, see page 21 and 22 for the Bill of Materials (BoM) for both controls and luminaires. Filling in these pages helps you to process the ordering of the hardware.

4.6.2 Perform a connectivity audit

The connectivity audit can be done before visiting the customer site. Prior to the connectivity audit, make sure that the IT department of the customer prepares the local network as follows:

- Ability to reach all specific endpoints listed in the appendix of the Security Statement related to the system
- Manually configure the port of the IT switch connecting with the Site Gateway (PDDEG-S) to **100 Mbps/Full duplex**

See the *FLX Multisite Toolbox Technical Note* for more information. This document can be found on the Signify Partner Portal.

4.7 Plan commissioning

4.7.1 Request work order

For the onsite activities, a request for a work order for installation and validation must be created by the market for execution at GSO. The work order must be assigned to the installer and/or site engineer.

The installer receives an email when the work order is assigned.

4.7.2 Install Philips Dynalite Site Enabler app

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

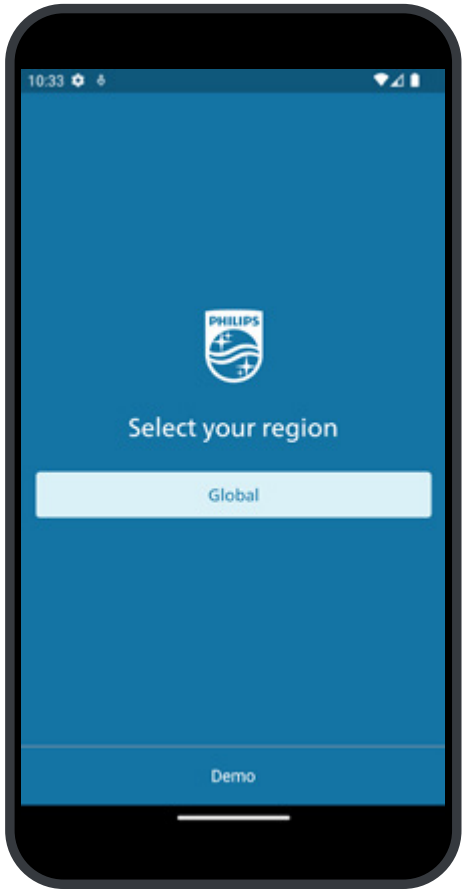
- Preview tasks in the work order
- Provision gateway to the cloud
- End-to-end validation
- Deploy and check concepts and schedules from the cloud
- Resolve the work order, the site shows up as “Ready to use”.

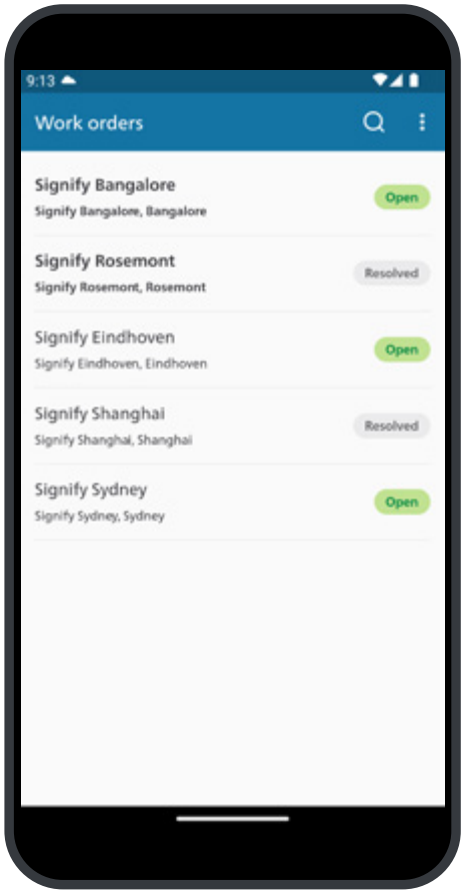
The app forces the user to follow a strict order in the commissioning. It’s not possible to switch to a new task before finalizing the previous one.

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 ‘site enabler’, select and install it.
- For iOS, go to the App Store. Search for ‘site enabler’, select and install it.

04 Offsite preparation





Login to the app and select work order

It's recommended to check if the Site Enabler app functions as expected and prepare for the onsite commissioning.

1. Open the app on your device.
2. Select your region.
3. Enter your username (email address). Tap **Next**.
4. Enter your password. Tap **Sign in**.
5. Select the work order.

Tip

You can use the **Demo** mode to familiarize yourself with the app. The work orders are not related to real sites, which allows you to play around freely.

05 Onsite installation, commissioning and validation

05 Onsite installation, commissioning and validation

Before you start with the onsite activities, make sure to complete to plan the installation and commissioning well in advance. See the sections 4.6 Plan installation and 4.7 Plan commissioning for more information.

Onsite activities consist of the following:

- Establish connectivity to the internet for connection to the Interact cloud.
- Installation and wiring of the luminaires, including power and DALI, following the local guidelines and directives.
- Installation and wiring of the Dynalite network controller, 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 parent areas, child areas and logical channels.
- Validate the system to enable the site in the cloud.
- Deploy concepts and schedules from the cloud.

5.1 Prerequisites

Before starting with commissioning the Multisite system, make sure 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.

Important

The power supply to the Site Gateway must be continuously available. It's not allowed to switch off the device during the night.

- 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.
- The port of the IT switch of the customer connecting with the Site Gateway (PDDEG-S) is configured to **100 Mbps/Full duplex.**
- A connectivity audit is successfully performed using the **Interact Connectivity Toolbox** software. Otherwise assure yourself to do so before staring the commissioning. See section 4.6.2 Perform a connectivity audit.

Note

The following ports must be open for outbound traffic only:

- 53 (DNS)
- 123 (NTP)
- 443 (HTTPS)
- 5671 (MQTT or AMQP)
- 8883 (MQTT or AMQP)

All specific endpoints are listed in the appendix of the Security Statement related to the system.

- The Site Gateway is connected to the cloud.

Note

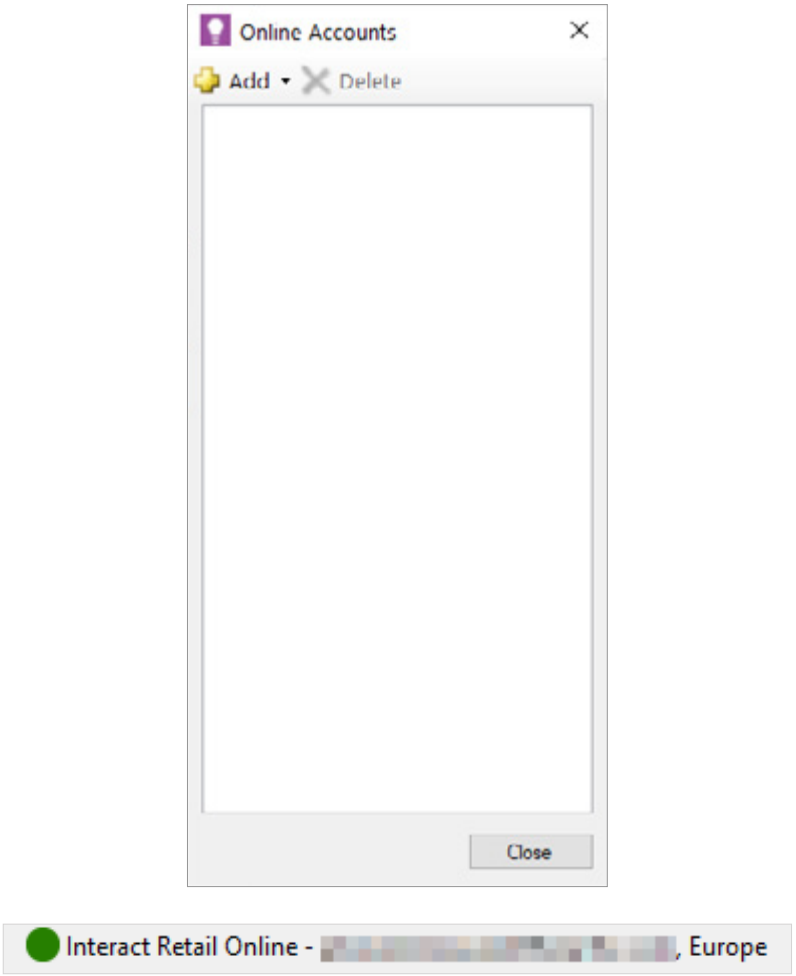
The system requires an internet connection that is available 24/7.

- The **Site Enabler** app is installed on the phone of the commissioning engineer and the workorder is checked using the mobile app. See section 4.7.2 Install Philips Dynalite Site Enabler app.
- A **DTK-622USB 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.



5.2 Connect the system to the cloud

5.2.1 Discover gateway

Prepare gateway discovery

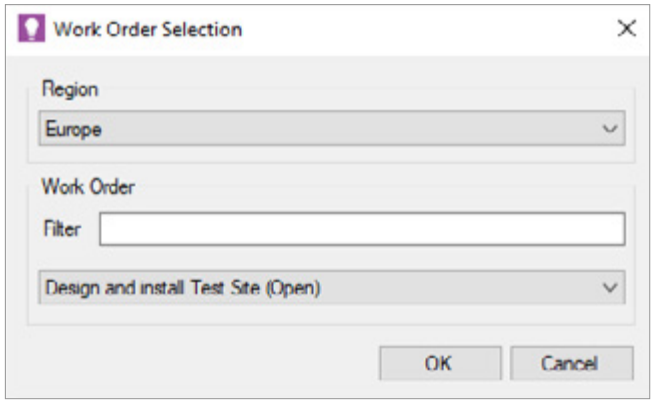
1. Connect the PC to the internet and run the recommended version of System Builder.

Login to the cloud

1. On the **Tools** menu, click **Online Accounts...**.
2. Click **Add** and select **Retail Account...**.
3. Select the **Region** and click **OK**.
4. Select your account to login to. If required, fill in your password.

Note

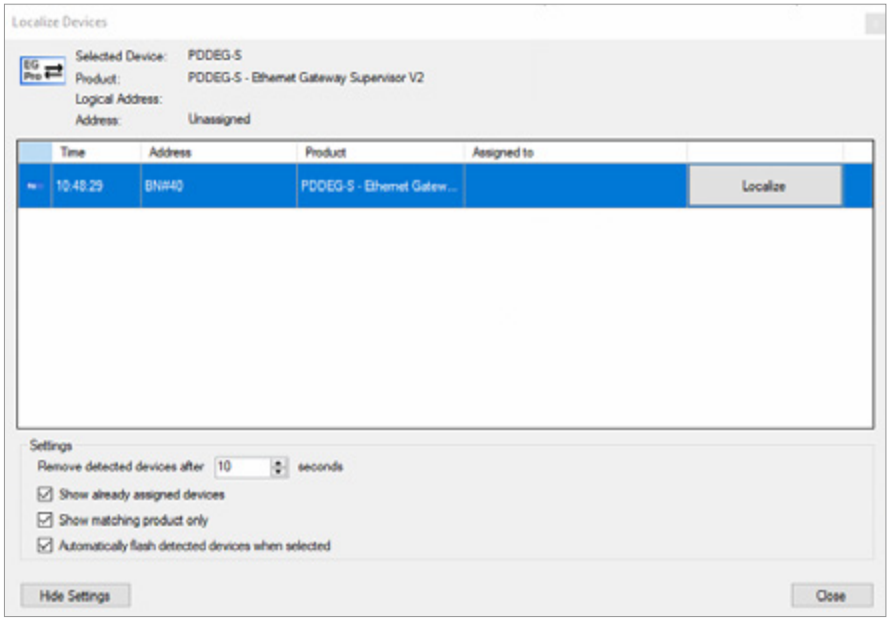
- Your user account must be registered in Microsoft Azure Active Directory before you can login to the Retail Account.
- The status bar at the bottom shows your connection status and the region you're connected to.



Download job file

1. On the **File** menu, click **Open** and select **Open Job From Cloud**.
2. Select the **Region** in the popup menu.
3. Select the work order that belongs to the site. Click **OK**.

It may take some moments until the file is successfully loaded.

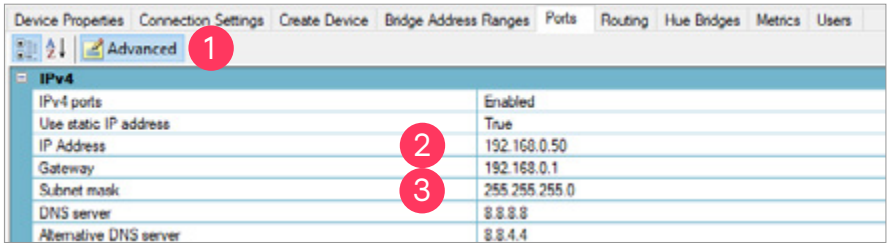


Localize and upgrade gateway

Important

Make sure to download and extract the latest firmware file from www.dynalite.org first!

1. In the **System** view, select the **PDDEG-S**.
2. On the **Tools** menu, click **Localize Devices by Sign-on**.
3. Push the sign-on button on the gateway. In the **Localize Device** dialog box, click **Localize**.
4. Right-click the device and select **Firmware Upgrade**.
5. Select the new firmware file and click **OK**.
6. Wait until the process is finished.
7. Right-click the device and select **Save To Device**. Select **Resave all device data** and click **OK**.

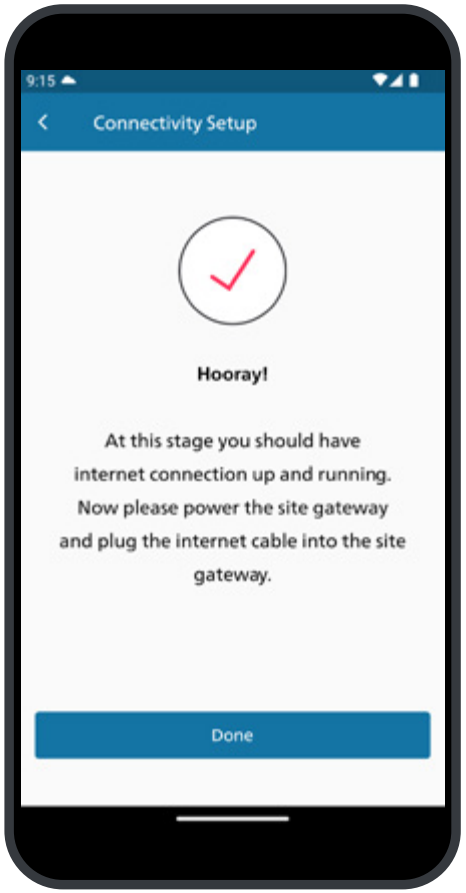


Configure network settings

1. I In the **System** view, select the **PDDEG-S**.
   Click **Advanced**.
2. On the Ports tab, in the section IPv4, set the *Use static IP address* either to:
   - **False**

   The gateway obtains a dynamic IP address from the customer IT network, no additional configuration required.
   - **True**

   Configure the static IP and network settings manually using the steps below.
3. When configuring a static IP address, manually set:
   - **IP Address** (of the PDDEG-S)
   - IP address of the (default) **Gateway** (router)
   - **Subnet mask**
   - **DNS server**
   - **Alternative DNS server**
4. Right-click the device and select **Save To Device**.
   Select **Resave all device data** and click **OK**.
5. Right-click the device and select **Send Reboot** to apply the new network configuration.
6. In the **File** menu, click **Save As** and select **Save Job To Cloud**. Make sure to use a proper **Work Order**.
7. Close the job file.



5.2.2 Establish connectivity

Connectivity to the internet can be established via two methods, depending on the preference of the customer:

- Customer IT
- Signify connectivity service using a 4G modem

Setup internet connectivity via the customer IT network

The IT department of the customer provides an outbound IT connection at the site. This connection must comply to the requirements as mentioned in the *FLX Multisite Security Statement*.

The Site Enabler app tests the connectivity before assigning the gateway.

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

Setup internet connectivity with 4G modem

For the Signify Connectivity Service, Signify delivers a 4G modem that is configured for installation at the site of the customer. After installation, activate the modem using the Site Enabler app.

The Site Enabler app tests the connectivity before assigning the gateway.

1. Login to the app and select the work order.
2. Tap **Start commissioning**.
3. Tap **Establish connectivity**. Select **Set up 4G connectivity device**.
4. Power up the 4G connectivity device and tap **Continue**.
5. Scan the ICCID barcode on the rear of the connectivity device;
   Or: Enter the ICCID code manually and tap **Submit**.
6. Tap **Done**.

5.2.3 Activate Site Gateway

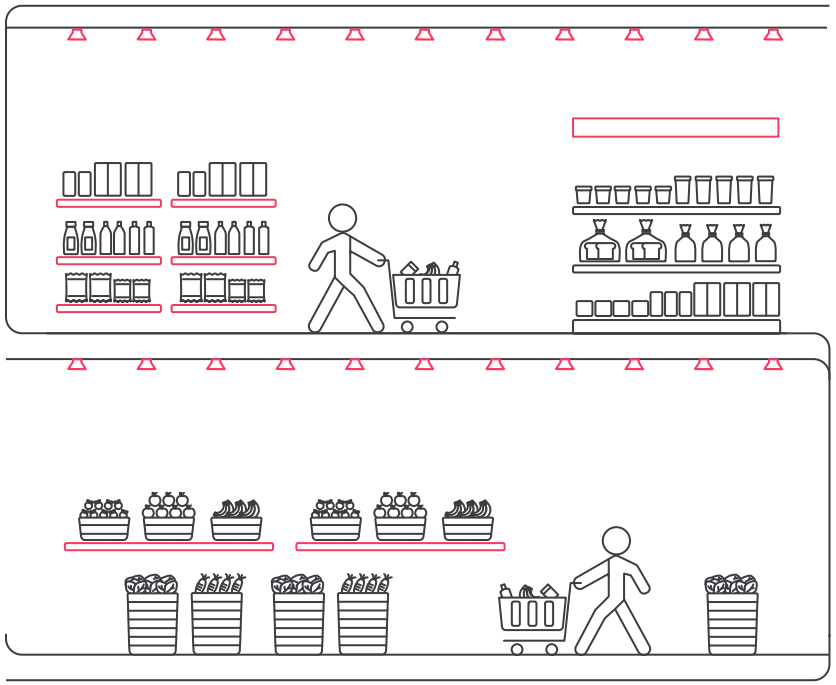
Note

You can activate the gateway after you successfully established connectivity.

1. In the app, tap **Assign Site Gateway**.
2. Check if the bottom led ( ) flashes:
   - If so, tap **Yes**.
   - If not, tap **No**, follow the steps in the app.
3. Scan the QR-code.
4. After reading the message **Assigning in progress**, tap **OK**. The assigning process starts.

Important

Wait for the gateway to be assigned. Assigning the gateway takes up to 30 minutes.



5.3 Commissioning

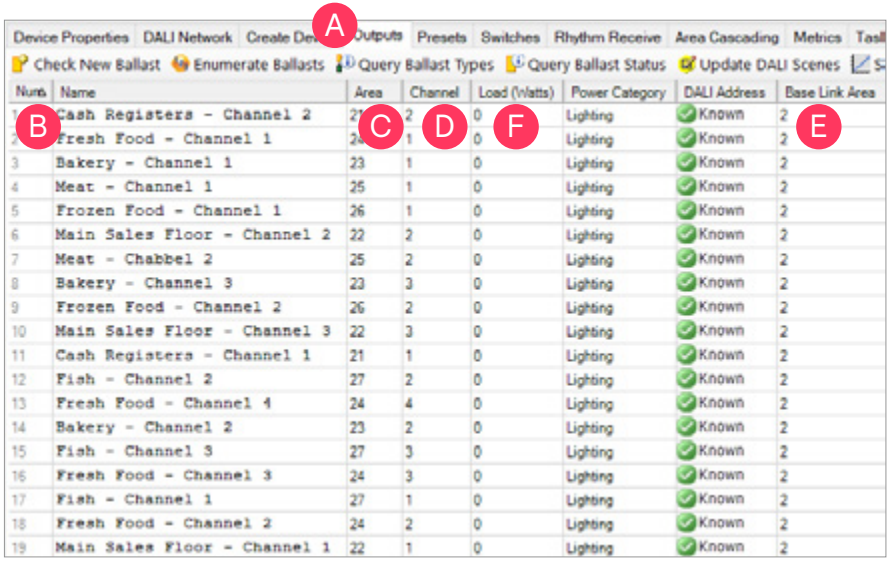
5.3.1 Link System Builder job file to the site devices

1. Connect the PC to the system using the PC Node (DTK622), run System Builder and open the job file from the cloud.
2. In the **System** view, select a *Load Controller, Integration Device, User interface or Sensor*.
3. On the **Tools** menu, click **Localize Devices by Sign-on**.
4. Push the sign-on button on the device. In the **Localize Device** dialog box, click **Localize**.

Tip

You can localize sensors that are difficult to reach with aiming a torch to the device or use a dedicated IR remote control.

5. Repeat for all devices in the network.
6. Right-click the device and select **Save To Device**. Select **Resave all device data** and click **OK**.



Num.	Name	Area	Channel	Load (Watts)	Power Category	DALI Address	Base Link Area
1	Cash Registers - Channel 2	21	2	0	Lighting	Known	2
2	Fresh Food - Channel 1	24	1	0	Lighting	Known	2
3	Bakery - Channel 1	23	1	0	Lighting	Known	2
4	Meat - Channel 1	25	1	0	Lighting	Known	2
5	Frozen Food - Channel 1	26	1	0	Lighting	Known	2
6	Main Sales Floor - Channel 2	22	2	0	Lighting	Known	2
7	Meat - Chabbel 2	25	2	0	Lighting	Known	2
8	Bakery - Channel 3	23	3	0	Lighting	Known	2
9	Frozen Food - Channel 2	26	2	0	Lighting	Known	2
10	Main Sales Floor - Channel 3	22	3	0	Lighting	Known	2
11	Cash Registers - Channel 1	21	1	0	Lighting	Known	2
12	Fish - Channel 2	27	2	0	Lighting	Known	2
13	Fresh Food - Channel 4	24	4	0	Lighting	Known	2
14	Bakery - Channel 2	23	2	0	Lighting	Known	2
15	Fish - Channel 3	27	3	0	Lighting	Known	2
16	Fresh Food - Channel 3	24	3	0	Lighting	Known	2
17	Fish - Channel 1	27	1	0	Lighting	Known	2
18	Fresh Food - Channel 2	24	2	0	Lighting	Known	2
19	Main Sales Floor - Channel 1	22	1	0	Lighting	Known	2

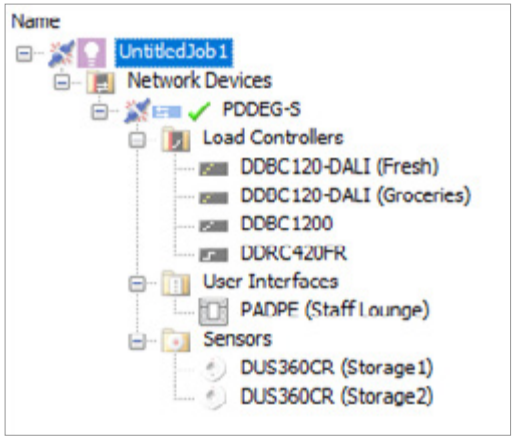
5.3.2 Configure DALI individual addressing

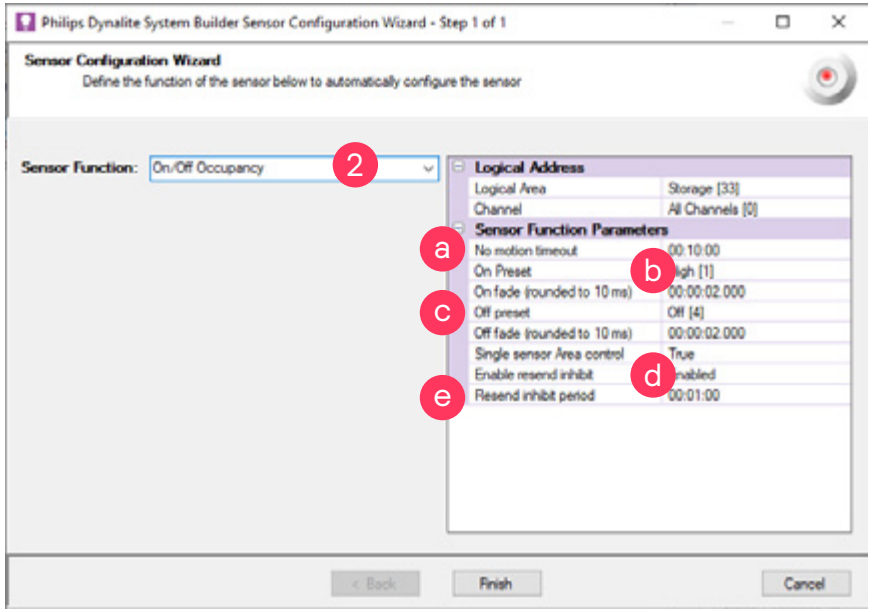
Note

Applicable for the DDBC120-DALI, DDBC300-D, and DDBC320-D controllers.

When all DALI-ballasts are enumerated:

1. On the **Outputs** tab (A), map the **Physical channels** (B) to the correct **Child areas** (C) and **Logical Channels** (D).
2. In the column **Base Link Area** (E), map the number of the **Child area** (C) with the parent area.
3. Fill in the **Load** (F) in Watts and select the **Power Category** (G) of the physical channel.
4. Right-click the device and select **Save To Device**. Select **Resave all device data** and click **OK**.
5. Repeat for all other DALI individual addressing devices.





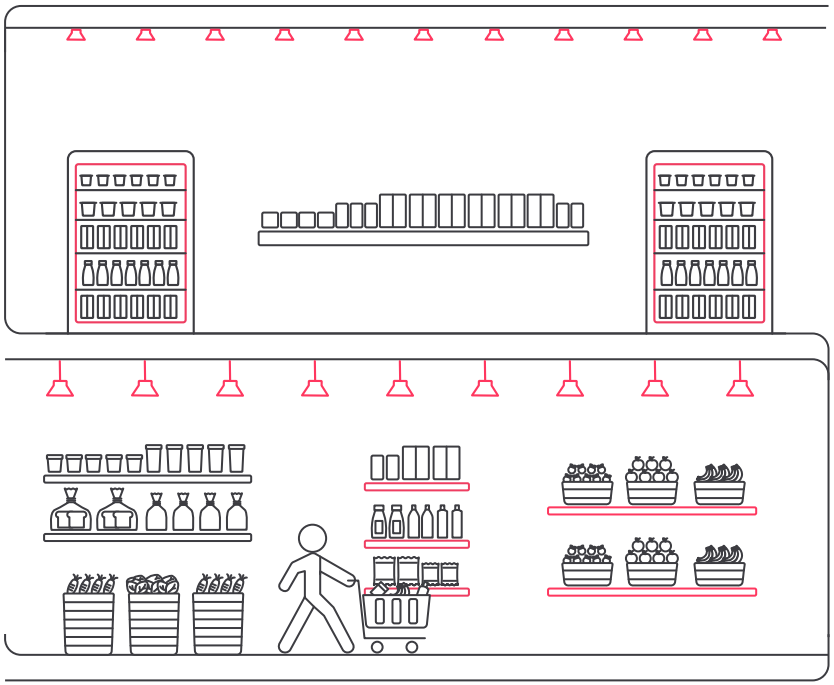
5.3.3 Configure sensors

Note

In case of DALI sensors connected to a DDBC120-DALI controller. Make sure to enumerate these devices and assign the correct box numbers.

1. Make sure to localize the sensors for box number assignment. Use a torch or IR remote control to localize.
2. Right-click the sensor and select **Sensor Configuration Wizard**. Configure the sensor in line with customer expectations. **Note:** Always use presets as motion actions:
   a. *No motion timeout:* Set time
   b. *On Preset:* Action (for example: **High**)
   c. *Off preset:* Action (for example: **Off**).
   d. *Enable resend inhibit:* Enabled
   e. *Resend inhibit period:* Set time

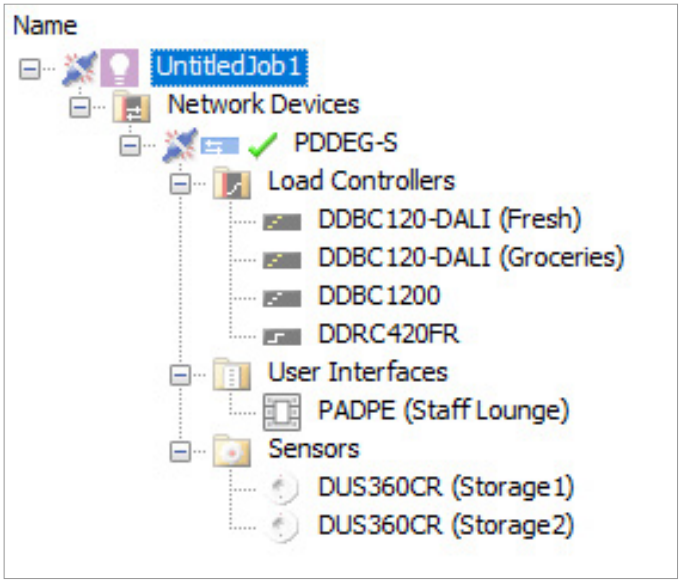
   Note: make sure the time is shorter than the timeout time.



3. Check the **Join** byte:
   - Occupancy sensing: **0x81**
   - Daylight harvesting: **0x82**
4. Right-click the device and select **Save To Device**. Select **Save modified device data** and click **OK**.
5. Validate if the sensors work as expected.
6. Repeat for the other sensors.

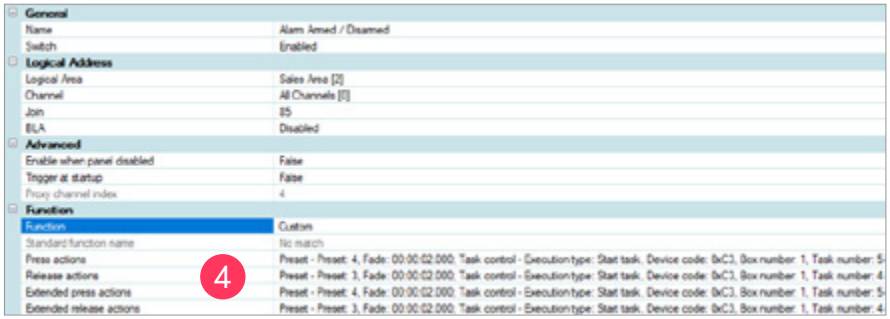
Note

When configuring sensors for daylight harvesting, make sure to calibrate the sensors.



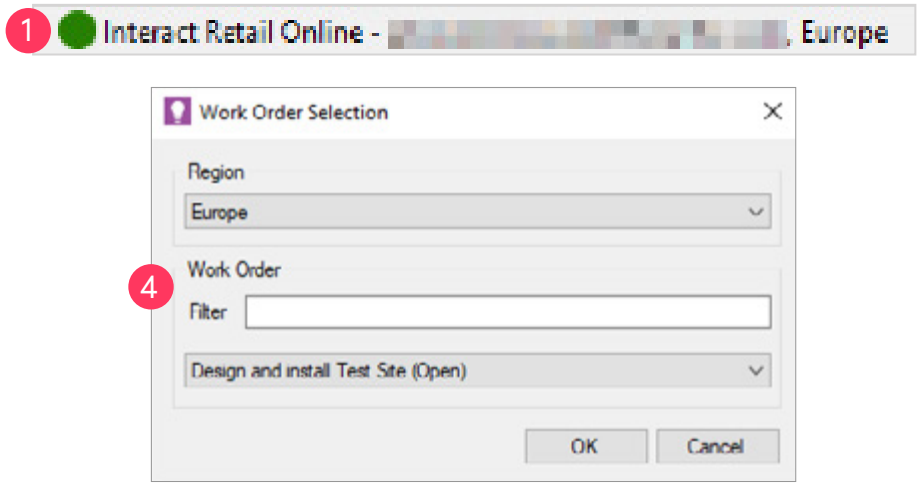
5.3.4 Configure user interfaces

1. Make sure to localize the user interfaces for box number assignment. Use a torch or IR remote control to localize.
2. Configure the user interfaces according to the wishes of the customer.
3. Check the Join byte: **0x83**.
4. Right-click the device and select **Save To Device**. Select **Save modified device data** and click **OK**.
5. Validate if the user interfaces work as expected.
6. Repeat for the other user interfaces.



5.3.5 Configure Dry contact connections

1. Make sure to localize the Dry contact interfaces for box number assignment.
2. Configure the Dry contact interfaces according to the wishes of the customer.
3. Check if the offsite preparation has been carried out correctly. See section 4.4.7 Configure controller for more information.
4. When configuring for **Alarm integration**, finalize with the following settings:
   a. Set the *Function* to **Custom**.
   b. On the **PDDEG-S**, start **Task 5** (Alarm armed)
   c. On the **PDDEG-S**, start **Task 4** (Alarm disarmed)
5. Right-click the device and select **Save To Device**. Select **Save modified device data** and click **OK**.
6. Validate if the Dry contact interfaces work as expected.
7. Repeat for the other Dry contact interfaces.



5.3.6 Save final job file

1. Make sure System Builder is connected to the Interact Retail account.
2. On the **File** menu, click **Save As** and select **Save Job To Cloud**.
3. In the **Work Order Selection** menu, select the *Region*: **Europe**.
4. Find and select the applicable work order, then click **OK**.

5.4 Commission metered energy

Note

Commissioning of energy metering is only required when smart meters are used to measure energy consumption. Otherwise, this step can be skipped.

Preparations

Before you start commissioning metered energy, make sure to:

- Upgrade the firmware of the Dynalite devices:
- PDDEG-S 1.23 or higher
- PDEB/PDEG 3.58 or higher
- DDNG485 latest version
- Consider updating the firmware of the meter
- Always follow the installation manual of the meter; contact the support line of the manufacturer of the meter in case of any questions.

5.4.1 Configure the smart meter

Configure the meter as follows:

- **Meter Address**
- **Baud Rate** (supported are **9600**, **19200** and **38400**)
- **Data Format** parameters:
  - *Communication* **Half-duplex**
  - *Data bits* **8**
  - *Parity* **None**
  - *Stop bits* **1**

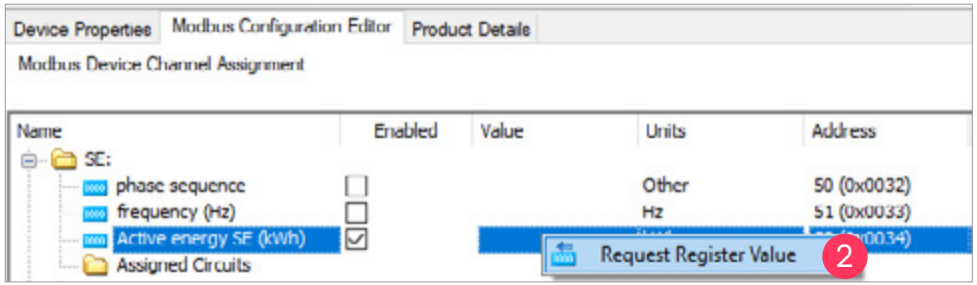
For Modbus IP meters also:

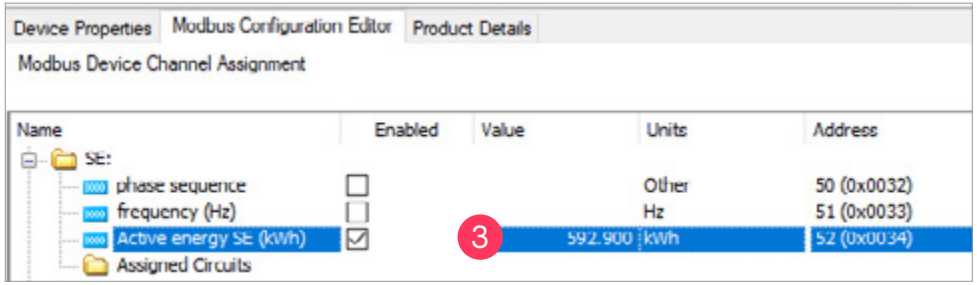
- **Meter IP address**
- **Port**

Note

- Make sure that the configured IP address is identical to the IP address configured in System Builder.
- Make sure the configured Port is identical to the Port configured in System Builder.

Also, verify the general electrical configuration of the meter and, if applicable, configure the current transformers ratio.



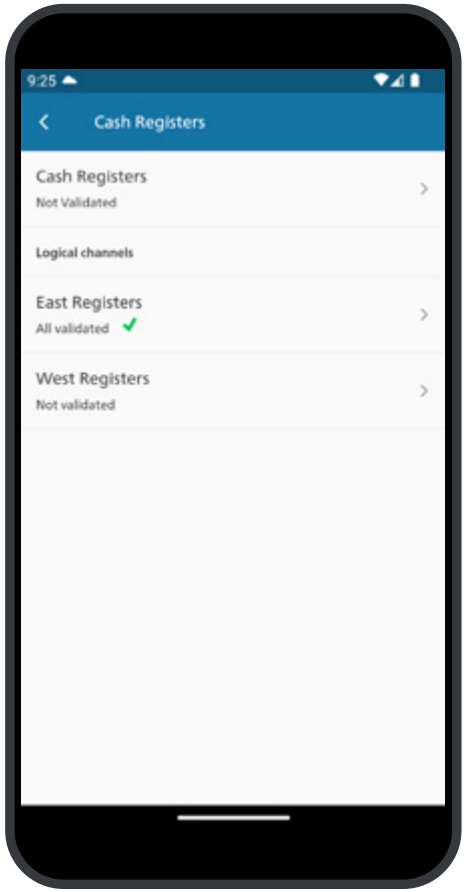


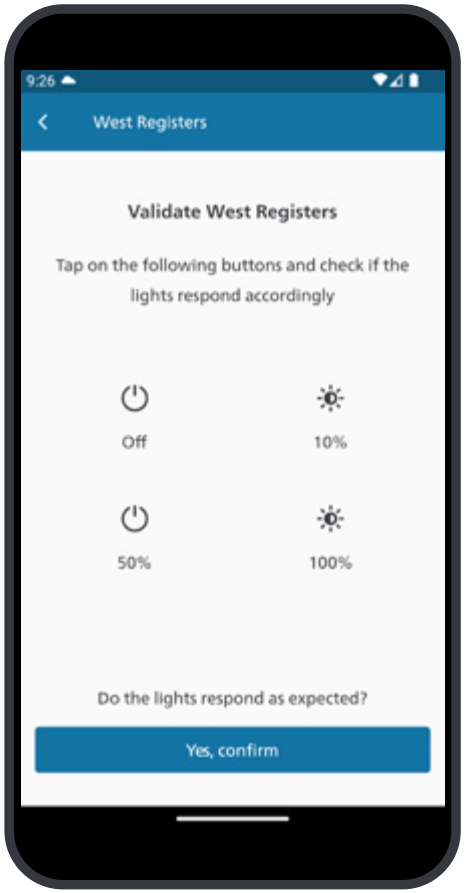
5.4.2 Verify metered energy

1. In the **System** view, click on the meter to verify.
2. On the **Modbus Configuration Editor** tab, right-click on the *Active Energy* register and select **Request Register Value**.
3. Confirm that the **Register Value** is populated and verify if the value shown matches with the expected consumption.
4. Click the tab **Network Log**.
   a. In the columns *Description*, find the *Binary Metric Data*.
   b. In the column **Local Time**, confirm that there is a package of this kind generated every 15 minutes.

Note

After approximately one hour, the energy dashboard starts showing data from that is generated by metered energy.





5.5 Validate site

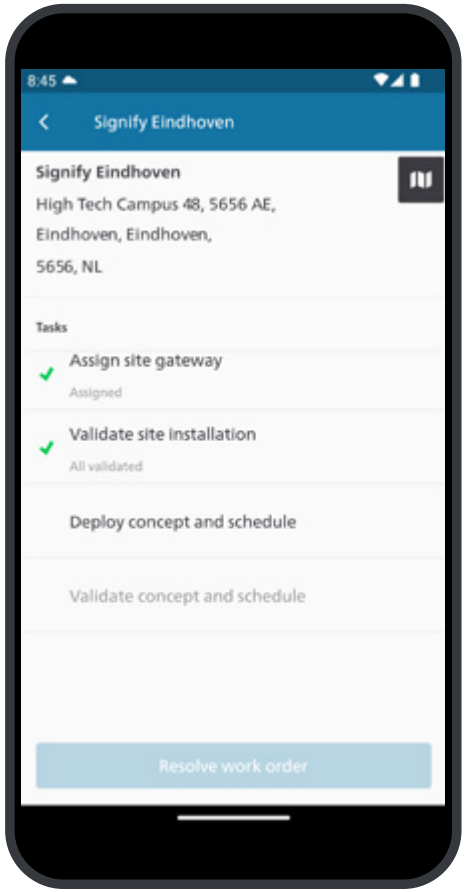
5.5.1 Validate Areas, Child Areas and Logical Channels

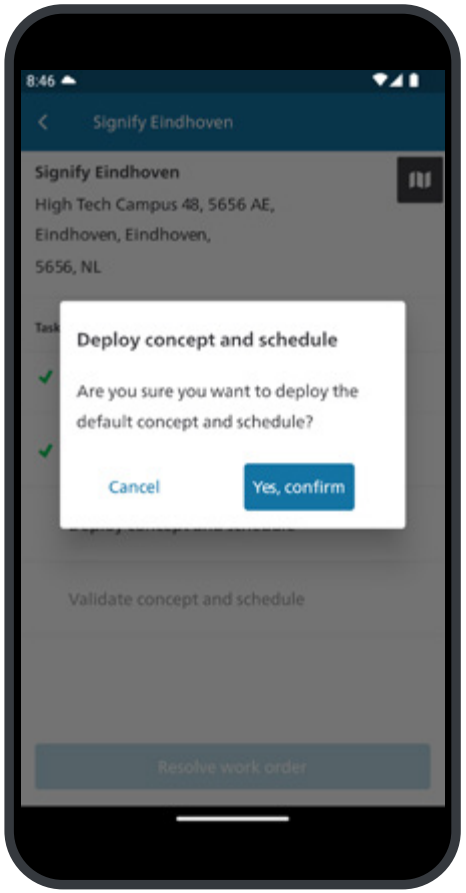
1. In the app, tap **Validate site installation**.
2. Tap the name of an parent area, child area or logical channel.
3. Tap the buttons and check visually if the lights respond accordingly. Correct if necessary.
4. When the lights respond as expected, tap **Yes, confirm**.

Note

A green checkmark shows for all areas, child areas and logical channels that have been validated.

5. Tap **<** and continue with the next.
6. Repeat for all other parent areas, child areas and logical channels.
7. Make sure that both the *Site* and all areas show *All validated*.
8. When finished, tap **Save**. Tap **<** to return to the main menu.



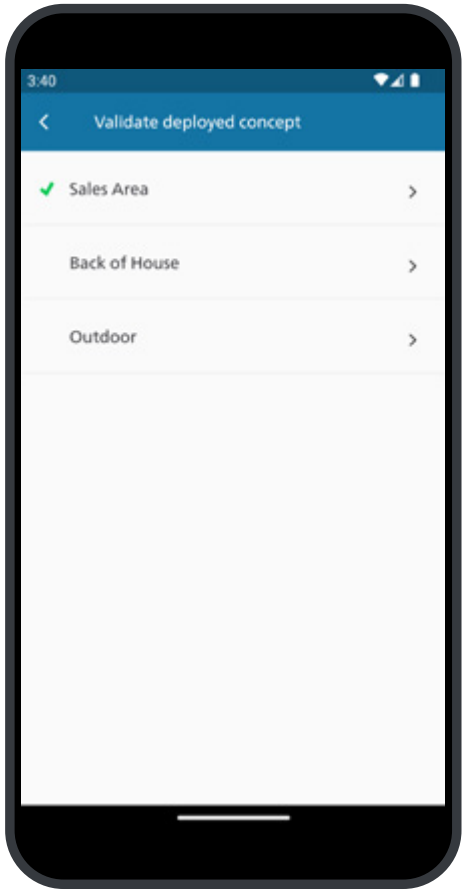


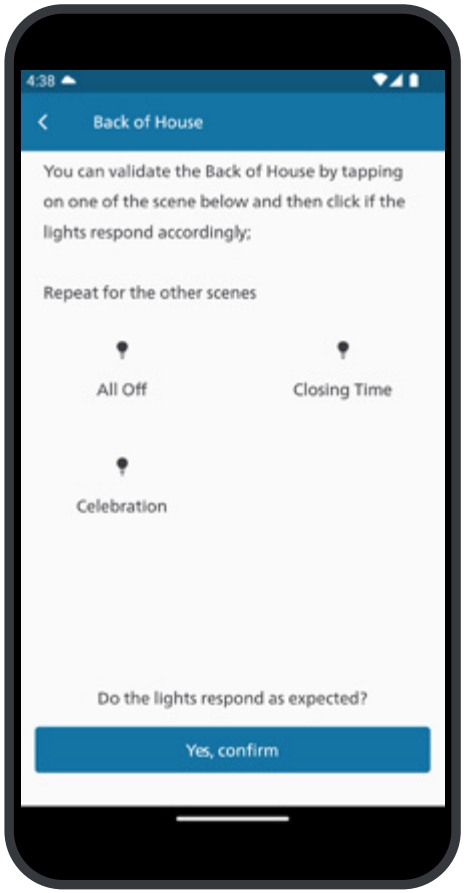
5.5.2 Deploy Concepts and Schedules

Note

Make sure that the default concept and schedule is prepared in the cloud. See section 4.3.6 Add concept and 4.3.7 Add schedule for more information.

In the app, tap **Deploy concept and schedule**.
Tap **Yes, confirm** to deploy.





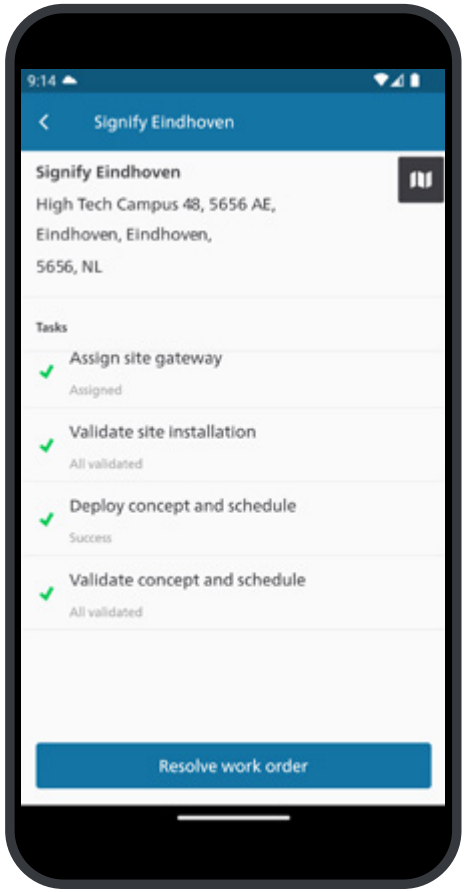
5.5.3 Validate concept and schedule

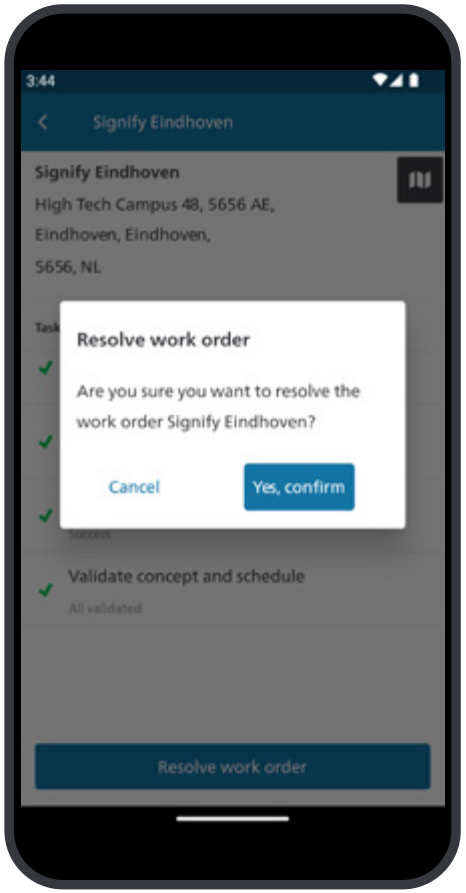
1. In the app, tap **Validate concept and schedule**.
2. Tap the name of a Parent area.
3. Tap the buttons and check visually if the lights respond accordingly. Correct if necessary.
4. When the lights respond as expected, tap **Yes, confirm**.

Note

A green checkmark shows for all areas, child areas and logical channels that have been validated.

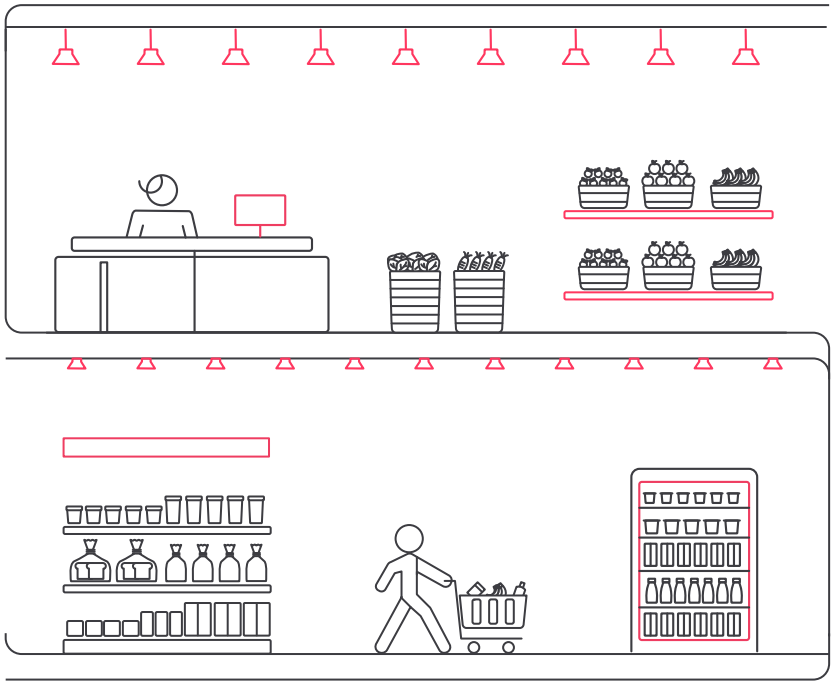
5. Tap **<** and repeat for all other Parent areas.
6. When finished, tap **Save**. Tap **<** to return to the main menu.





5.5.4 Resolve work order

1. Tap **Resolve work order** when you are ready with commissioning.
2. Tap **Yes, Confirm**.
3. Tap < to return to the main menu. Now you can:
   - Tap **View commissioning** to check the commissioning.
   - Tap **Reopen** to eventually reopen the work order. Tap **Yes, confirm** to reopen.



5.6 Handover to the customer

After resolving the workorder, the Multisite system is fully commissioned. The site engineer delivers the project to the market organization.

At this stage, the market organizes a formal handshake with the customer, which can be held on-site or remotely. For a successful handover, prepare the following:

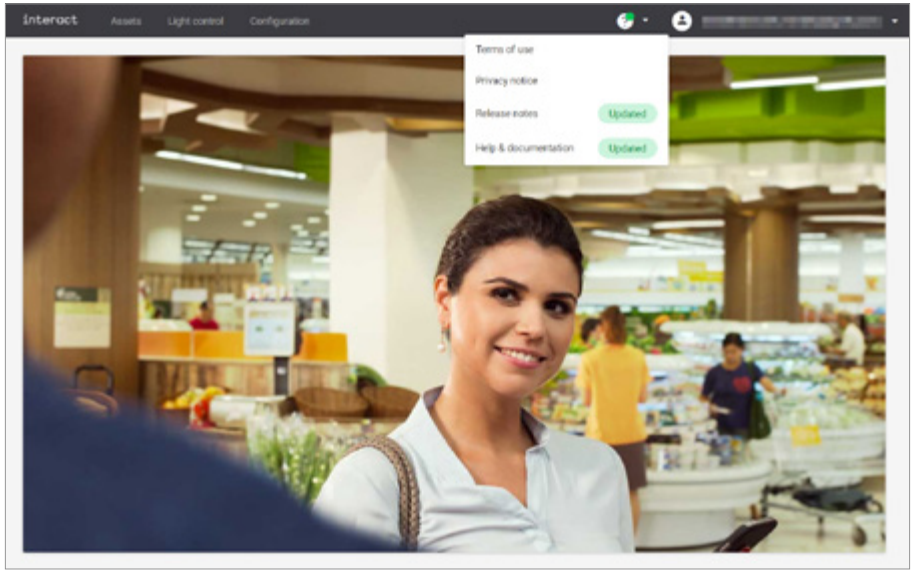
- Create an OTRS ticket to add a user account
- Create an OTRS ticket to assign the appropriate role to the user (Format or Facility manager)
- Provide a copy of the latest User Guide.
  The user guide is available via the Signify Partner Portal or the Interact Multisite System Manager.
- Using the user guide, train the customer on the usage of the system.

An Energy report will be generated each month. This report can be used to engage with the customer to gain feedback on the system and discuss further projects.

06 Post-install support

6.1 Frequently asked questions

06 Post-install support



6.1 Frequently asked questions

6.1.1 Technical support

General

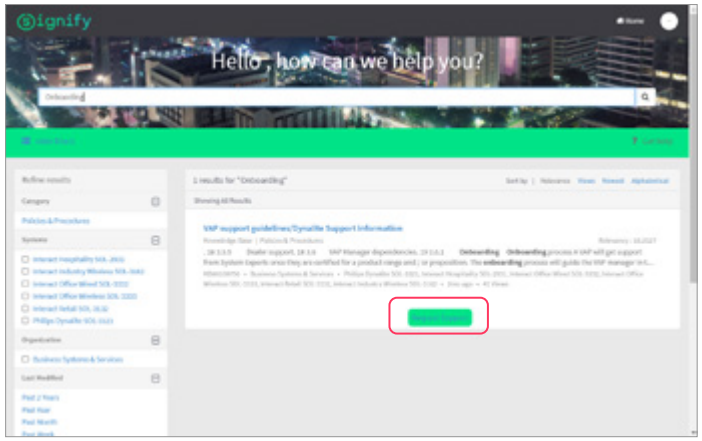
1. Login to the Interact Multisite System Manager.
2. Hover over ? to see the dropdown with additional information. A green dot shows in the icon when items are updated.
3. Click on either **Release notes** or **Help & documentation**. The flag **Updated** shows if new revisions are available.

Personnel of Signify

Signify personnel has access to the Signify only pages on the Partner Portal. Here you can find more detailed information.

Important

Don't share the information on the Signify only pages with the customer.



6.1.2 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 Partner 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.

6.1.3 Questions and answers

Q: How can I get access to the dashboard?
A: Create a ticket to request a new user with the correct user profile (see chapter 3.2 Users and user roles) and permissions for access to a particular site or format.

Q: How can I get access to the dashboard as a designer/ field engineer?
A: An additional work order is required to get permission to access a particular site.

Q: How can I submit a change request after completion of the project?
A: Depends on who want to submit the request, check which steps to follow and either reopen an existing ticket (engineer) or create a new one.

Q: My license is expired or expiring soon.
A: Create a ticket to extend your license.

Q: I want to add new services to my license.
A: Create a ticket to request to add services to your license.

Q: The system doesn't work properly.
A: Check the connectivity status of the system (check LEDs on the gateway)
A: Create a ticket to request assistance.

Q: I experience a hardware failure (parts of the system do not function as expected).
A: Create a ticket to request assistance.

Q: I forgot my password.
A: The password is linked to your user account and not handled by Signify. Contact your IT representative or provider.

Q: I have a new email-address.
A: Create a ticket to request a new user, refer to your old email-address to point to the user profile and permissions.

Q: As a designer I can't upload the jobfile to the cloud or see the Configuration tab on the dashboard.
A: The wrong permissions are assigned to your user account. Create a ticket to change these permissions.

Appendix A – System components

IT and lighting network components

User interfaces

Optional components

Appendix A – System components

IT and lighting network components

Gateway

LCN5320/LCN5321 Indoor 4G router
For the Signify Connectivity Service, Signify delivers a 4G router that is configured for installation at the site of the customer.
The 4G router requires the LCN5323 12 Vdc power supply.

PDDEG-S 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 Philips Dynalite Site Enabler app and Interact Multisite System Manager.

Important
The PDEG Ethernet Gateway is not compatible for use in Multisite installations.

Appendix A – System components

Components wired topology

DDBC120-DALI MultiMaster DALI Driver controller
The Philips Dynalite DDBC120-DALI delivers cost-effective control of DALI drivers through provision of a full universe of 64 DALI drivers. The device communicates seamlessly with Philips Dynalite DALI sensors and user interfaces.

DDBC300-D 3 Universe DALI controller
The DDBC300-DALI delivers cost-effective control of DALI high frequency fluorescent drivers through provision of three full universes totaling 192 DALI addresses.

Appendix A – System components

DDBC320-D DALI Driver Controller
The Philips Dynalite DDBC320-D 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.

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.

Appendix A – System components

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.

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.

Appendix A – System components

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 security systems with the lighting system, by receiving input from the security 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.

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.

Appendix A – System components

User interfaces

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

PAxPA/E Antumbra
The Philips Antumbra series provide a wide range of flexible user interfaces, incorporating the latest in field effect technology. The contemporary design features several button configurations, with each button capable of local or site-wide control functions.

Appendix A – System components

Optional components

Sensors

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.

Appendix B – Roles and responsabilities

Appendix B - Roles and responsabilities

Signify and partner roles

Activities / Roles	Operations (Signify only)	Contractor	Light Designer (VE-Designer)	Controls Designer	Installer (VE-Engineer)
Operations (Customer management/System updates)	✓				
User management (e.g. work orders, etc.)	✓	✓			
Lighting and venue enablement design			✓		
Controls design				✓	
Site commissioning					✓
Assets and health	✓				
Light control (Concepts and Schedules)	✓				⊖
Configuration (Design)	✓			✓	
Energy monitoring	✓				
SDK access	✓				
Analytics	✓				

Explanation of the symbols

✓ Possible

⊖ For validation purposes

Appendix B – Roles and responsabilities

Customer and service provider roles

Activities / Roles	Facility manager	Format manager	Store manager	External app developer	Analyst
User management (e.g. work orders, etc.)	✓				
Assets and health	✓				
Light control (Concepts and Schedules)	●	✓	⊖		
Configuration (Design)	✓				
Energy monitoring	✓				
SDK access				✓	
Analytics	✓				✓
Handover to end user	✓	✓			✓

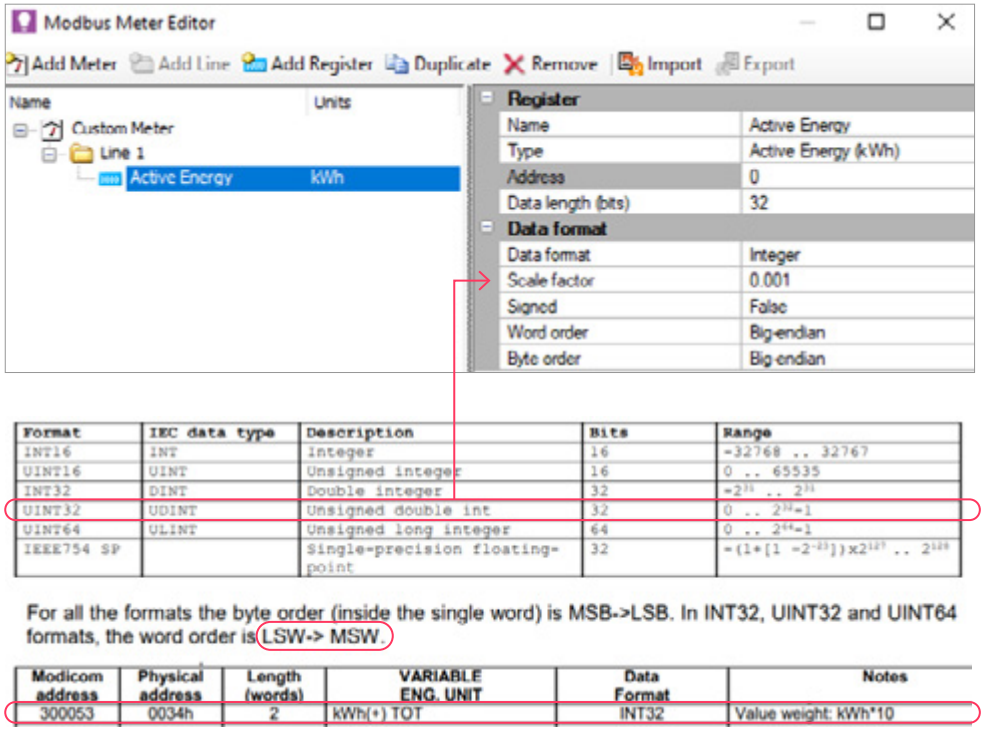
Explanation of the symbols

✓ Possible

● Possible, but with limited functionality

⊖ Local override only

Appendix C - Create custom meter



Format	IEC data type	Description	Bits	Range
INT16	INT	Integer	16	-32768 .. 32767
UINT16	UINT	Unsigned integer	16	0 .. 65535
INT32	DINT	Double integer	32	-2^{31} .. 2^{31}
UINT32	UDINT	Unsigned double int	32	0 .. $2^{32}-1$
UINT64	ULINT	Unsigned long integer	64	0 .. $2^{64}-1$
IEEE754 SP		Single-precision floating-point	32	$-(1+[1-2^{-23}])x2^{127}$ .. 2^{128}

For all the formats the byte order (inside the single word) is MSB->LSB. In INT32, UINT32 and UINT64 formats, the word order is LSW-> MSW.

Modicom address	Physical address	Length (words)	VARIABLE ENG. UNIT	Data Format	Notes
300053	0034h	2	kWh(+) TOT	INT32	Value weight: kWh*10

Create custom meter

See the sections 4.5.2 Configure Modbus RS-485 metering and 4.5.3 Configure Modbus IP metering for more information how to configure the meter in System Builder.

1. Obtain the latest documentation of the meter that contains the details.
2. Make sure to understand the meter and its configuration.
3. It is advised to perform a proof of concept with the meter before committing to the meter:
   - In System Builder, create the meter
   - Add the lines and registers
   - Configure the registers
4. After the Proof of Concept is successful, you can start implementing the meter in the installation.

Note

The pictures on this page show an example how the technical documentation of a meter manufacturer is translated into a custom meter configuration in System Builder.

Appendix D – Upgrade of a Store system with touchscreen

Appendix D - Upgrade of a Store system with touchscreen

D.1 Introduction

D.1.1 Purpose

This appendix is meant for use when upgrading an Store Kit (or StoreWise kit) with a touchscreen to Multisite.

After identifying the system version of the kit, the upgrade procedure consists of two main steps, like the standard commissioning flow:

- Offsite preparation
- Onsite commissioning

D.1.2 Prerequisites

Before starting with the upgrade, make sure to follow the standard commissioning flow until the point that you start designing the system (section 4.2 and further):

- System introduction (see chapter 2)
  Architecture, IT requirements and configuration
- Intake (see chapter 3)
  Collect all required information including the customer, project, lighting control etcetera.
- Onboarding (see section 4.1)
  Setup of the cloud, including customer, site, format, contract and license, users and roles, etcetera.

D.1.3 Scope

The instructions in this document are generic for all kit systems with a touchscreen, except when explicitly indicated:

- *For DTP100*
  StoreWise kit systems using a DTP100 touchscreen
- *For PDTS*
  Store Kit systems using a PDTS touchscreen

Appendix D - Upgrade of a Store system with touchscreen

Figure 1. DTP100 touchscreen

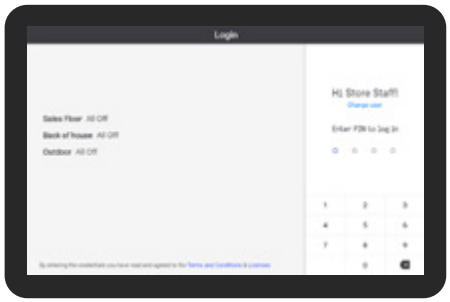


Figure 2. PDTS touchscreen

Figure 3. USB adapter

D.1.4 Preparations

For a successful upgrade, make sure prepare the following:

- Determine the type of touchscreen used in the system:
  - StoreWise Kit 1.0 with DTP100 touchscreen
  - Store Kit 2.x with PDTS touchscreen
- Laptop running the latest version of System Builder (SB) with Technician License
- DTK622 PC node

For StoreWise kit with DTP100

- USB thumb drive (size: ≤4 GB)
- Mini USB type B to USB type A adapter
- Job file of the standard StoreWise v1.0
- Local Control UI v1.0.0 install package, specific for the **DTP100**

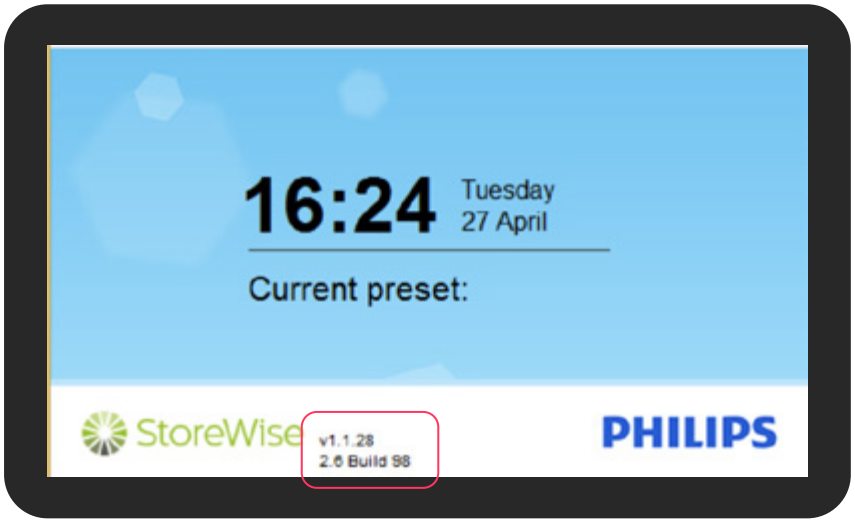
For Store Kit with PDTS

- Job file of the factory default Store Kit 2.x
- Local Control UI v1.0.0 install package, specific for the **PDTS**

Note

All files can be downloaded from the Commissioning folder of Multisite on the Partner Portal.

Appendix D – Upgrade of a Store system with touchscreen



D.2 Identify system version of the kit

D.2.1 For DTP100

- The user interface (UI) shows in a blue and white theme with Philips StoreWise logos
- The version number shows 1.1.27 or 1.1.28

Note

Submit a C4CS ticket to ask for technical support in case the version number of the UI is not 1.1.27 or 1.1.28.

Appendix D - Upgrade of a Store system with touchscreen

Default configuration of the lighting control

Output:

- Sales floor (Area 2):
  - LC1 to LC8: DALI CH 1 to 8
  - LC9 to LC11: Relay CH 1 to 3
- Storage area (Area 3):
  - LC1: DALI CH9/10
  - LC2: DALI CH11/12
  - LC3: Relay CH4

Input (Dry contact):

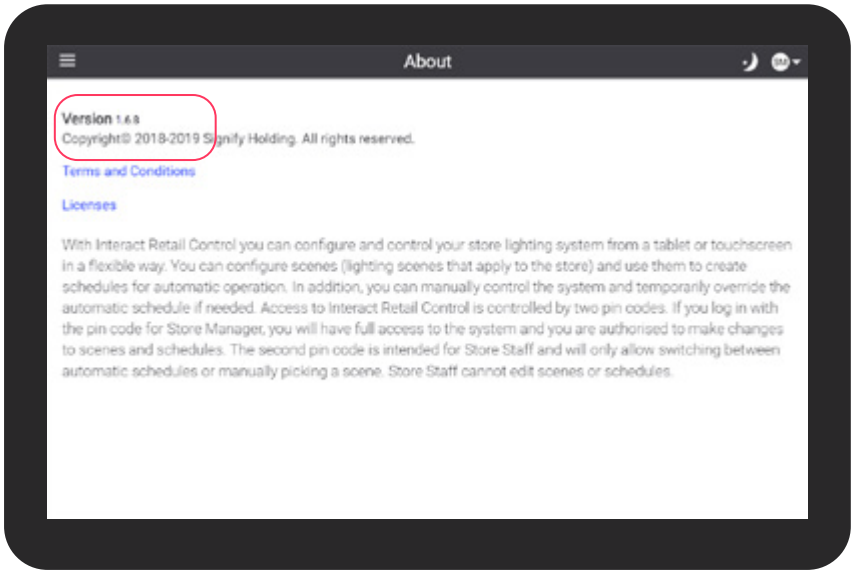
- DC1: Sales floor: Trading
- DC2: Sales floor: Stocking
- DC3: Sales floor: Closed
- DC4: Custom: Custom preset 01
- DC5: Custom: Custom preset 02
- DC6: Custom: Custom preset 03
- DC7: Others: Panic NO
- DC8: Others: Panic NC

Note

Remote assistance from the site may help to confirm if the actual configuration is different from the factory default.

Submit a C4CS ticket in case the actual configuration differs from the factory default.

Appendix D - Upgrade of a Store system with touchscreen



D.2.2 For PDTS

- The user interface (UI) shows a grey and white theme
- Login and check the **About** menu, the version number shows 1.6.8 or higher

Note

Submit a C4CS ticket to ask for technical support in case the version number of the UI is not 1.6.8 or higher.

Appendix D - Upgrade of a Store system with touchscreen

Default configuration of the lighting control

Output:

- Sales floor (Area 2):
  - DALI CH 1 to 8
  - Relay CH 1 to 8
- Back of house (Area 3):
  - DALI CH 9/10/12
  - Relay: CH9/10
- Outdoor (Area 4)
  - DALI CH11 (Signage)
  - Relay CH11/12

Input (Dry contact):

- DC1: Sales floor Open; Back of house Open
- DC2: Sales floor Stocking; Back of house Open
- DC3: Sales floor Closed; Back of house Closed
- DC4: Sales floor toggle ON/OFF
- DC5: Back of house toggle ON/OFF
- DC6: PANIC NO or Outdoor toggle ON/OFF *)
- DC7: PANIC NC or PANIC 30 minutes *)
- DC8: ALARM

Note

*) Definition changed since system version 2.2. Submit a C4CS ticket in case the actual configuration differs from the factory default.

Appendix D – Upgrade of a Store system with touchscreen

D.3 Offsite preparations

In this step, the original job file of the kit will be modified to match with the hierarchy of the Multisite logical configuration:

Cloud	(Parent) Area	Child Area	Logical Channel
System Builder	Base Link Area	Area	Logical Channel

In Multisite, the names and IDs of the areas, logical channels, and scenes (presets) must be identical in both the cloud and the job file.

Each customer only can have one superset of names and IDs for the areas and logical channels of all sites. Each site uses a subset of these names and IDs, defined in a Format by the *Project Template*.

Multisite (Parent) Areas don't contain any channels. The IDs of the Parent Areas are in System Builder represented as the Base Link Area number for Logical Channels of Child Areas that belong to a certain (Parent) Area.

In System Builder, use one Physical Channel in each Logical Channel, so that all physical channels can be independently managed on the cloud.

Appendix D – Upgrade of a Store system with touchscreen

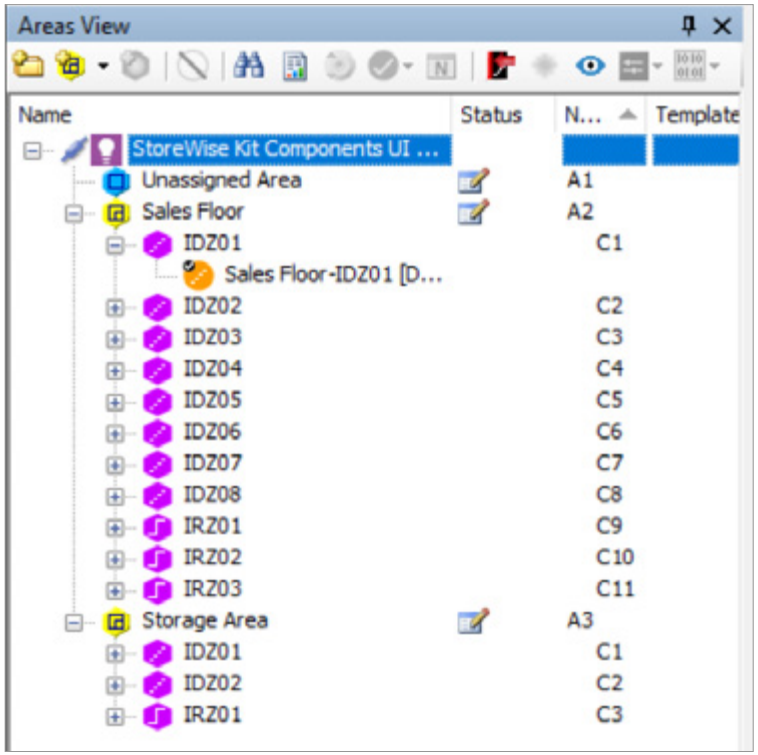


Figure 4. Factory default areas and channels configuration

D.3.1 For DTP100

StoreWise 1.0 systems using the DTP100 have two areas, each consisting of a few logical channels.

To upgrade to Multisite, customize the names of the areas and channels to the names defined in the Project Template (Intake form).

Appendix D – Upgrade of a Store system with touchscreen

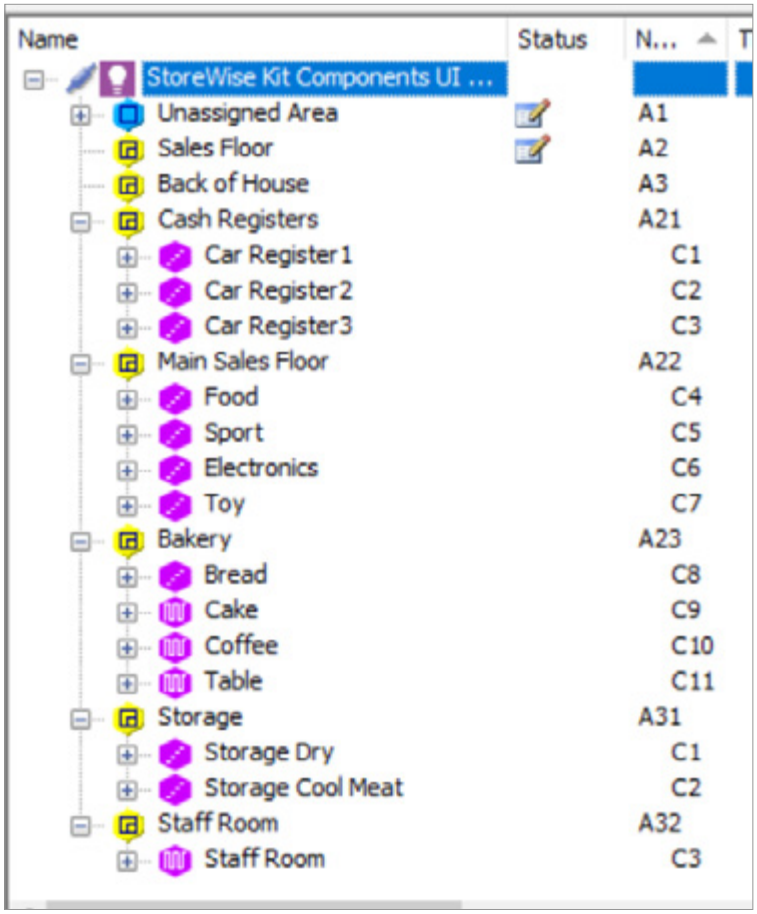


Figure 5. Example of modified areas and channels

Edit StoreWise job file

1. Open the downloaded factory default StoreWise 1.0 job file.
2. Apply the names and IDs of the Parent Areas according to the hierarchy of Multisite.
   Use the data from the Project Template.
3. Check if the occupation presets 5 and 6 in the Storage area (or Back of House) need to change ID, because of conflicting IDs according to the hierarchy of Multisite. Make sure to set these two presets to **Hidden**.
4. Check if any DUS360 sensor needs update of the presets 5 and 6 accordingly. Enable **Resend inhibit period** on the **Stocking** preset.
5. Create Child Areas according to the Project Template and move each channel to the corresponding Child Area.
6. Add a PDDEG-S v2 Site Gateway to the job file. Configure the Site Gateway following the instructions in section 4.4.4 Configure Site Gateway.
7. Save the modified job file to the cloud. Keep a backup of it on your local computer.

Appendix D – Upgrade of a Store system with touchscreen

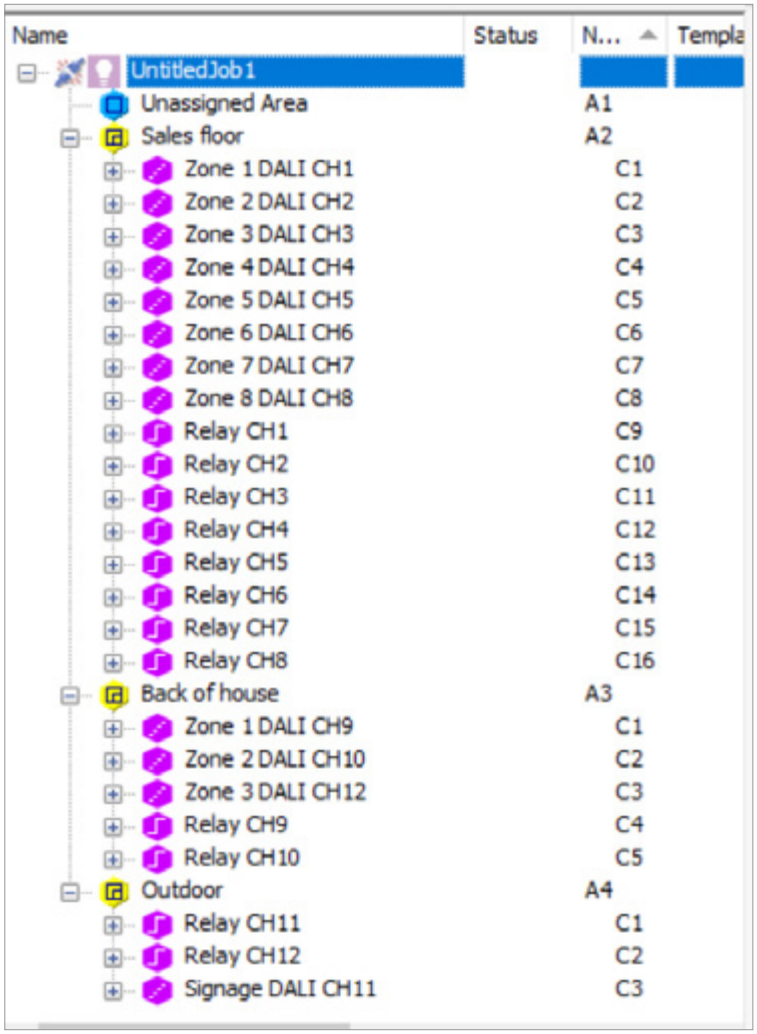


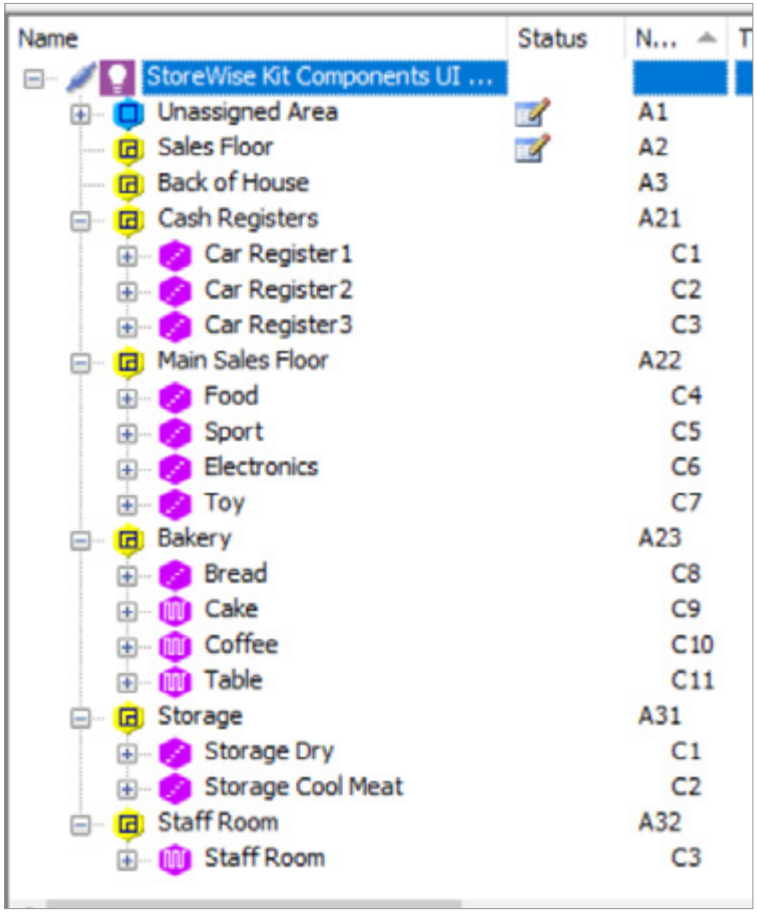
Figure 6. Factory default areas and channels configuration

D.3.2 For PDTS

Store Kit 2.x systems using the PDTS have three areas, each consisting of a few fixed logical channels.

To upgrade to Multisite, customize the names of the areas and channels to the names defined in the Project Template (Intake form).

Appendix D – Upgrade of a Store system with touchscreen



Edit Store Kit job file

1. Open the downloaded factory default Store Kit 2.x job file.
2. Apply the names and IDs of the Parent Areas according to the hierarchy of Multisite.
   Use the data from the Project Template.
3. Check if the occupation presets 8 and 9 in the Back of House need to change ID, because of conflicting IDs according to the hierarchy of Multisite.
4. Check if any DUS360 sensor needs update of the presets 8 and 9 accordingly. Enable **Resend inhibit period** on the **Occupied** preset.
5. Create Child Areas according to the Project Template and move each channel to the corresponding Child Area.
6. Remove all tasks from the PDTS.
7. Add a PDDEG-S v2 Site Gateway to the job file.
   Configure the Site Gateway following the instructions in section 4.4.4 Configure Site Gateway.
8. Save the modified job file to the cloud. Keep a backup of it on your local computer.

Appendix D - Upgrade of a Store system with touchscreen

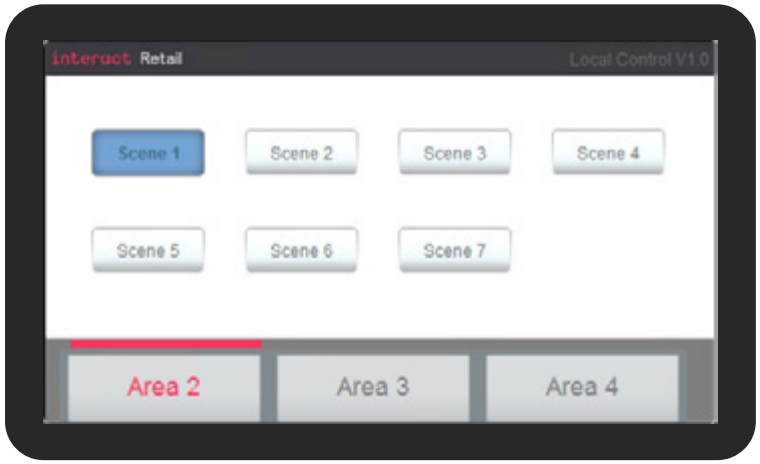


Figure 7. Local Control UI for DTP100

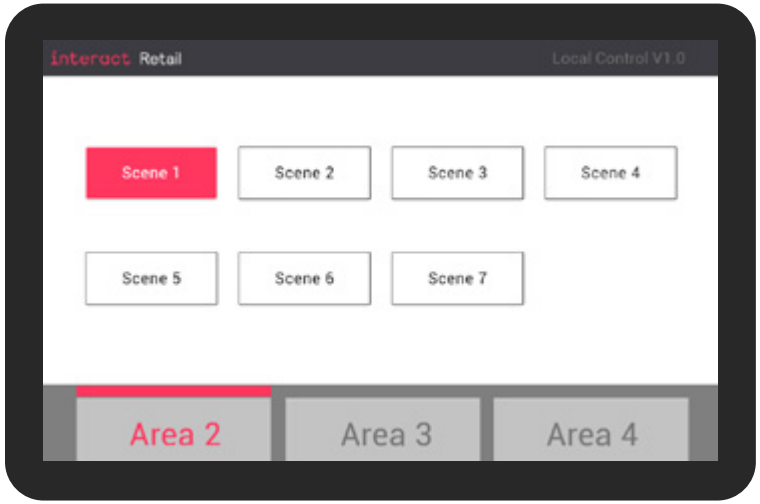


Figure 8. Local Control UI for PDTS

D.3.3 Prepare the touchscreen

The existing user interface on the device needs to be replaced with a simple UI for local control.

For each device, you can choose between two scenarios:

- In case the customer uses a BMS, select the Local Control UI without 2-hour manual override:
  - *MO_DTP100_no_2h_timer v0.3.zip*
  - *MO_PDTS_v1.0RC2.zip*

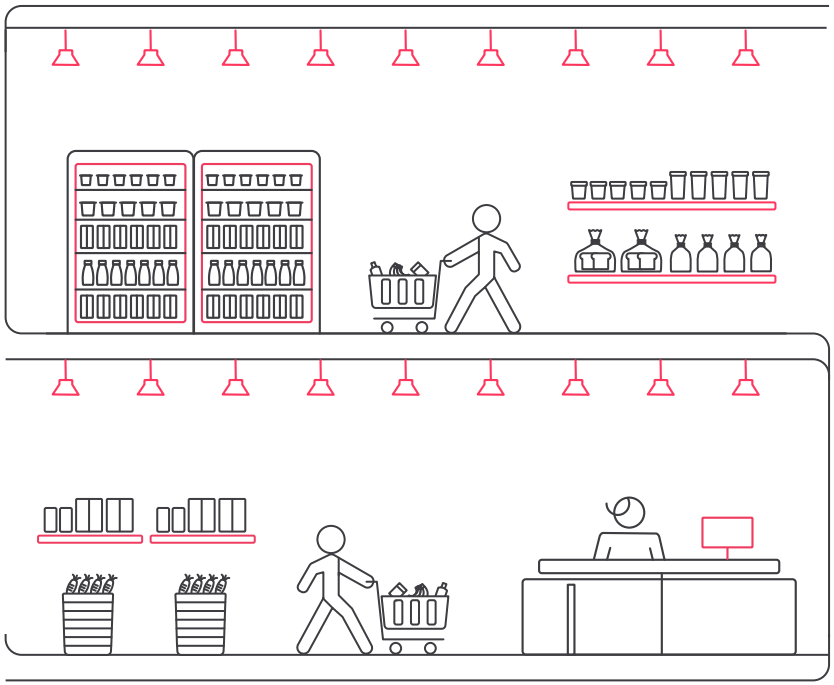
  The Local Control UI simply recalls the preset that the user taps on the touchscreen.
- In case the customer doesn't use a BMS, select the Local Control UI with 2-hour manual override.
  - *MO_DTP100_2h_timer v0.3.zip*
  - *MO_PDTS_2h_timer v1.0RC2.zip*

The Local Control UI recalls the preset that the user taps on the touchscreen for two hours, and then switches back to the Automatic schedules preset.

Important

Make sure to use the correct Local Control UI files, which are tailored to the device.

Appendix D - Upgrade of a Store system with touchscreen



D.4 Onsite commissioning

D.4.1 Backup configuration

Before making any changes, it's highly recommended to back up the current system configuration to:

- Verify if the current site configuration differs from the Project Template (Intake form)
- Rollback to the original kit configuration of the site, in case this is needed.

1. Connect the PC to the system using the DTK622 PC node.
2. Use System Builder to retrieve the current system configuration and make a backup of the job file.
3. Check if the UI shows the correct version:
   - **DTP100**: 1.1.27 or 1.1.28
   - **PDTS**: 1.6.8 or newer

Note

- There's no backup option available for the UI files.
- Submit a C4CS ticket to ask for technical support in case the version number of the UI doesn't correspond with the specified versions.

Appendix D - Upgrade of a Store system with touchscreen

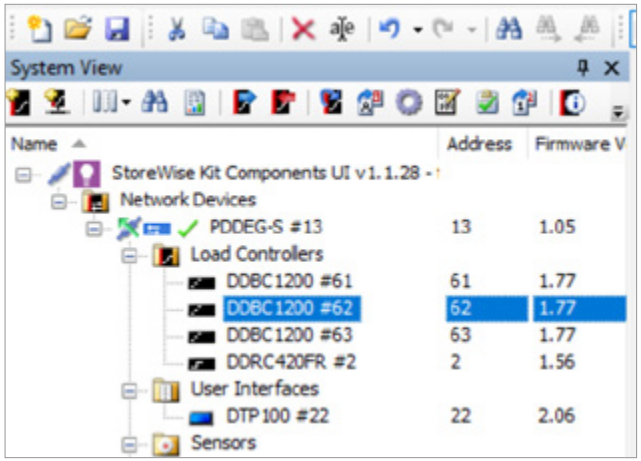


Figure 9. System view with DTP100

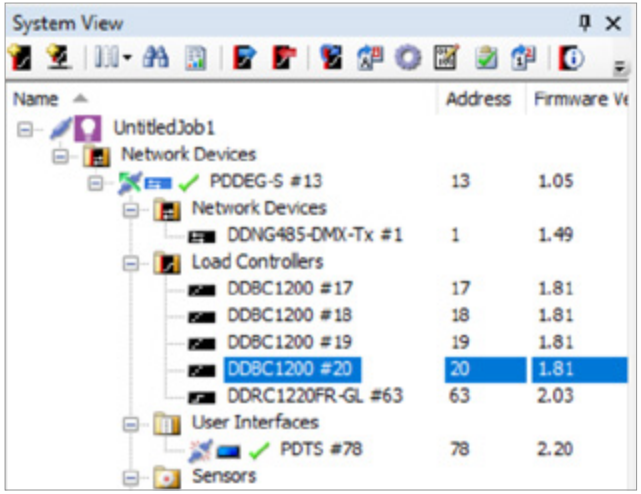


Figure 10. System view with PDTS

D.4.2 Link job file to the site devices

1. Using System Builder, download the modified job file from the cloud. See section 5.2 Establish connectivity.
2. Sign-on and validate if the devices match the hierarchy in the **System** view of the job file, except for the DDBC1200 controllers.

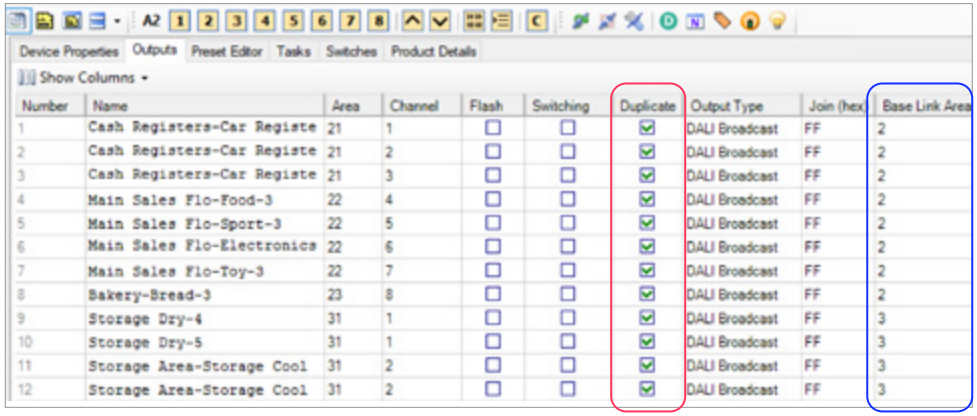
D.4.3 Configure the DDBC1200 controllers

In case you upgrade a kit with multiple DDBC1200 controllers, it's a possible that all use an identical box number. This will not work in Multisite.

Set unique box numbers for all DDBC1200s

1. Leave the box number for the primary DDBC1200 as set in the job file.
   - **For DTP100**: *61*
   - **For PDTS**: *17*
2. Use subsequent box numbers for the secondary DDBC1200s:
   - **For DTP100**: *62, 63, etcetera*
   - **For PDTS**: *18, 19 etcetera*
3. Add the devices to the job file. Make sure there's only one master channel in each Logical Channel.

Appendix D – Upgrade of a Store system with touchscreen

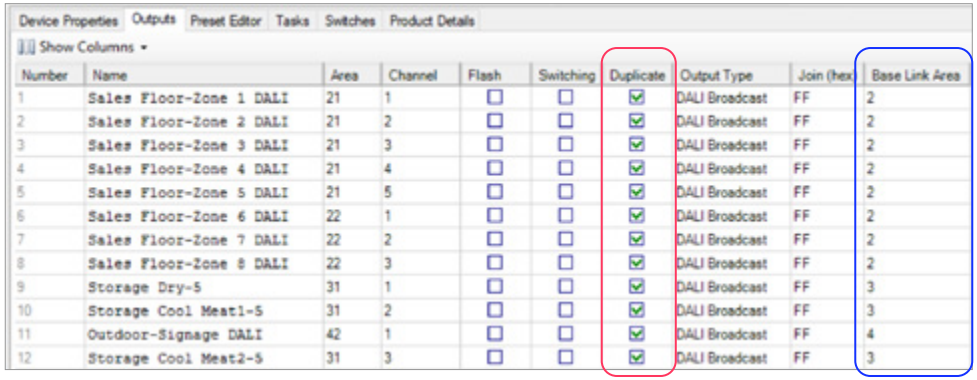


Device Properties | Outputs | Preset Editor | Tasks | Switches | Product Details

Show Columns

Number	Name	Area	Channel	Flash	Switching	Duplicate	Output Type	Join (hex	Base Link Area
1	Cash Registers-Car Registe	21	1	☐	☐	☑	DALI Broadcast	FF	2
2	Cash Registers-Car Registe	21	2	☐	☐	☑	DALI Broadcast	FF	2
3	Cash Registers-Car Registe	21	3	☐	☐	☑	DALI Broadcast	FF	2
4	Main Sales Flo-Food-3	22	4	☐	☐	☑	DALI Broadcast	FF	2
5	Main Sales Flo-Sport-3	22	5	☐	☐	☑	DALI Broadcast	FF	2
6	Main Sales Flo-Electronics	22	6	☐	☐	☑	DALI Broadcast	FF	2
7	Main Sales Flo-Toy-3	22	7	☐	☐	☑	DALI Broadcast	FF	2
8	Bakery-Bread-3	23	8	☐	☐	☑	DALI Broadcast	FF	2
9	Storage Dry-4	31	1	☐	☐	☑	DALI Broadcast	FF	3
10	Storage Dry-5	31	1	☐	☐	☑	DALI Broadcast	FF	3
11	Storage Area-Storage Cool	31	2	☐	☐	☑	DALI Broadcast	FF	3
12	Storage Area-Storage Cool	31	2	☐	☐	☑	DALI Broadcast	FF	3

Figure 11. Outputs tab of secondary DDBC1200 in a system with DTP100



Device Properties | Outputs | Preset Editor | Tasks | Switches | Product Details

Show Columns

Number	Name	Area	Channel	Flash	Switching	Duplicate	Output Type	Join (hex	Base Link Area
1	Sales Floor-Zone 1 DALI	21	1	☐	☐	☑	DALI Broadcast	FF	2
2	Sales Floor-Zone 2 DALI	21	2	☐	☐	☑	DALI Broadcast	FF	2
3	Sales Floor-Zone 3 DALI	21	3	☐	☐	☑	DALI Broadcast	FF	2
4	Sales Floor-Zone 4 DALI	21	4	☐	☐	☑	DALI Broadcast	FF	2
5	Sales Floor-Zone 5 DALI	21	5	☐	☐	☑	DALI Broadcast	FF	2
6	Sales Floor-Zone 6 DALI	22	1	☐	☐	☑	DALI Broadcast	FF	2
7	Sales Floor-Zone 7 DALI	22	2	☐	☐	☑	DALI Broadcast	FF	2
8	Sales Floor-Zone 8 DALI	22	3	☐	☐	☑	DALI Broadcast	FF	2
9	Storage Dry-5	31	1	☐	☐	☑	DALI Broadcast	FF	3
10	Storage Cool Meat1-5	31	2	☐	☐	☑	DALI Broadcast	FF	3
11	Outdoor-Signage DALI	42	1	☐	☐	☑	DALI Broadcast	FF	4
12	Storage Cool Meat2-5	31	3	☐	☐	☑	DALI Broadcast	FF	3

Figure 12. Outputs tab of secondary DDBC1200 in a system with PDTS

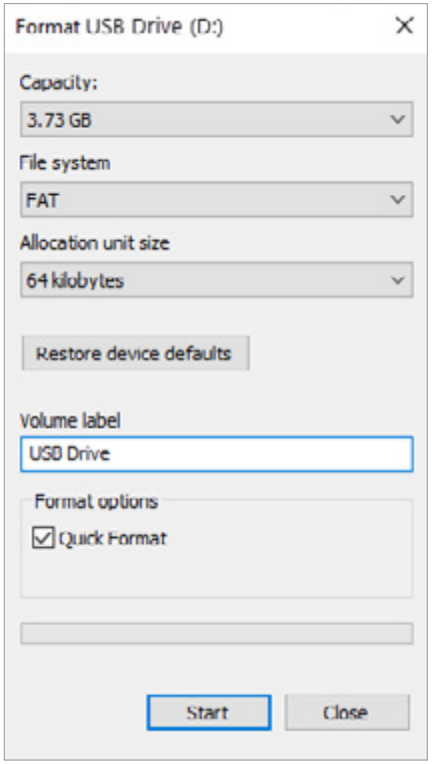
Setup secondary DDBC1200s

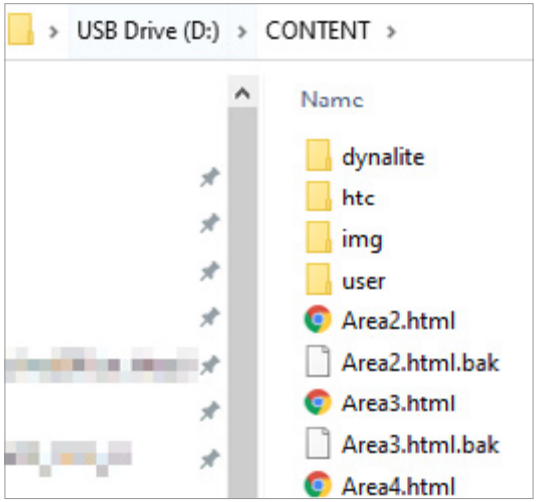
1. Select the first secondary DDBC1200 controller.
2. Open the tab **Outputs** and select the checkbox **Duplicate** for all channels.
3. Repeat for all other secondary DDBC1200 controllers.

D.4.4 Finalize configurations

1. Select either a DDBC or DDRC controller.
2. Set the Base Link Area (BLA) to the following scheme:
   - Sales Floor: BLA 2
   - Storage Area/Back of House: BLA 3
   - Outdoor (if applicable): BLA 4
3. Repeat for all DDBC or DDRC controllers.
4. On the PDDEG-S Site Gateway, create a metric “Device Online Status”. Upload all configuration data to the Site Gateway.
5. Right-click each device and select **Save To Device**. Select **Resave all device data** and click **OK**.
6. Save the job file to the cloud. Keep a backup of it on your local computer.

Appendix D - Upgrade of a Store system with touchscreen





D.4.5 Install UI on the touchscreen

For DTP100

1. Use a Windows PC to format the USB thumb drive. Select as *File system*: **FAT**.

Important

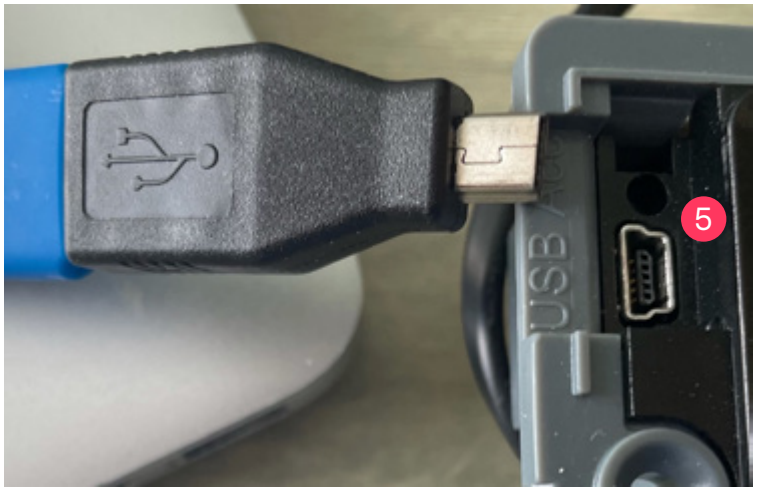
Don't format the USB thumb drive with FAT32.

Note

In case you're using a USB thumb drive with a larger memory than 4 GB, see the Knowledge Base with instructions how to format that device with FAT, or submit a C4CS ticket.

2. Create a folder **Content**. Copy the content files of the UI package file directly in this folder.

Appendix D – Upgrade of a Store system with touchscreen



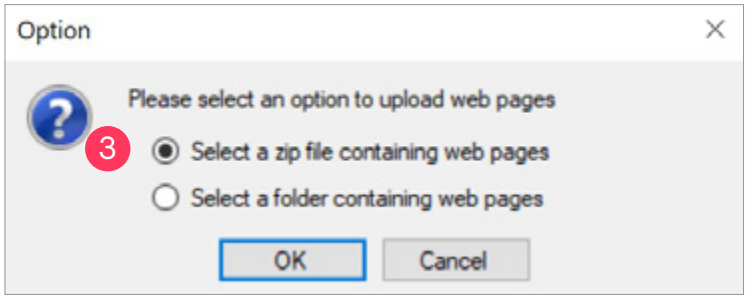
3. Use the USB adapter to insert the USB thumb drive into the port **USB ACC** located at the top left of the touchscreen.
4. Press the **Reset** button to reboot the device.
   The installation process starts automatically; the message **Copying Content Files** shows on the screen.

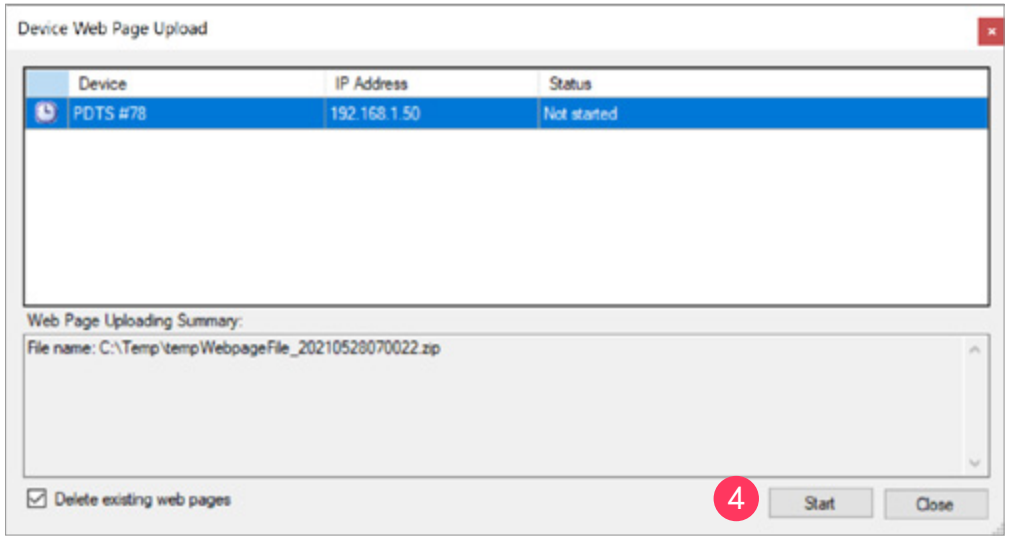
Note

It takes about two minutes to complete the installation.

5. Remove the USB adapter and USB thumb drive and attach the front panel.

Appendix D – Upgrade of a Store system with touchscreen





For PDTS

1. Connect the PC to the system using the DTK622 PC node.

> **Note**
> Make sure the IP address of the PDTS is accessible for the PC.

2. Right-click the PDDEG-S and select **Upload Custom Web Pages**.
3. Select **Select a zip file to upload**, select the UI package file and click **OK**.
4. Select the **Delete existing web pages** checkbox and click **Start**.

> **Note**
> It takes only a few seconds to upload the files, after which the PDTS shows the new Local Control UI.

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R03, 10 May 2023

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