interact

Commissioning: offsite preparation

Architecture FLX - Multisite

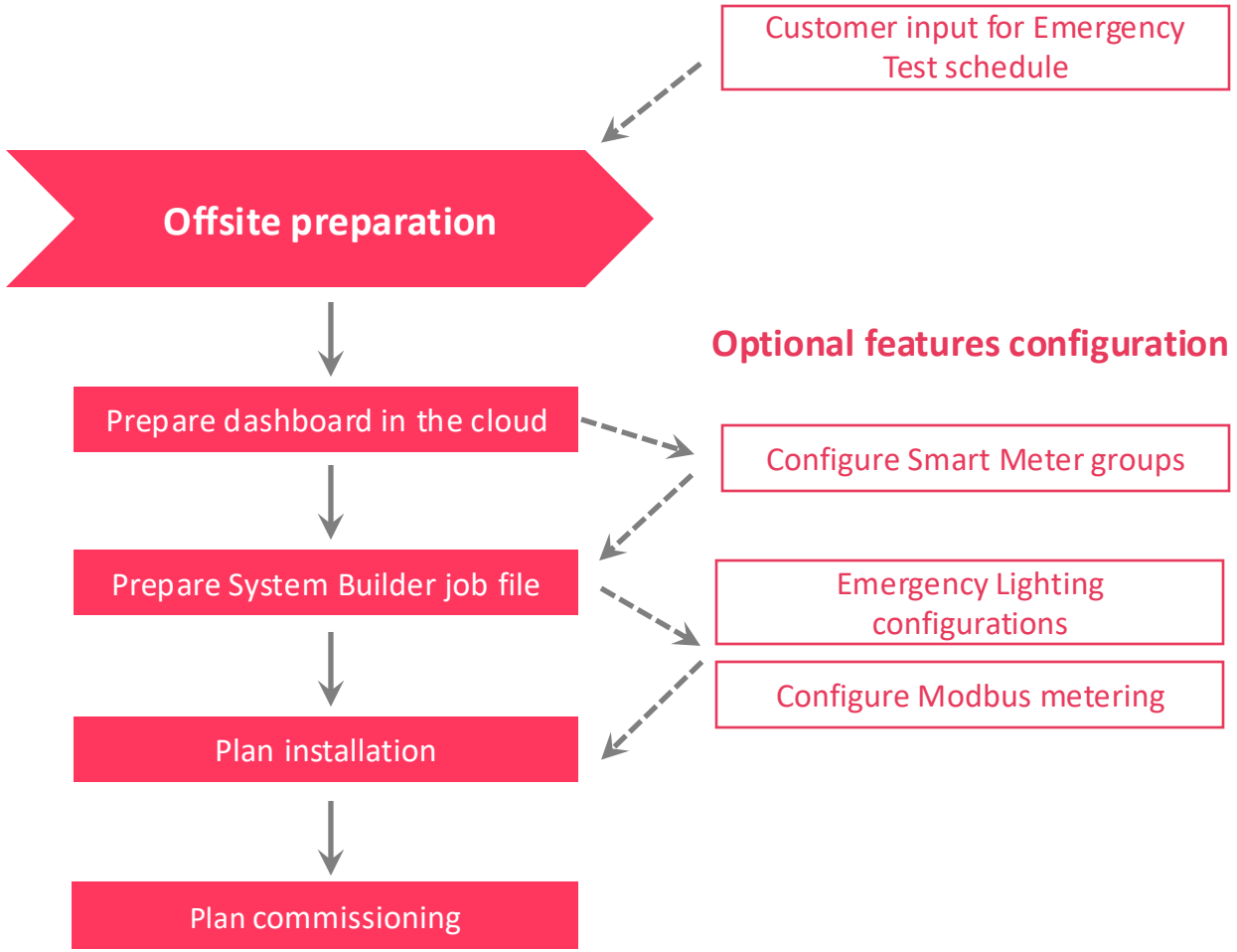
Learning objectives | Multisite offsite preparation

At the end of this lesson, you should be able to:

- Describe the steps required for the off-site commissioning process.
- Be familiarized with the tools needed for online commissioning.

Prerequisites:

1. Chrome web browser
2. Philips Dynalite Enabler app
3. System Builder >4.43 with technician licens
4. Connectivity Toolbox software



Multisite offsite preparation | Naming convention alignment

It is extremely important to keep consistent naming convention, during entire preparation process.

The naming convention covers the Areas, Child Areas, Scenes and Logical Channels.

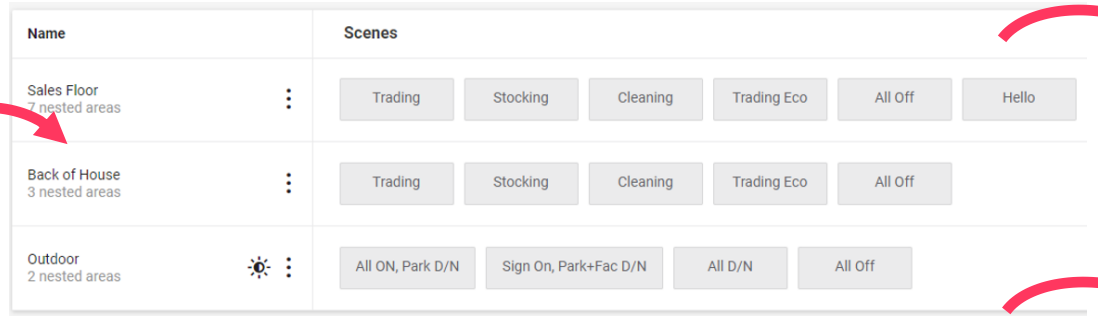
The convention is first aligned with the customer by means of the ***Project Template*** form, and defined per customer, not per store or format.

Then, the naming is being used during preparation of the Dashboard in the cloud, and later-on mirrored to the System Builder configuration.

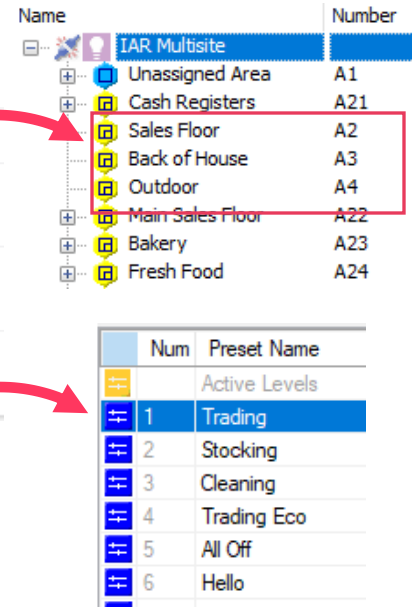
Project Template form

Area 1	Area 1 scenes	
Sales Floor #2	Trading #1	All Off #5
Define Child areas and Logical channels on page 7	Stocking #2	Hello #6
	Cleaning #3	
	Trading Eco #4	
Area 2	Area 2 scenes	
Back of House #3	Trading #1	All Off #5
Define Child areas and Logical channels on page 11	Stocking #2	
	Cleaning #3	
	Trading Eco #4	
Area 3	Area 3 scenes	
Outdoor #4	All ON, Park D/N #1	
Define Child areas and Logical channels on page 13	Sign On, Park+Fac D/N #2	
	All D/N #3	
	All Off #4	

Dashboard – Cloud configuration



System Builder



interact

Prepare dashboard in the cloud

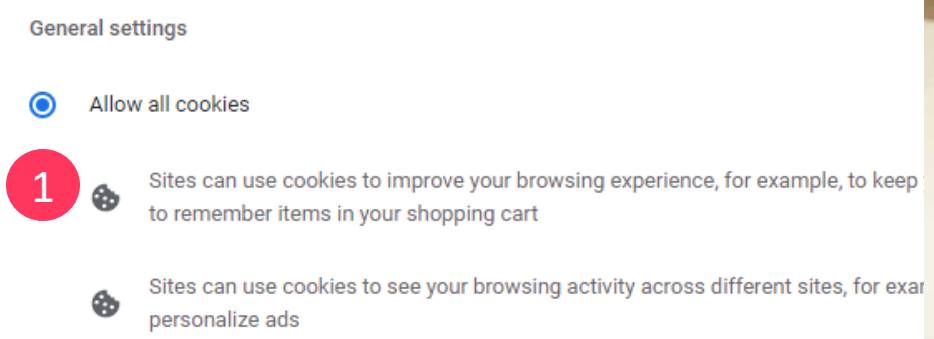
Architecture FLX - Multisite

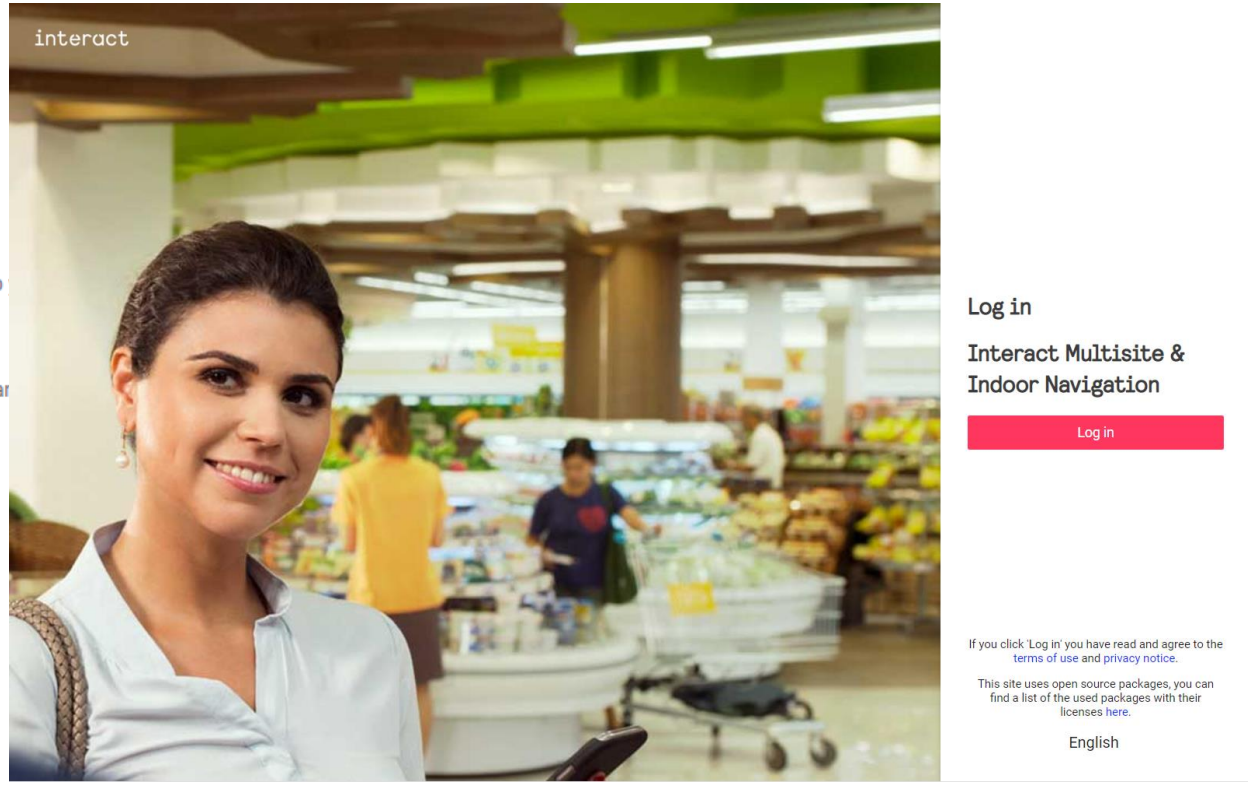
Interact Cloud | Prepare dashboard in the cloud

Multiple web browsers support the usage of the IAR Retail dashboard.

Google Chrome, Microsoft Edge, Mozilla Firefox, Apple Safari.

1. In the browser settings, change the cookies setting to **Allow all cookies**
2. Browse to the web page with the address: www.eu.retail.interact-lighting.com
3. Login and follow the authentication steps.



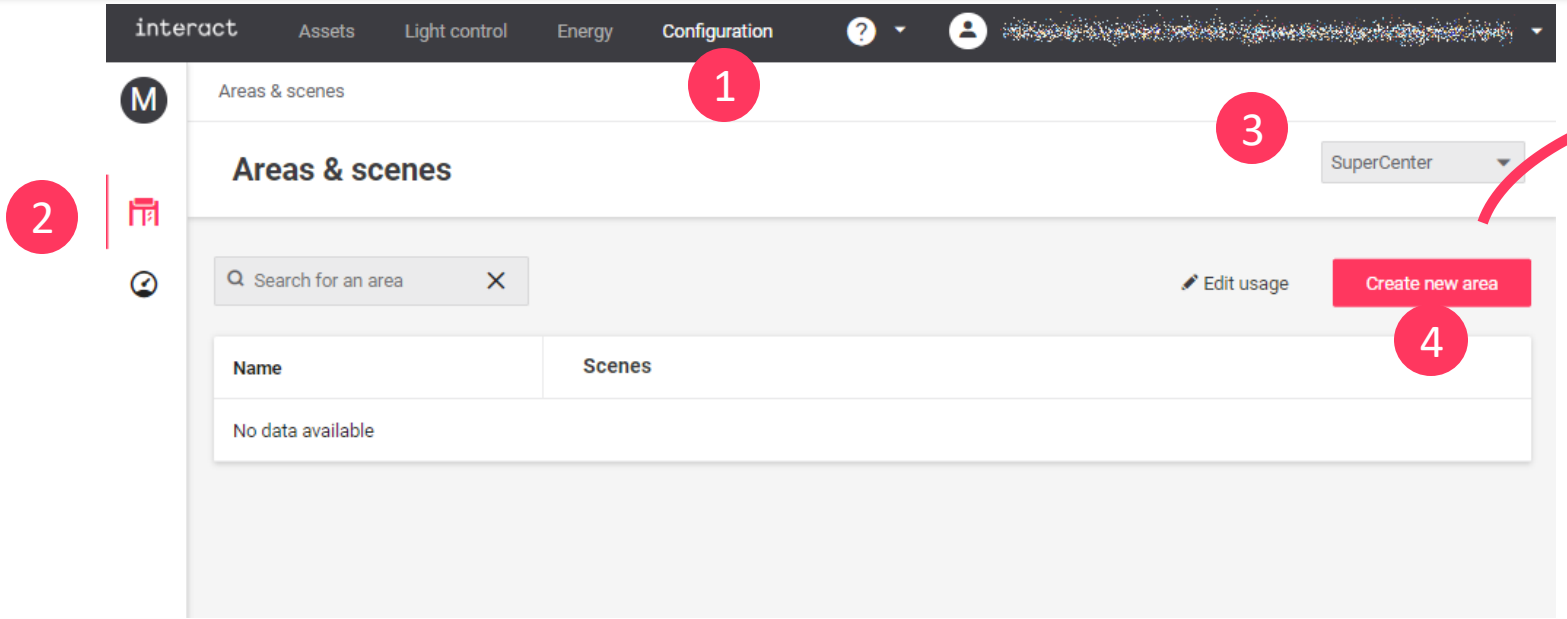


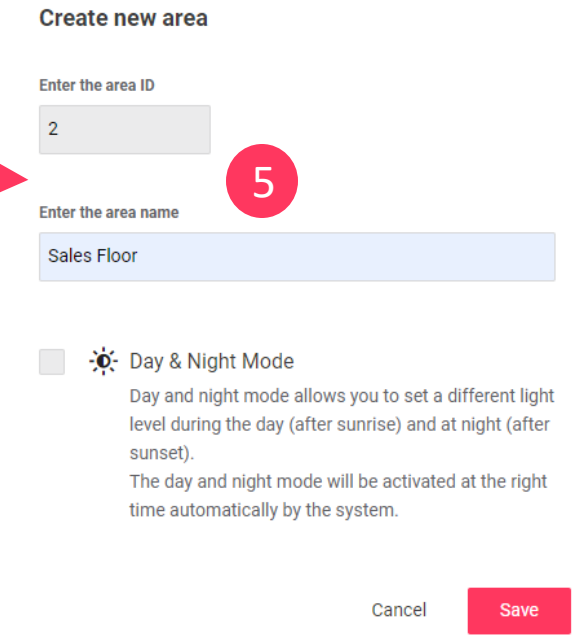
Interact Cloud | Add parent areas

1. In the top menu, click **Configuration**
2. On the left pane, select **Area & Scenes**
3. Select **Format** (for a specific format) or **None** (for all customer formats)
4. Click **Create new area**
5. Enter the Parent Area **name** and **ID** (align with Project Template form)**,** and press **Save**
6. Repeat for all Parent Areas

Optionally enable **Day & Night Mode**

Parent Area ID alignment is suggested to be consecutive (Area IDs 2, 3, 4….), starting from ID 2
Projects with many Child Areas can use Parent Areas 2, 4, and 6 to allow up to 20 Child Areas each

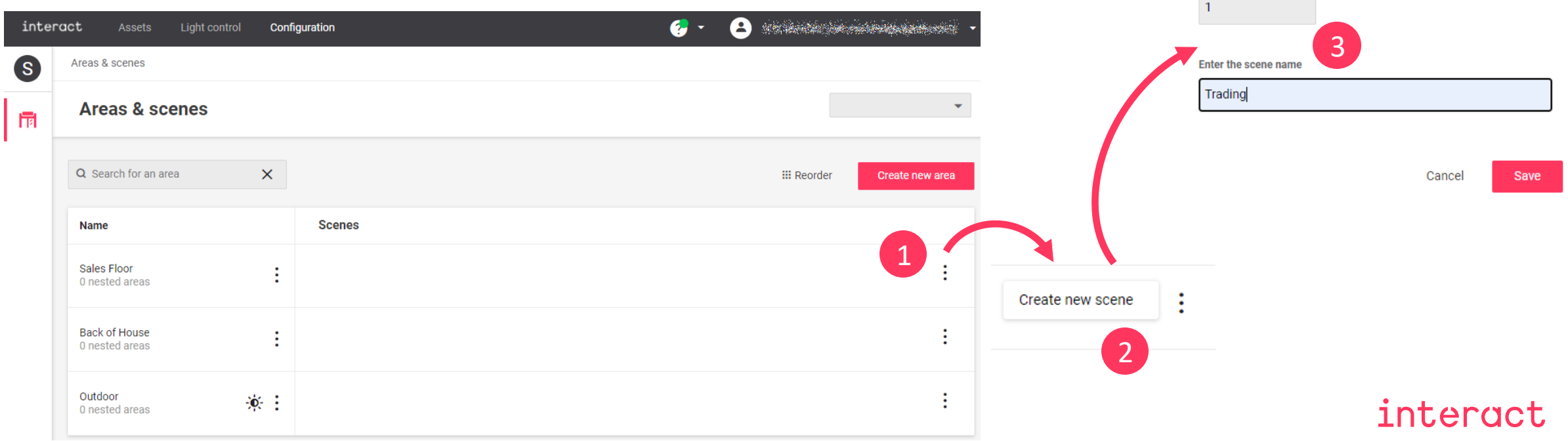




Interact Cloud | Add scenes

1. Hover over the action menu icon (⋮)
2. Click **Create new scene**
3. Enter the Scene **name** and **ID** (align with Project Template form)**,** and press **Save**
4. Repeat for all Scenes within each Parent Area

Scenes ID alignment is suggested to be consecutive (Scene IDs 1, 2, 3….)

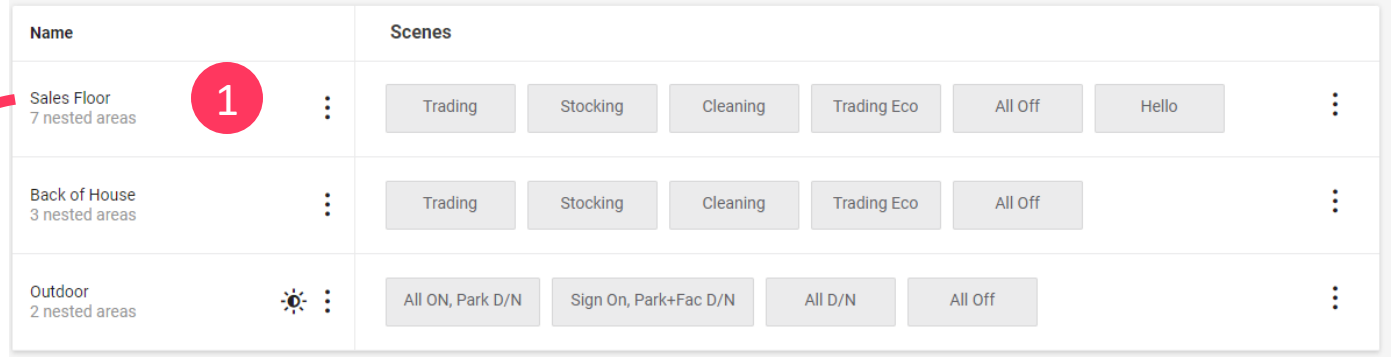


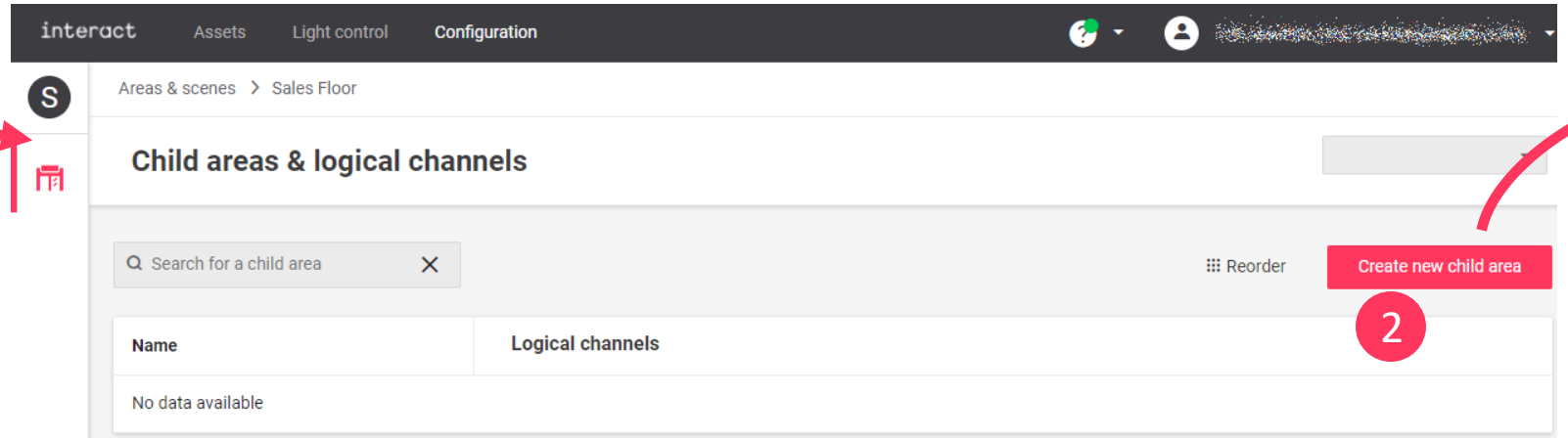
Interact Cloud | Add child areas

1. Click on the Parent Area, to show the list of child areas
2. Click **Create new child area**
3. Enter the Child Area **name** and **ID** (align with Project Template form), and press **Save**
4. Repeat for all Child Areas

It is suggested to assign Child Area ID, taking the ID of the Parent Area as a base.

For example: Parent Area ID = 2, Child Area ID's 21, 22, 23….





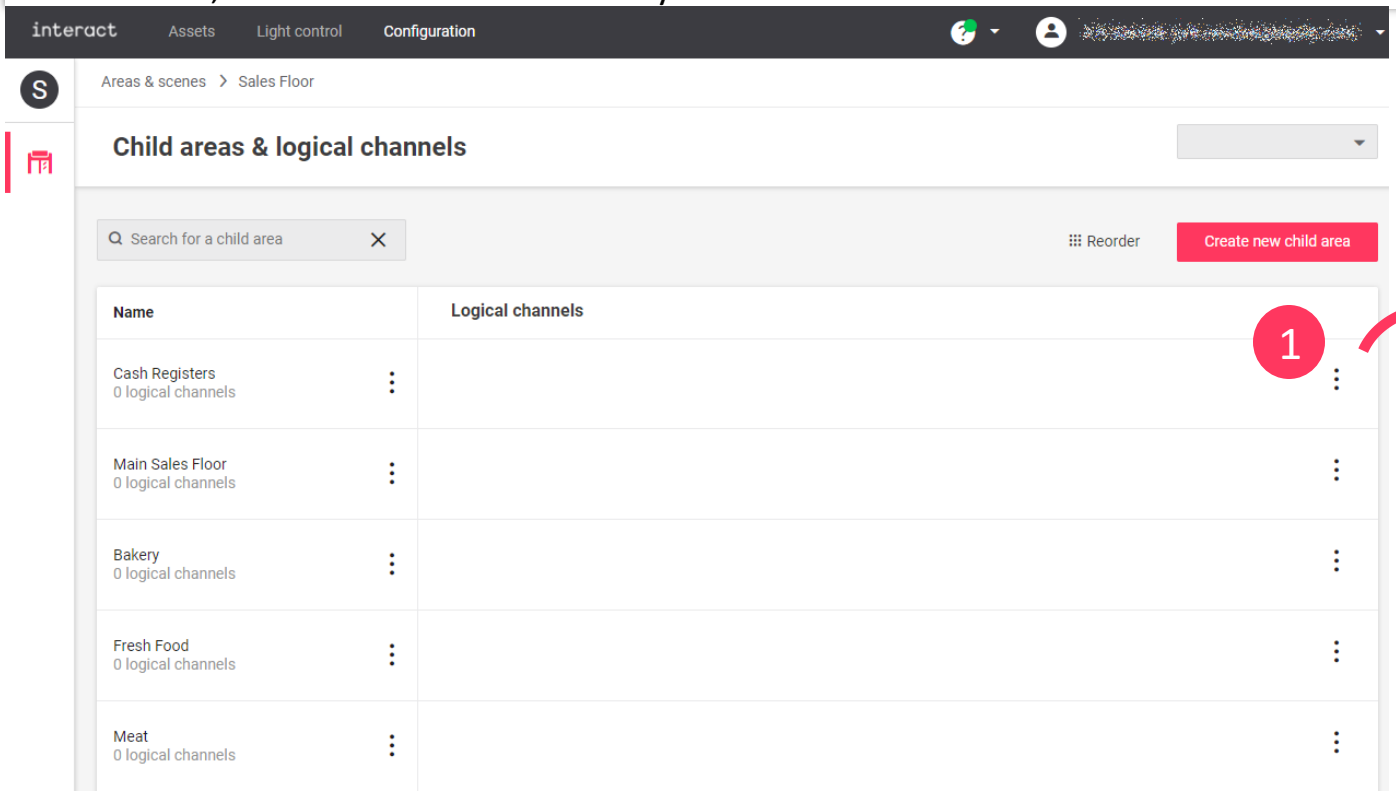
Interact Cloud | Add logical channels

1. Hover over the action menu icon (⋮)
2. Click **Create new logical channel**
3. Select the type of the Logical Channel
4. Enter the Logical Channel **name** and **ID** (align with Project Template form), and press **Save**
5. Repeat for all Logical Channels within each Child Area

Channels ID alignment is suggested to be consecutive (Channel IDs 1, 2, 3….)

For all Areas, make sure Channel 1 is always used.

Correct energy data reporting requires ON/OFF and dimmable outputs to be in different Logical Channels.

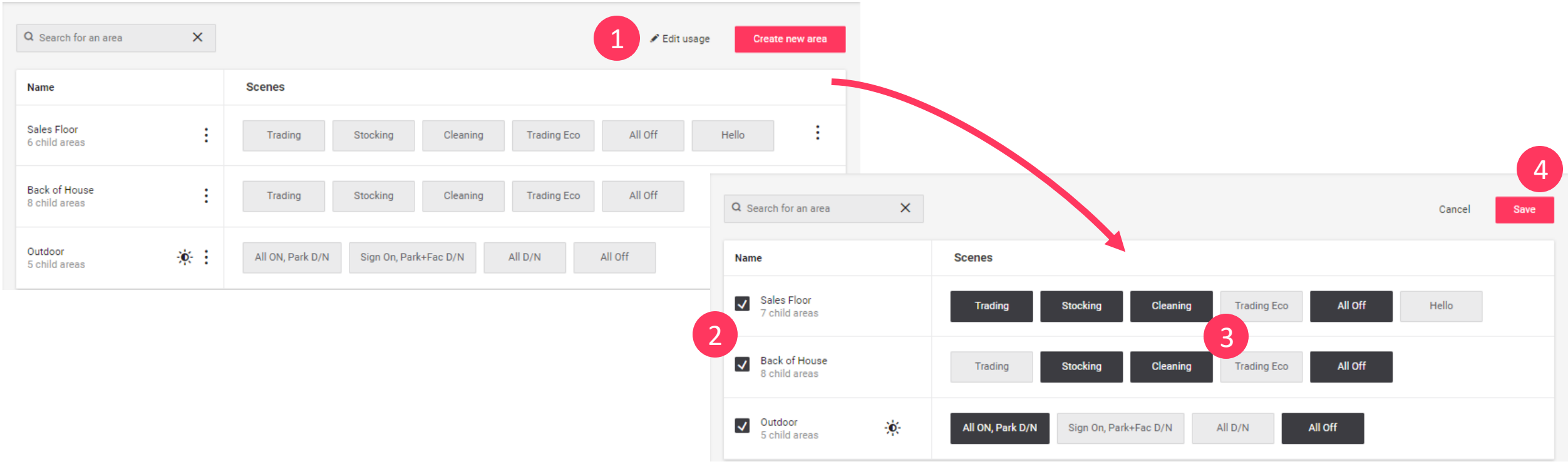


interact

Interact Cloud | Edit usage of areas, scenes and channels

In the Parent Area, or the Child Area view:

1. Click **Edit usage**
2. Use the check box to enable / disable Areas (Parent Areas or Child Areas)
3. Select the Scenes or Logical Channels to enable / disable them. Dark theme means that scene or channel is enabled
4. Click **Save**

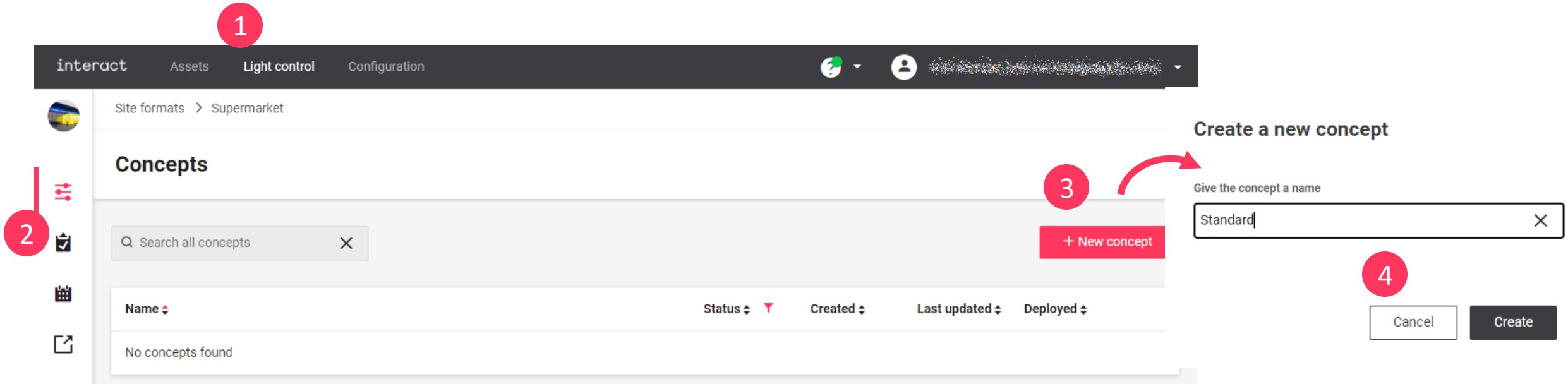


Interact Cloud | Create concept

For a new format and cloud configuration, there is a need to create default **concept**.

Concept is a set of different lighting scenes and channel levels, designed for each Parent Area.

1. In the top menu, click **Light control**
2. On the left pane, select **Concepts**
3. Click **+New concept**
4. Give the concept a name and click **Create**

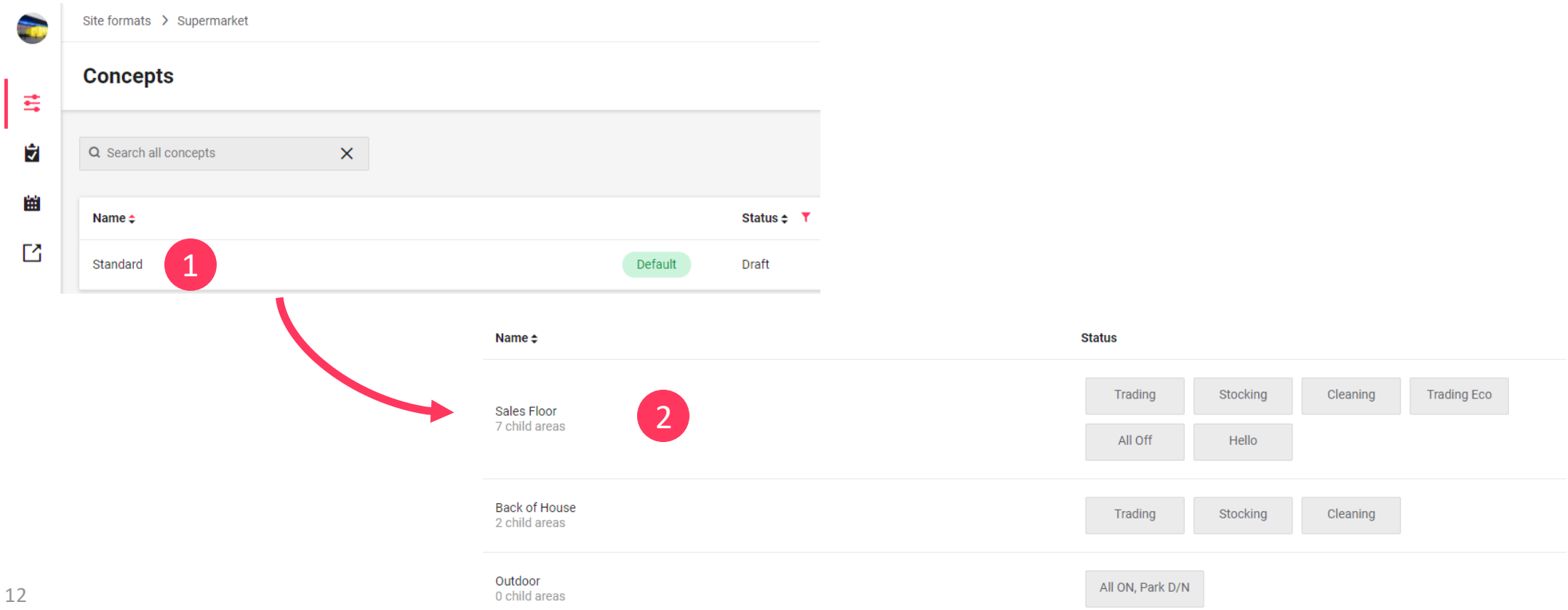


Interact Cloud | Edit concept 1/3

It is only possible to edit **concept**, with the status **Draft**. It is not possible to edit **Deployed** concepts

To modify settings of the deployed concept, **create a Clone** of the **Deployed concept** first, and then start editing.

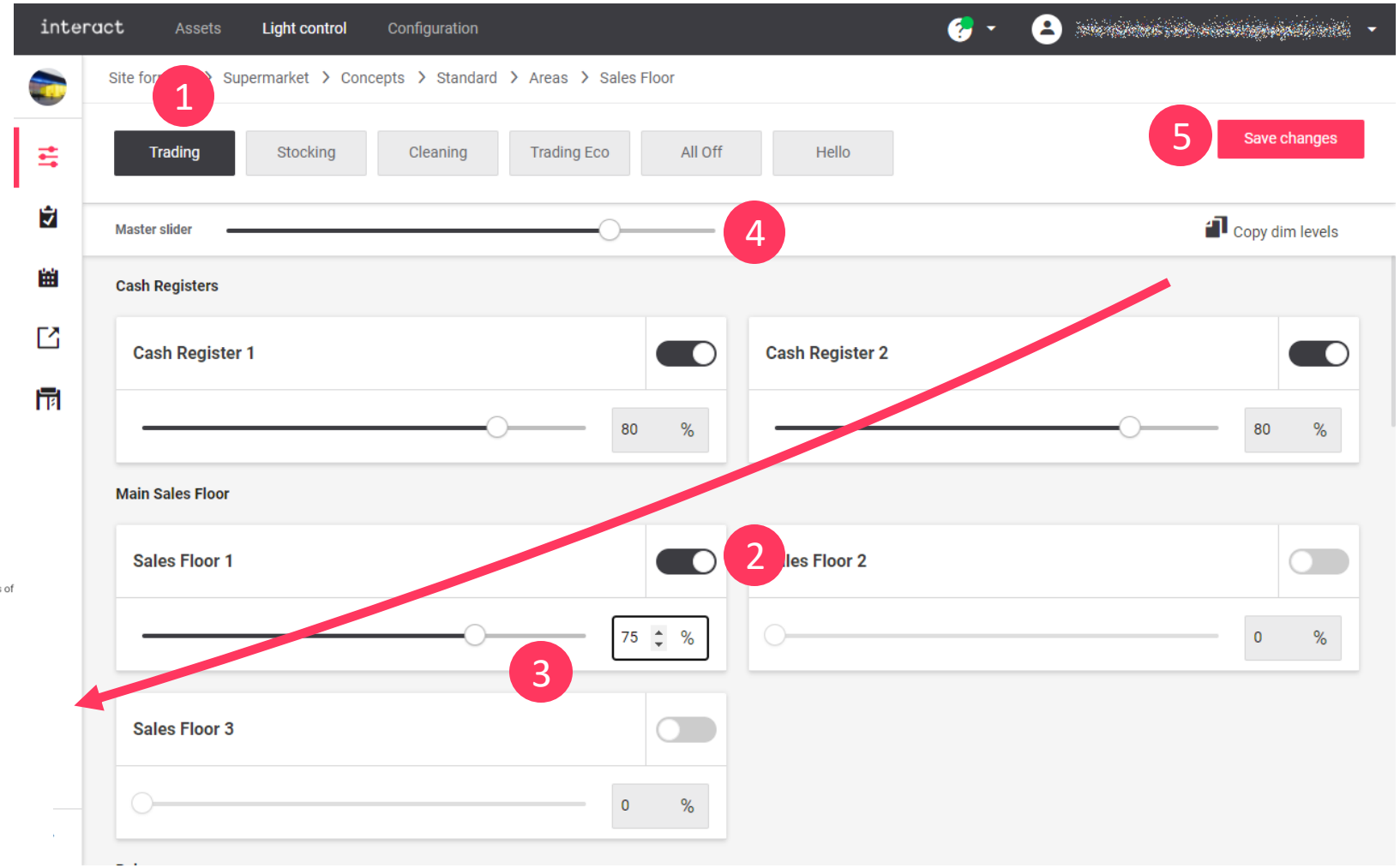
1. Click on the name of a created concept
2. Click on the row of the Parent Area to start editing **concept** for that area

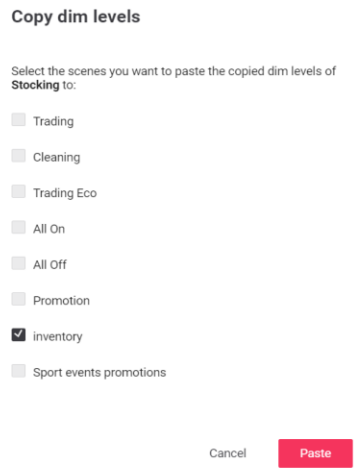


Interact Cloud | Edit concept 2/3

Start editing the light settings for the area:

1. Select a Scene to edit channel level settings
2. Switch the zone **ON** or **OFF,** using a toggle switch
3. Move the **dim slider** to adjust light level, or enter the value in the box
4. Use the **Master slider** to change the relative dim level of all zones that are switched to ON
5. Click **Save changes**
6. Repeat for the other scenes in the area
7. Repeat for the other Parent Areas in the concept





If you want to use the same levels on different Scenes just Copy dim levels and choose the Scenes you want to apply those in. Afterwards, you can fine tune those copied levels if needed.

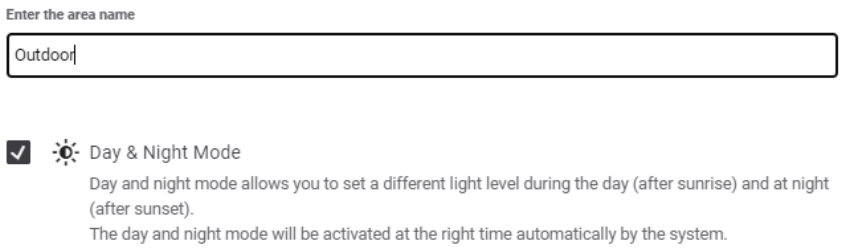
Interact Cloud | Edit concept 3/3

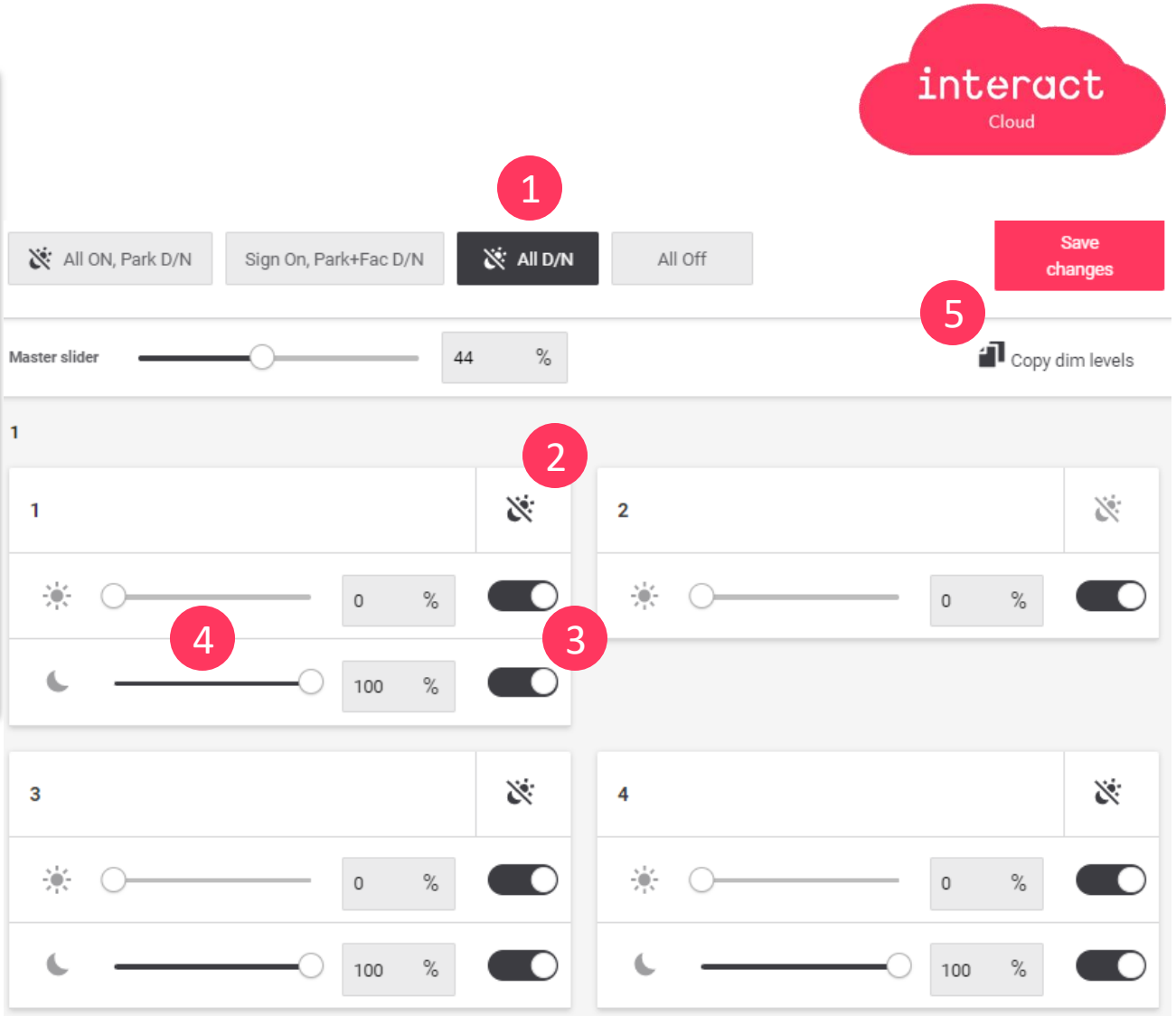
When one of the Parent Areas has the **Day & Night Mode** enabled, a specific configuration for scenes applies.

1. Select a Scene to edit channel light settings
2. Click on the **Sun & Moon** on, to activate the **day-night** setting. Two sliders show up, one for day, another for night.
3. Switch channels **ON** or **OFF**
4. Move the **dim sliders** to adjust light levels, for day and night.
5. Click **Save changes**
6. Repeat for the other scenes in the area, if the **Day & Night Mode** applies

Day and **Night** are determined by the Astro-clock functionality on the gateway

After sunrise, the Day setting is applied and after sunset, the Night setting.

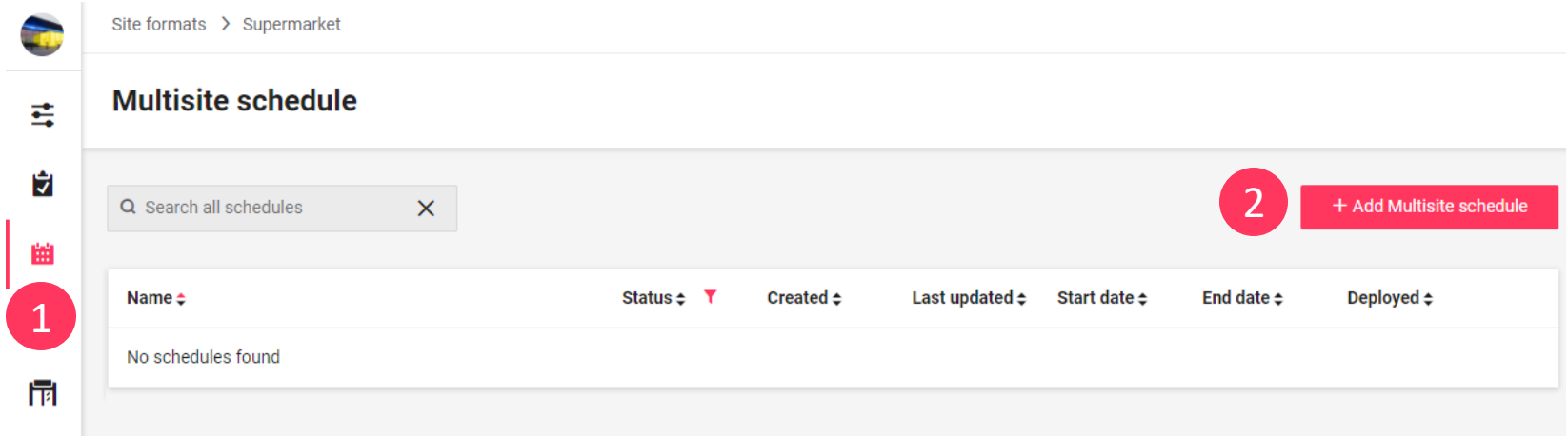


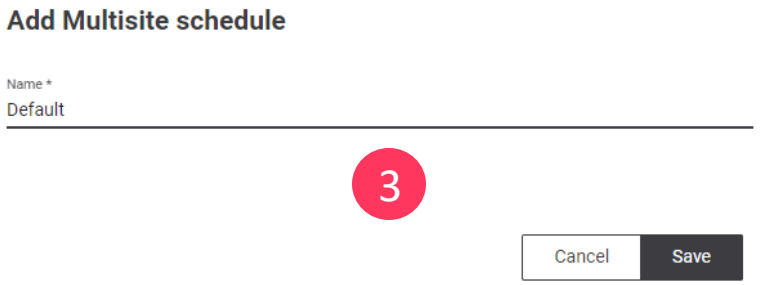


Interact Cloud | Add schedule 1/3

Each format requires a default **schedule**.

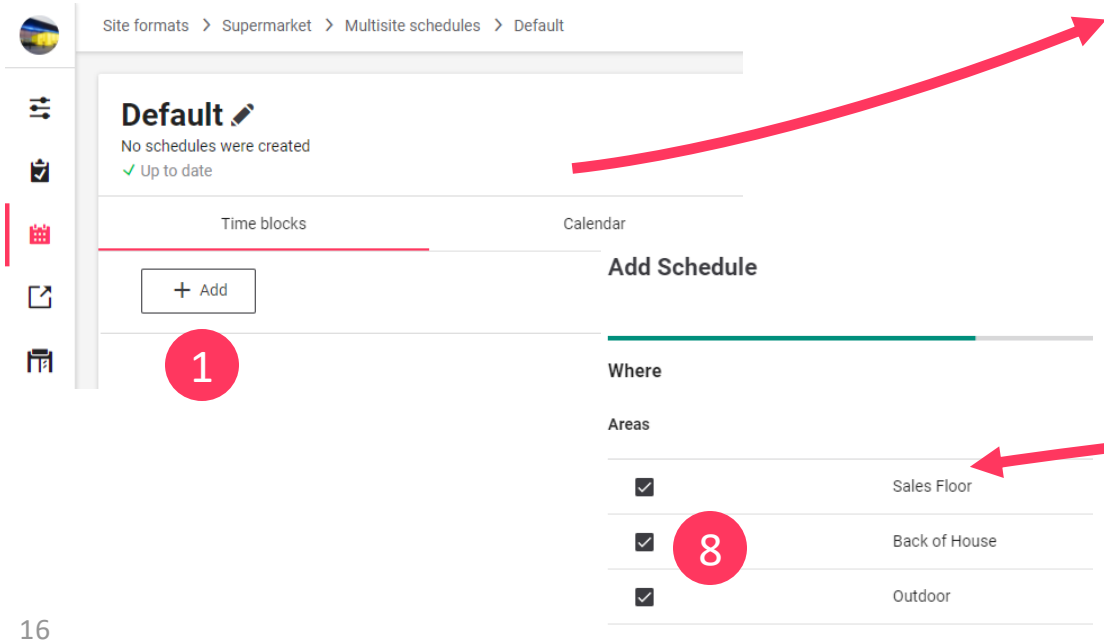
1. In the Light control tab, on the left pane, select **Schedules**
2. Click **+Add Multisite schedule**
3. Give the schedule a name and click **Save**

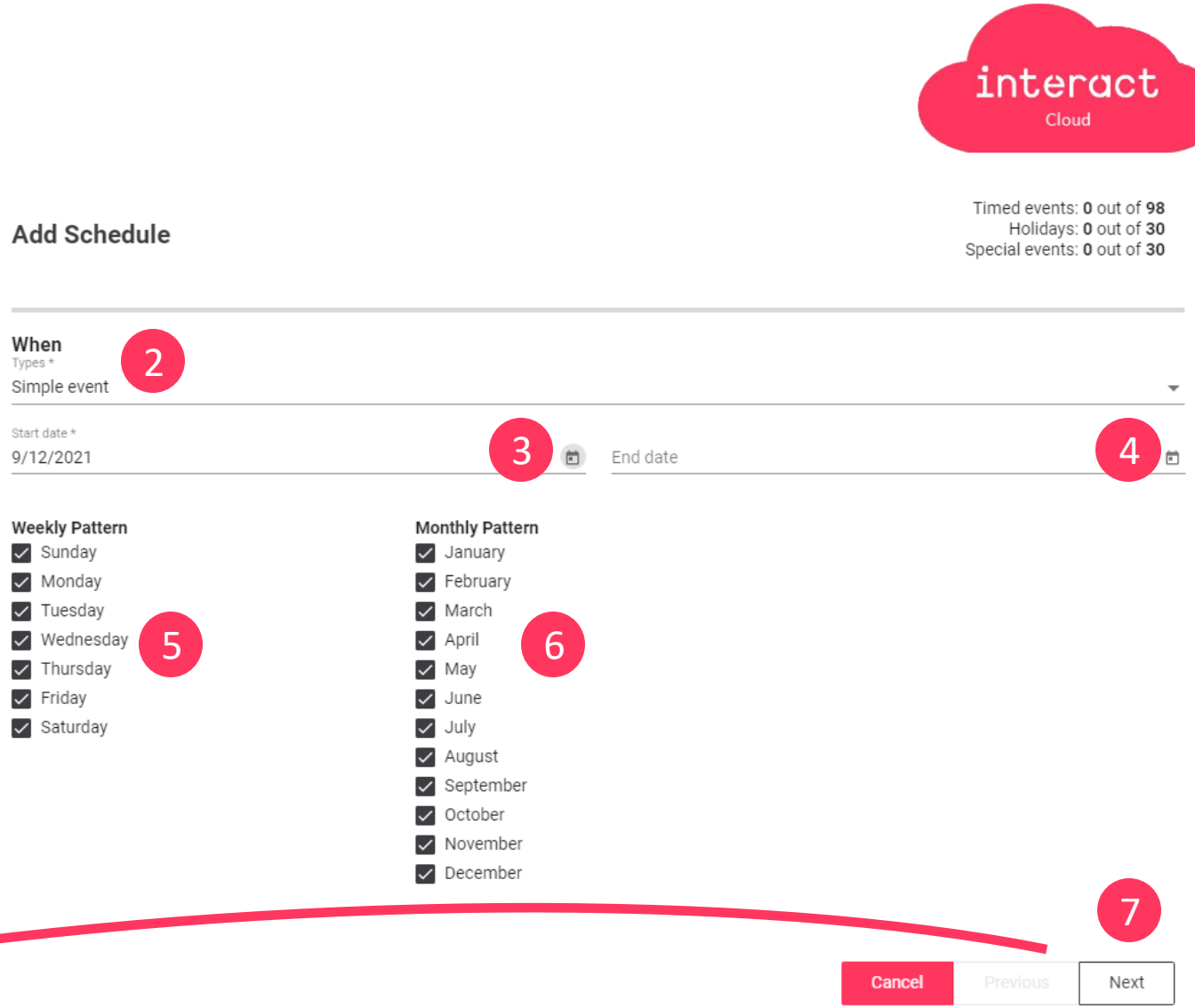




Interact Cloud | Add schedule 2/3

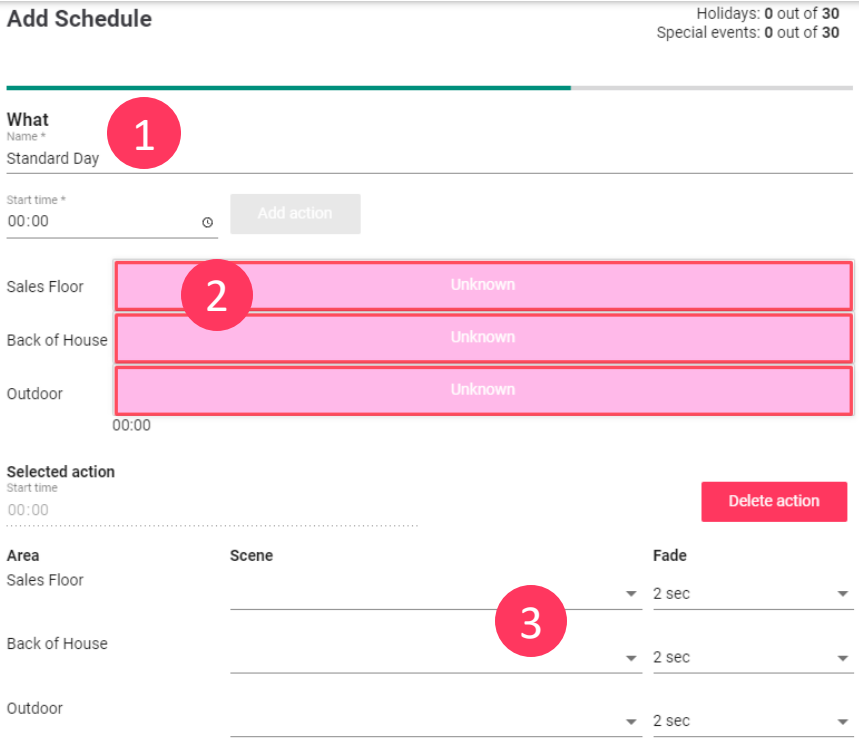
1. Click **+Add** to start creating the schedule
2. Select the **Type** of event (Simple event, Holiday, Special event)
3. Click the calendar select the **Start date**
4. Click the calendar specify the **End date**
5. Clear/select the days for the **Weekly Pattern**
6. Clear/select the months for the **Monthly Pattern**
7. Click **Next**
8. Select to which **Areas** the schedule applies, then click **Next**

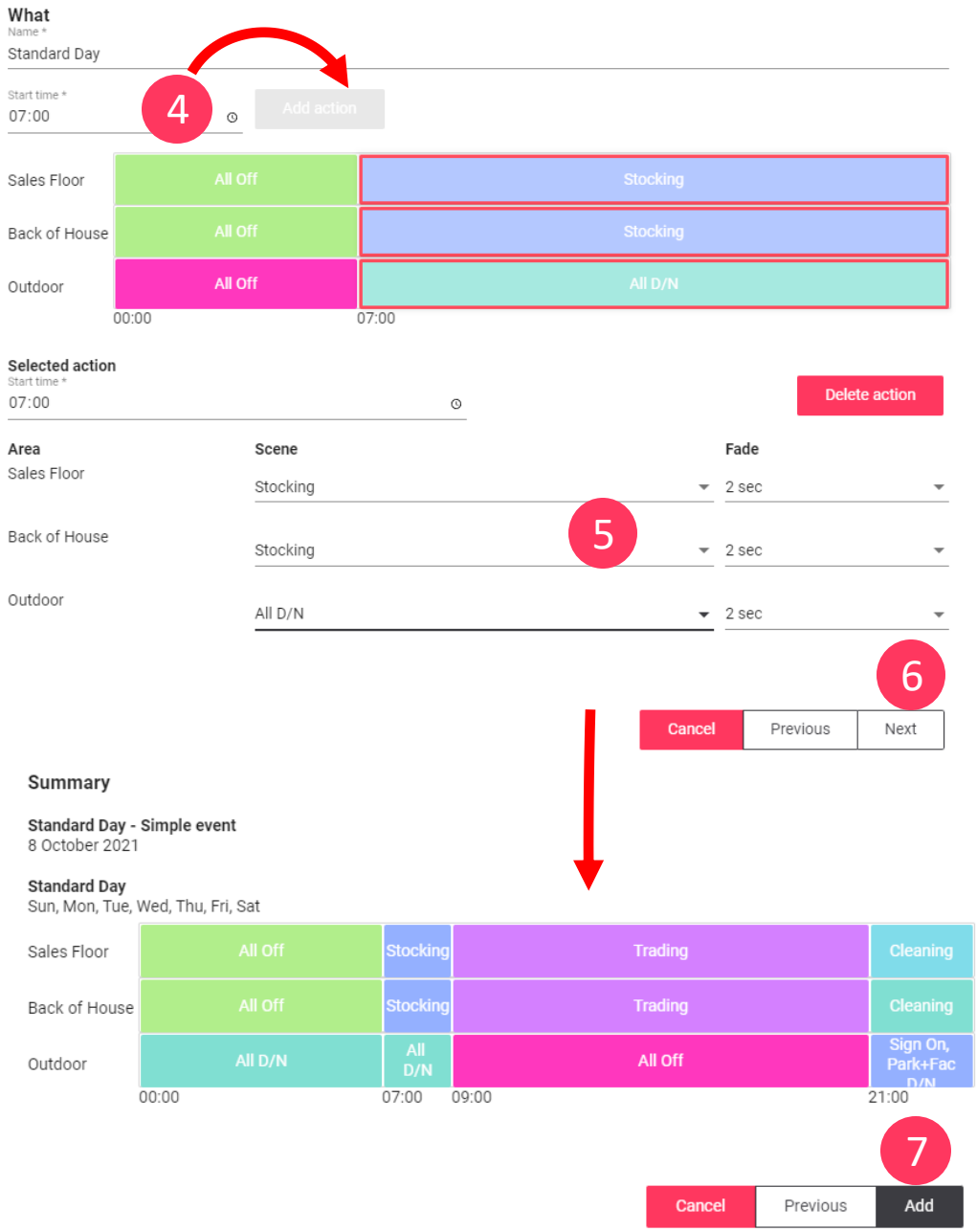




Interact Cloud | Add schedule 3/3

1. Enter the **Name** for the schedule (e.g., Standard Day)
2. Keep start time at **0:00** and click on the **Unknown** scene
3. Select the **Scene** and desired **Fade** time
4. Click the clock ⏲ ɔ define the **Start time** and press **Add Action**
5. Select the **Scene** and **Fade** time
6. Repeat for other desired timeframes, then click **Next**
7. Verify created schedule, and click **Add**



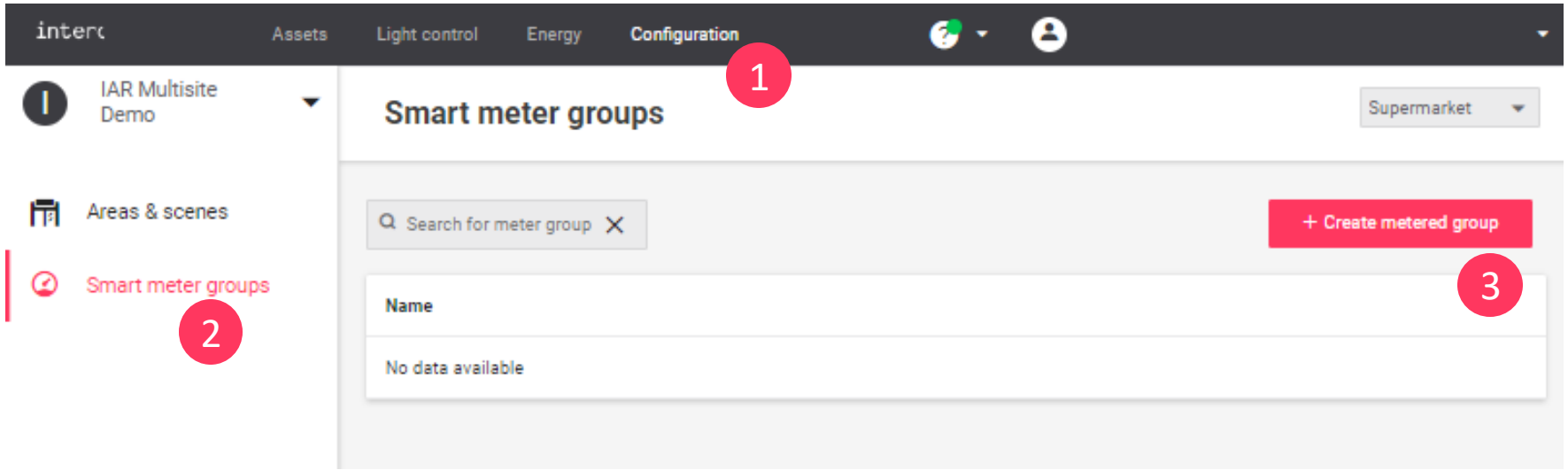


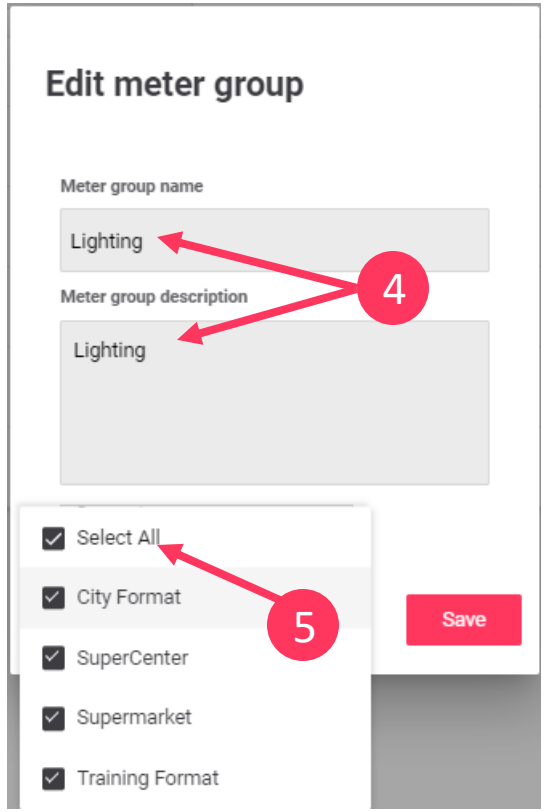
Interact Cloud | Add Smart meter groups

This step is only required when **smart meters** are used in the project to measure energy consuption.

To configure **Smart meter groups** in the Multiste dashboard:

1. Go to the **Configuration** tab.
2. On the left menu, select **Smart meter groups**.
3. Click **Create metered group** to create one.
4. Enter a **Group name** for the metered group and provide a **Group description**.
5. Click the dropdown and select **Select All**. Click **Save**.
6. Add all required Smart meter groups (power zones) by repeating the steps above.





interact

Prepare System Builder job file

Architecture FLX - Multisite

Multisite offsite preparation | System Builder job file Template

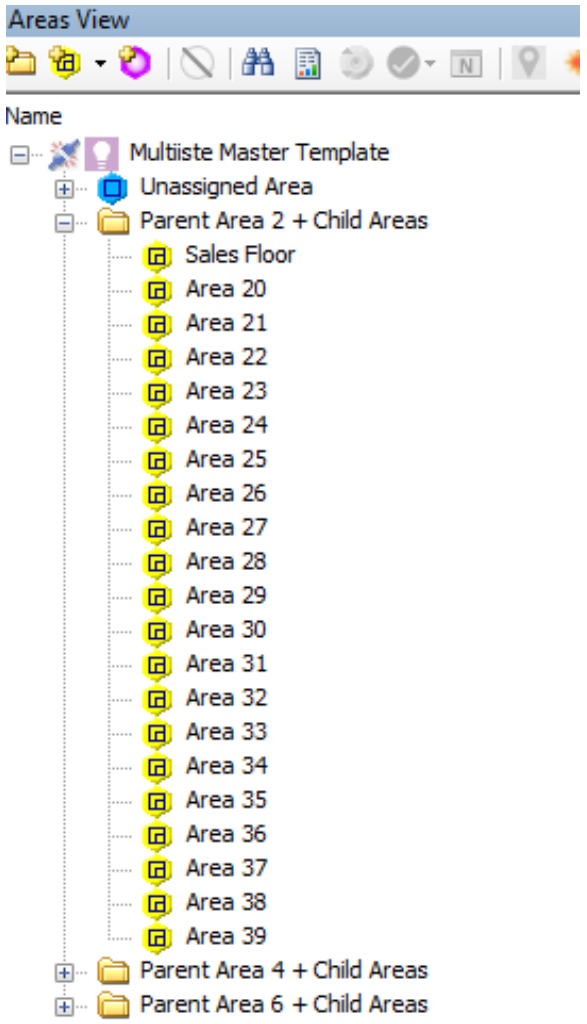
Commissioning with System Builder job file template:

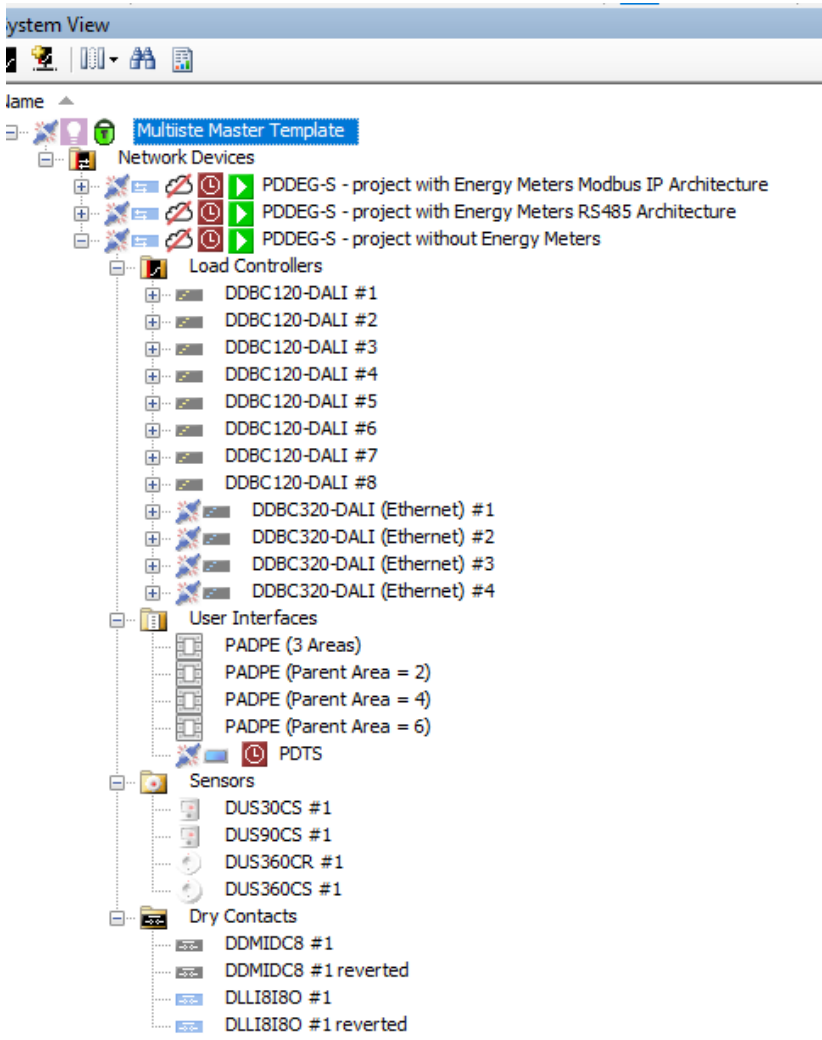
- Speeds up commissioning
- Minimizes errors
- Requires fine tuning to match the Project Template PDF form and the Cloud configuration.

Download the SB job file template from the Partner Portal that matches your PDDEG-S hardware version (new projects will have PDDEG-S v3 which has 2 RJ45 ports):

Software and Tools> FLX> multisite> **Multisite Master Template**

*You can edit the SB job file template to match your Customer requirements and apply it in multiple sites. Avoid reusing site projects that are already stored in the cloud as they attach certificates that can't be reused in other projects.





interact

System Builder | Clean up Template

1. Open the **Multisite Master Template** SB job file.

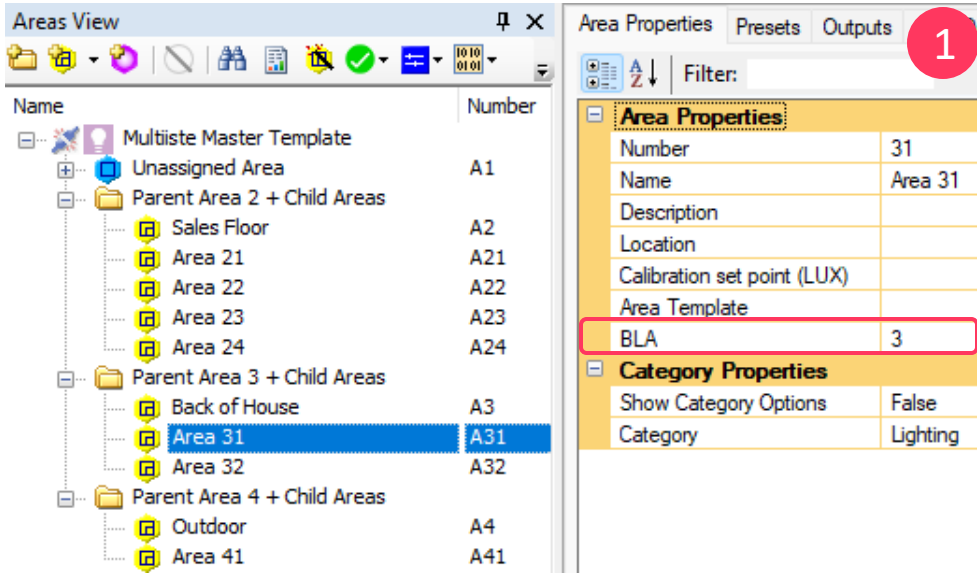
2. In **“Areas”** view, **delete Areas** that are not supposed to be in use based on **Project Template Form**.

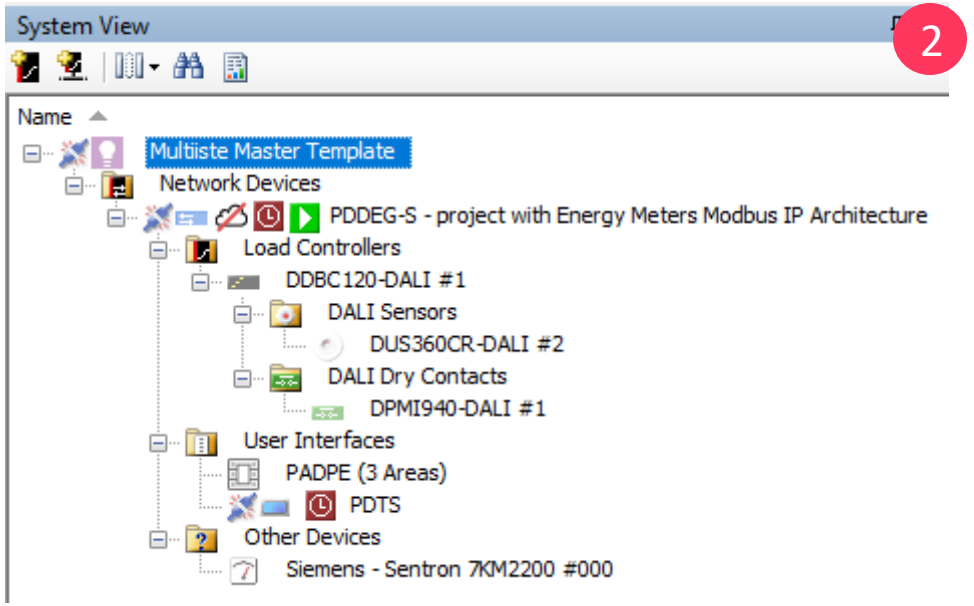
   - Ensure Areas have proper numbers according to the **Project Template Form**
   - Check folder names and adjust if appropriate.
   - Check Areas Properties tab, are the BLA's set properly ?

3. In “**System**” view, delete all PDDEG-S except 1:

- Those 2 which don't match the architecture among:

- PDDEG-S - project with Energy Meters Modbus IP Architecture:
- PDDEG-S - project with Energy Meters RS485 Architecture
- PDDEG-S - project without Energy





System Builder | Timezone

1- Set the **Job file Location and Time Zone** to match the project requirements.

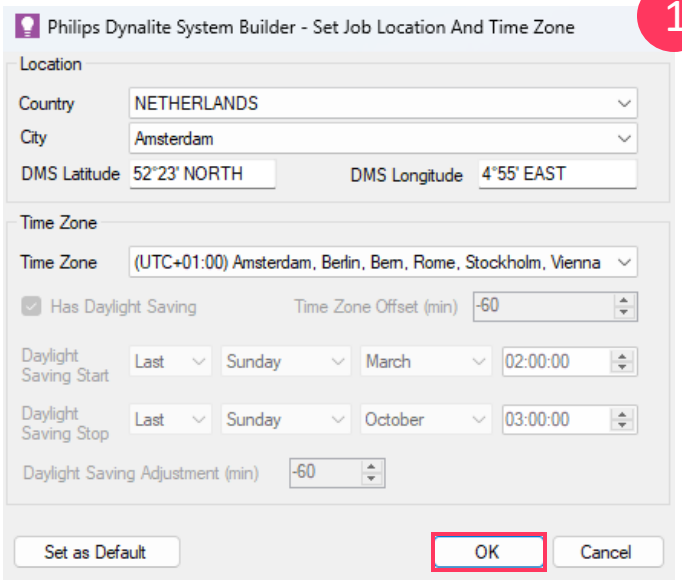
For that:

- Go to Tools from the top bar menu and select Set Location and Time Zone.
- Edit the settings if needed to match the project Location and Time Zone.
- **Click OK even if no changes are made**.

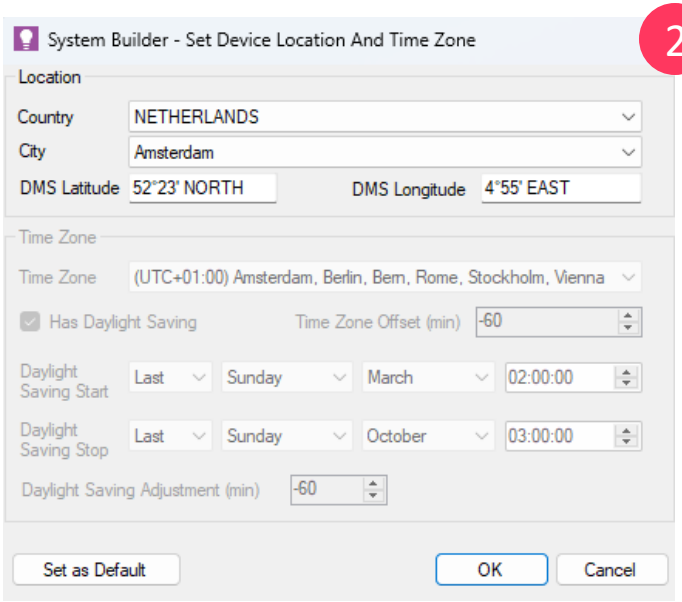
2- Set the **PDDEG-S Location and Time Zone** to match the project requirements. For that:

- Right click on the PDDEG-S and select Set Location and Time Zone.
- Edit the settings if needed to match the project Location and Time Zone.

1



2



interact

System Builder | Design Mode 1/4

System Designer is a tool which streamlines the process for generating control system design.

In order to use System Designer, a **technician license** for **System Builder** is required.

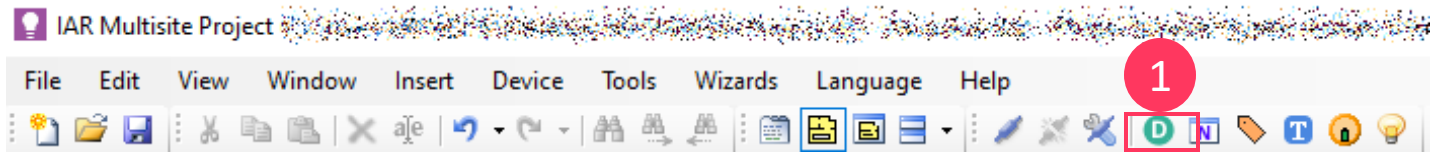
It's highly recommended to study the dedicated **User Guide** first:

in **System Builder** click **Help → User Guides** and select the **System Designer User Guide**.

PHILIPS dynalite System Designer System Builder Design Mode

<u>To start with project design:</u>

1. Click **Design icon** to start the **System Designer Mode**
2. Follow all the steps of the **Design Assistant**



interact

System Builder | Design Mode 2/4

Take special attention for the following attention points:

1. In step **5. Define Scale:**

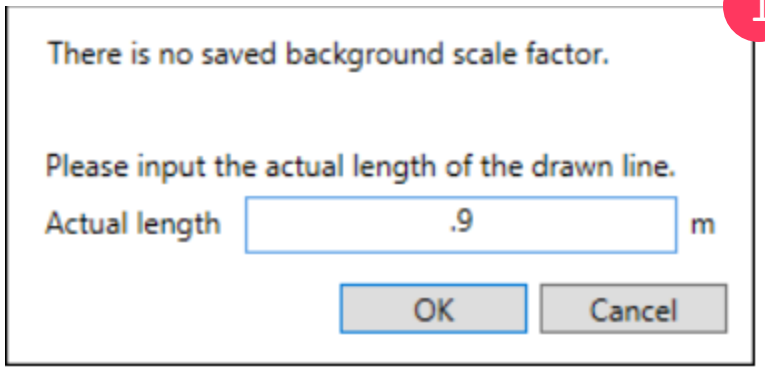
This step is essential to automatically calculate the Total Floor Area. There are two ways to define the Scale:

1. Draw Background Scale: search in the floorplan some reference with known length, such as a specific luminaire. Draw a segment on top of the chosen reference and enter the known length in meters on the pop-up window.

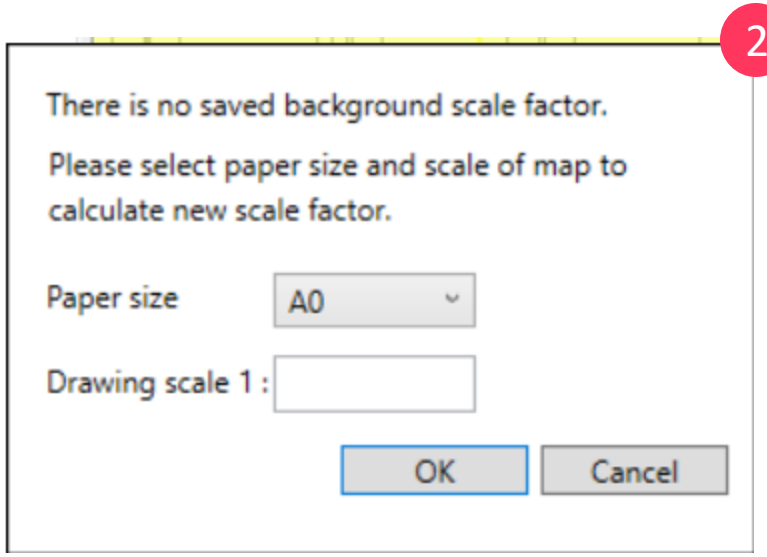
2. Enter Background Scale. If you already know the scale factor, you can directly introduce it. Be aware that the paper size of the floor plan needs to be set properly.

3. After using this method, you can verify if by drawing the scale you get a measurement result within the expected range.

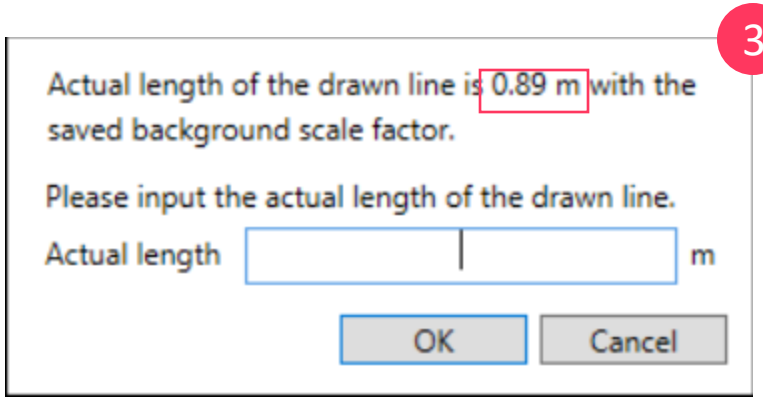
1



2



3



interact

System Builder | Design Mode 3/7

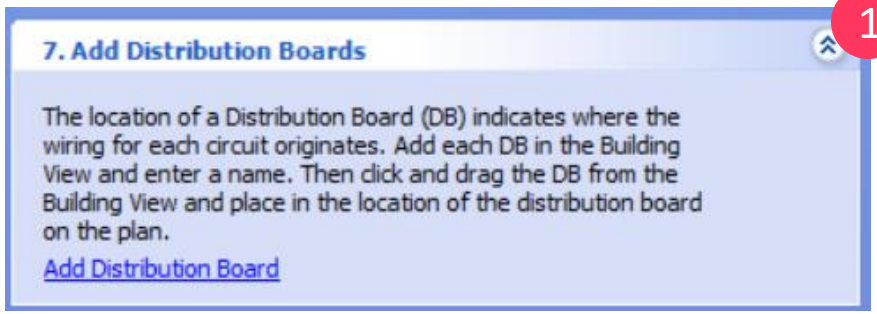
Consider the following attention points:

1. In step **7. Add Distribution Board:**

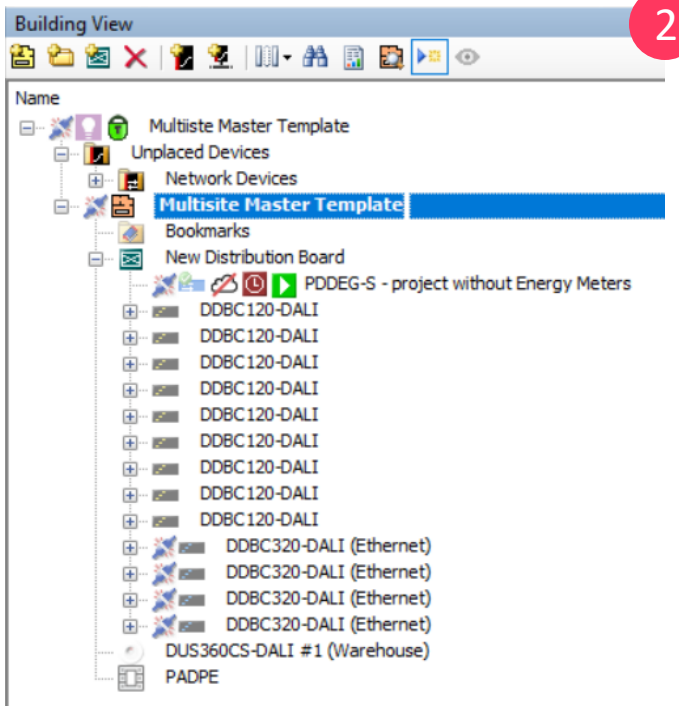
   Don't forget to drag the DB on the Floor Plan.

2. Additionally, drag and drop the PDDEG-S inside the DB on the Floor Plan. Repeat the process for any spur Load Controllers that will be used.

1



2



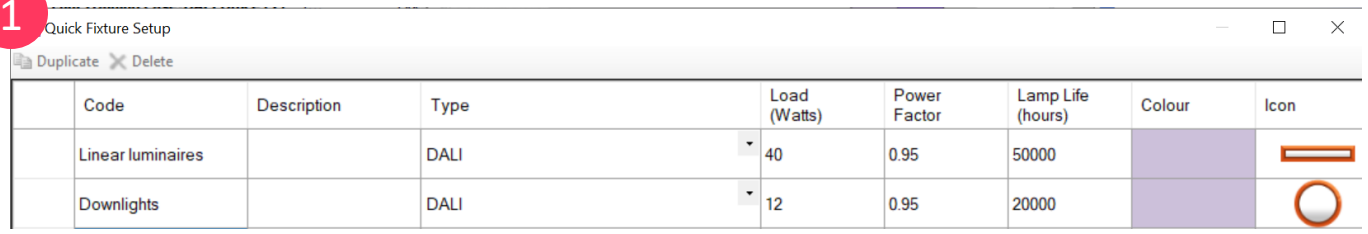
interact

System Builder | Design Mode 3/4

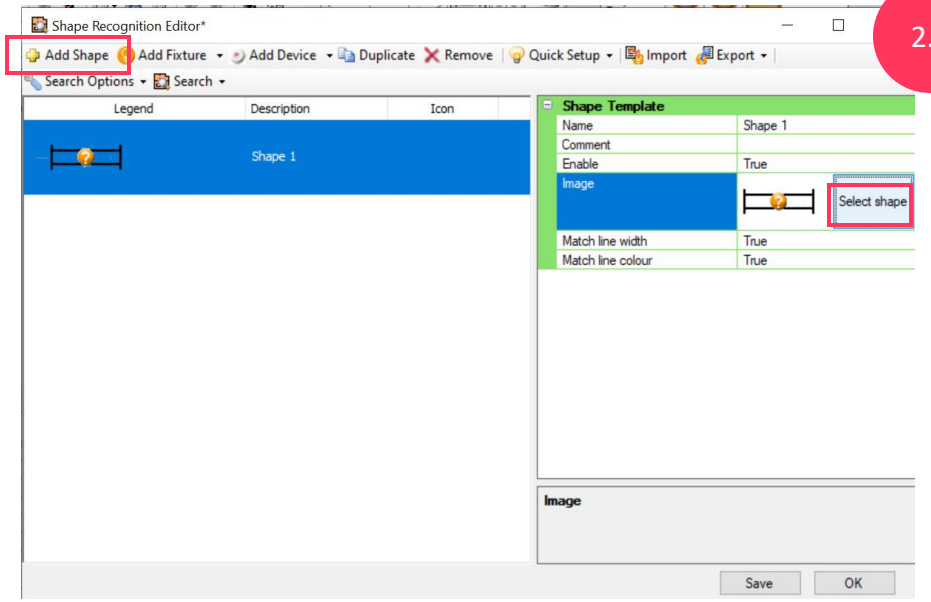
Consider the following attention points:

1. In step **8. Set up wired fixtures (for wireless check specific chapter):**
   - Open **Quick Fixture Setup**
   - Add each type of fixture that will be installed in the project, including its type, load, lifetime and icon.
2. In step **9. Place fixtures** using the **Shape recognition tool.**
   1. For each fixture, click **Add shape** and then on **Select Shape**. In the Floor Plan hold the left mouse button while dragging the mouse pointer over the shape you want to recognize as a specific fixture. Then, press enter.
   2. For each shape, click **Add fixture** and choose among the **fixture profiles** created in step 8. Then, **Search All shapes within perimeter wall** to assign the recognized luminaires with the corresponding fixture profile.
   - Alternatively, you can manually add the fixture profiles created in step 8 directly on the Floor Plan but it's more time consuming.
3. Ensure all luminaires in the floorplan are assigned to a **fixture profile** as this is the base for the Notional Energy data

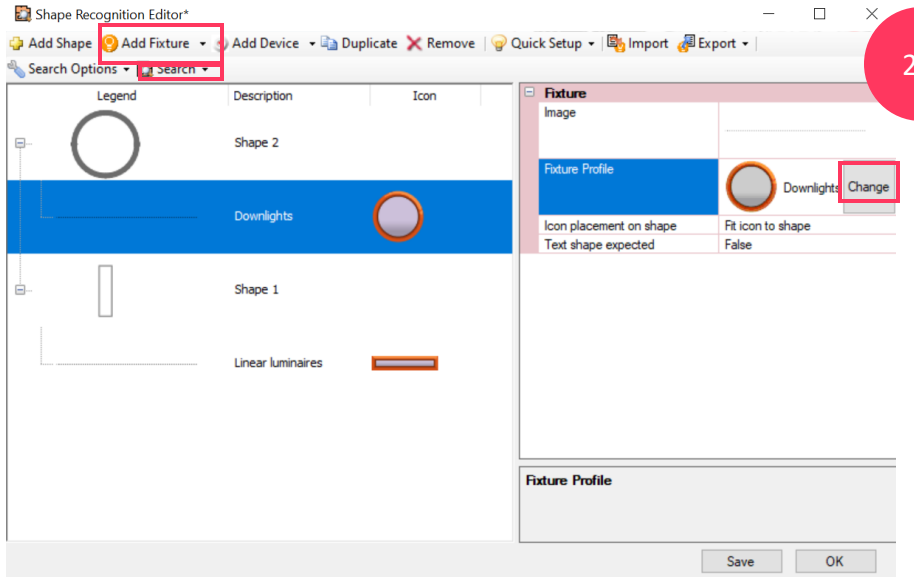
1



2.1



2.2



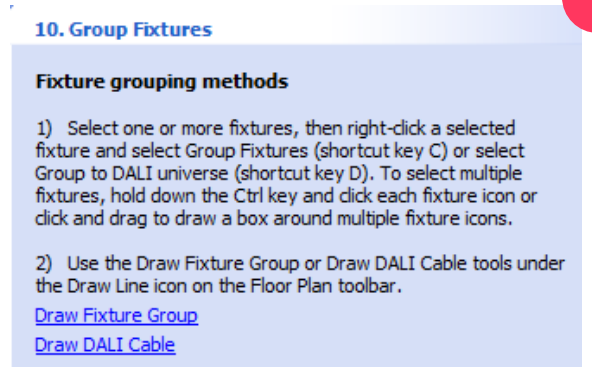
interact

System Builder | Design Mode 5/7

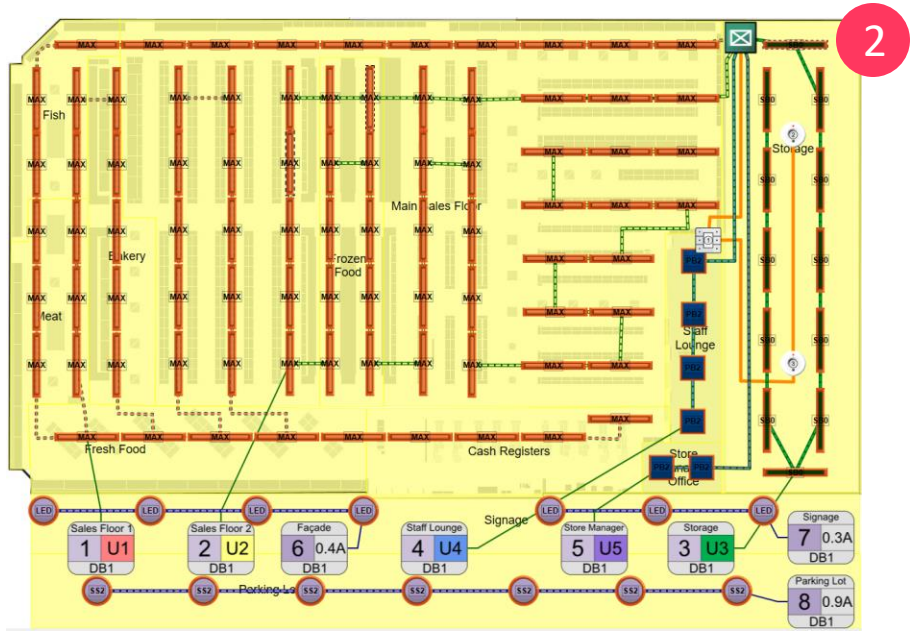
Consider the following attention points:

1. In point **10. Group Fixtures:**
   - Use **Draw Dali Cable** to connect the DALI addressable universes, and Fixture Group to create the DALI broadcast groups or other circuits.
   - Use **Draw Fixture Group** for grouping switchable luminaires.
2. Make sure created **groups** are linked with a **Distribution Board** by the cables

1



2



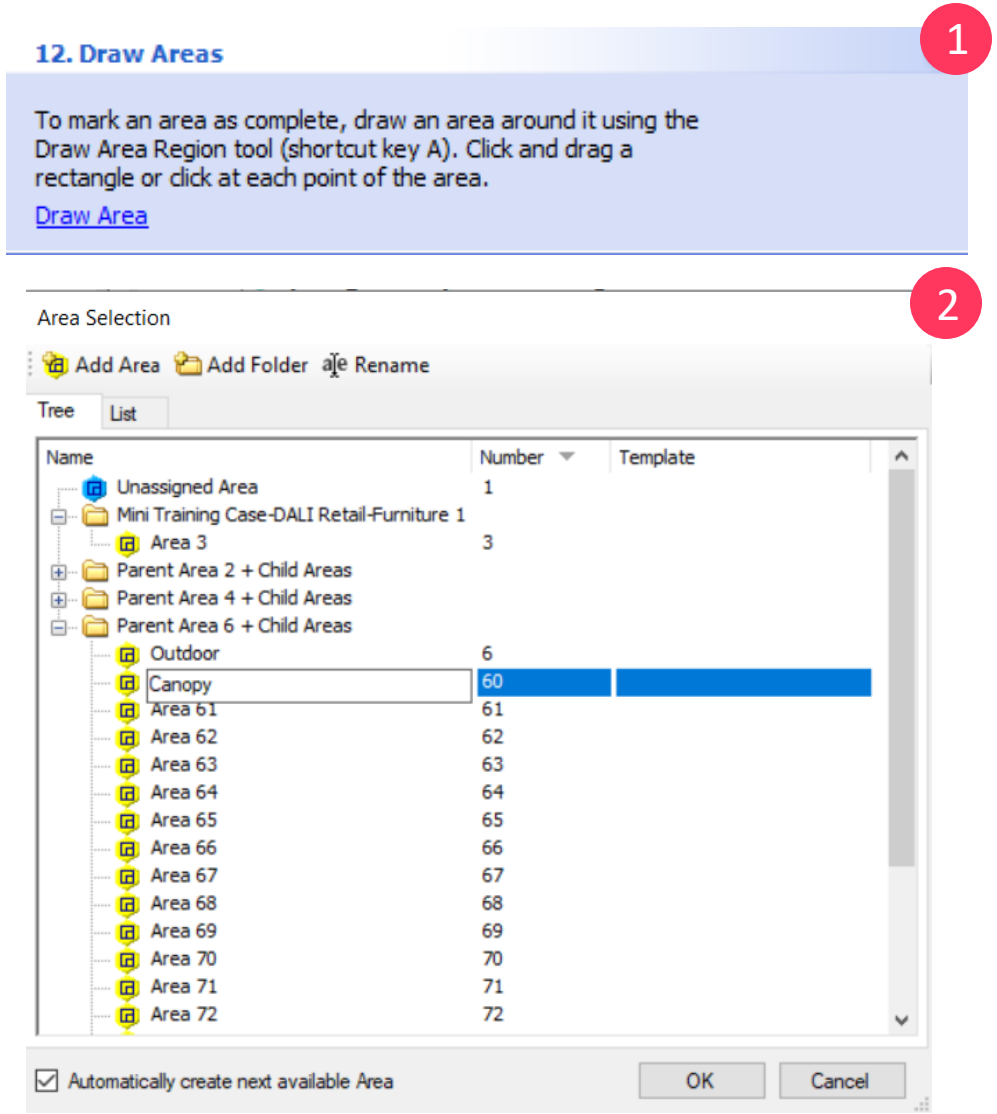
interact

System Builder | Design Mode 6/7

Consider the following attention points:

1. In point **12. Draw** Child Areas in a representative way that fits the real space of the area so that square meters are estimated correctly.*
2. Once the Area is drawn, assign the ID by clicking on the corresponding Area from template job file, and give the Area a representative name by clicking again on the Area from the template job file. Make sure to keep names and numbers consistent with the **Interact Cloud** configuration, and the **Project Template PDF form**.

*Draw Areas for hybrid or wireless luminaires.



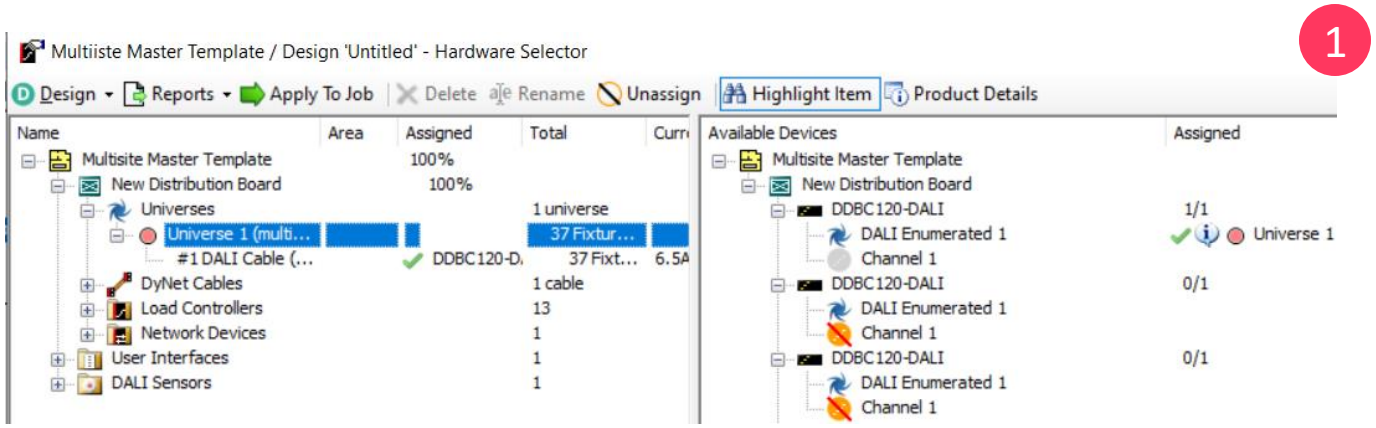
interact

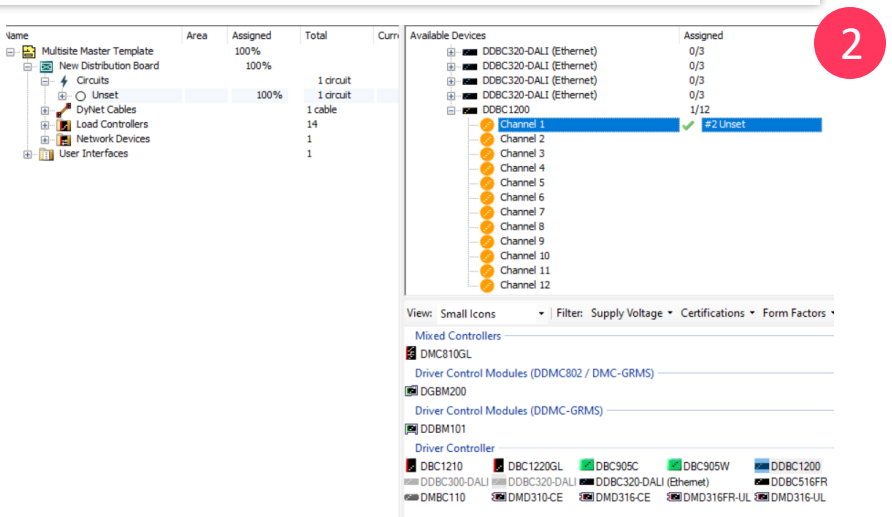
System Builder | Design Mode 7/7

Consider the following attention points:

1. In point **15. Select Hardware,** open the Hardware Selector Window and drag and drop the corresponding Universes to your Load Controllers. Bear in mind that devices need to be dragged and drop under the DB on the Floor Plan to do this.
2. If your circuit requires a controller that is not in the template, select the circuit and from the list on the button choose the preferred controller and click it twice to add it to your project.
3. Once all the circuits and universes have been assigned, Apply it to Job and close the Hardware selector.

To close the **System Designer** tool, click again the **Design icon**





interact

System Builder | Total Floor Area

Add the Total Floor Area in square meters

This value will allow end users to get energy information per square meter in the dashboard.

It can be given as:

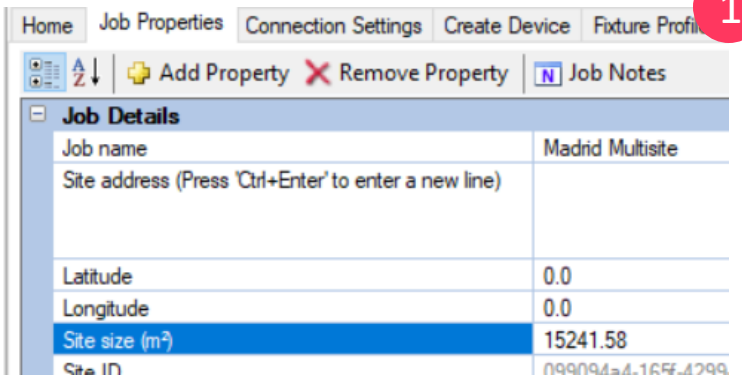
1. **An input from customer**
2. **AutoCAD measurements**
3. **Automatic estimation from the graphical commissioning** if a proper scale was given.*

In any case, this information can be introduced in SB or alternatively, in the Cloud:

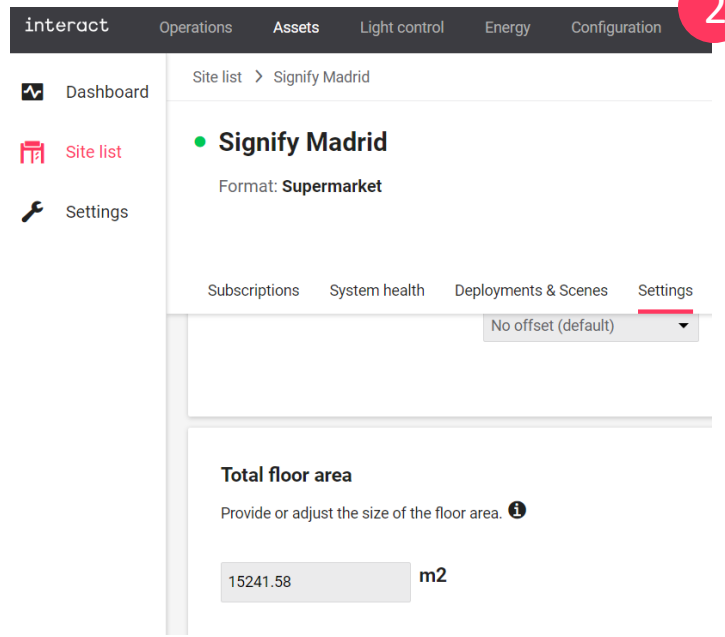
1. From **System Builder**, in Job Properties manually introduce your Total Floor Area input in the **Site size** field. Remember to save the project to align this information with the Cloud.
2. From the **Cloud** you can access to this value from Assets>Site List. Select the Site and from the Settings tab, scroll down until you see the **Total Floor Area**.

*To know the automatically estimated Total Floor Area from graphical commissioning, go to Building View, and get the top-level value which will be the sum of all the Areas drawn.

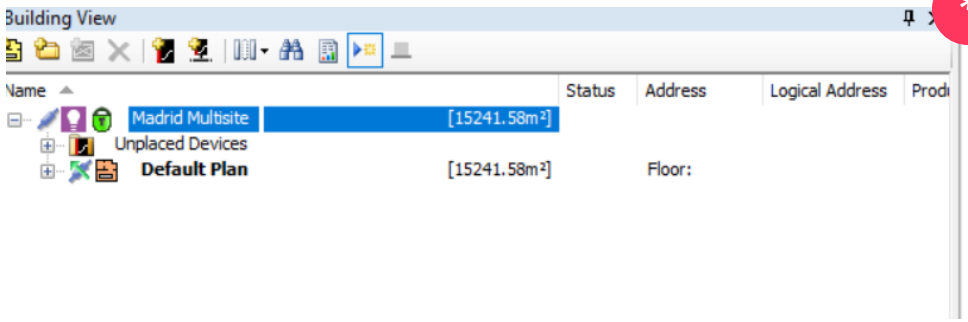
1



2



*



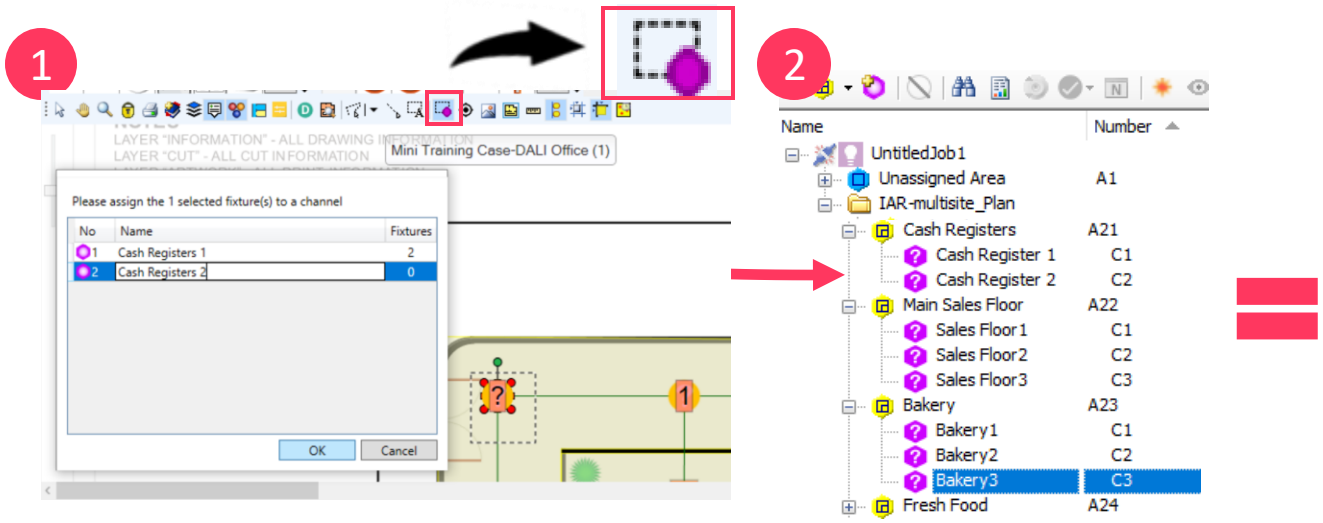
interact

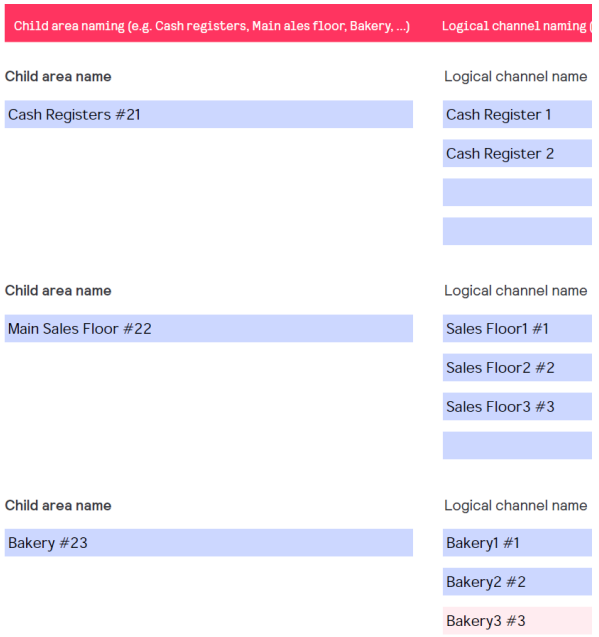
System Builder | Finalize logical configuration and hierarchy 1/2

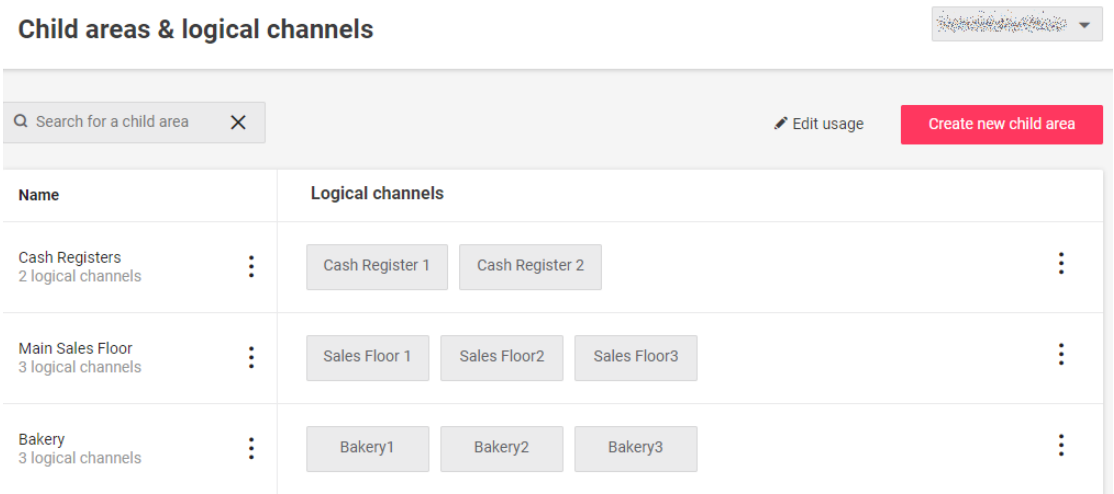
Create and rename **Logical Channels graphically**

1. From the **Floor Plan window**, click to graphically group the fixtures that will be assigned to the same **Logical Channel** within an Area. To do the groups, hold the left mouse button while dragging the mouse pointer over the luminaires. Repeat this for all **Logical Channels** and all Child Areas.
2. In Areas view, make sure all **Logical Channels** and Child Areas use identical **ID numbers and names,** as configured in the **Interact Cloud** and the **Project Template.**

Correct energy data reporting requires
ON/OFF and dimmable outputs to be in different Logical Channels.







interact

System Builder | Finalize logical configuration and hierarchy 2/2

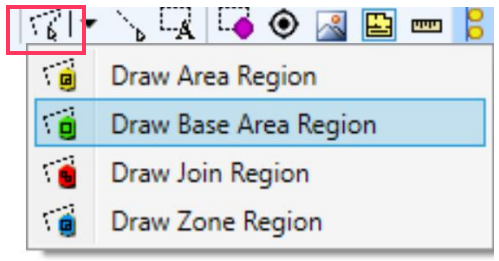
Create Parent Areas **graphically**

1. From the **Floor Plan window**, select **Draw Base Area Region.** Define each **Parent Area** by clicking on the vertices of the whole region within its range. Repeat this for all **Parent Areas** ensuring that all **Child Areas** are linked to a **Parent Area**.
2. In Areas view, make sure **Parent Areas** use the same name and ID as in the **Interact Cloud** and the **Project Template** form.

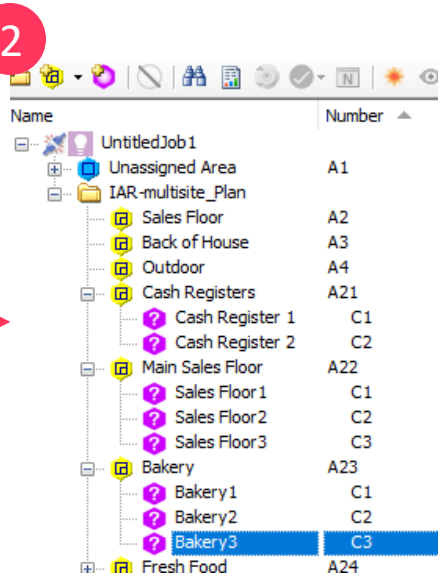
3

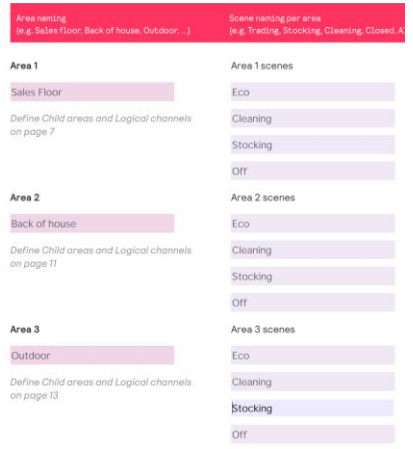
Area Properties	
Number	20
Name	Cash outs
Description	
Location	
Calibration set point (LUX)	
Area Template	
BLA	2
Category Properties	
Show Category Options	False
Category	Lighting

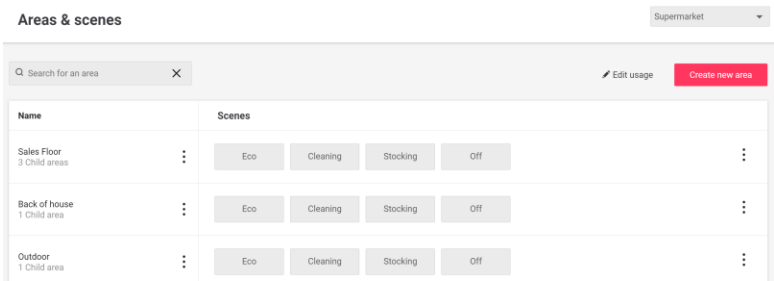
1



2







interact

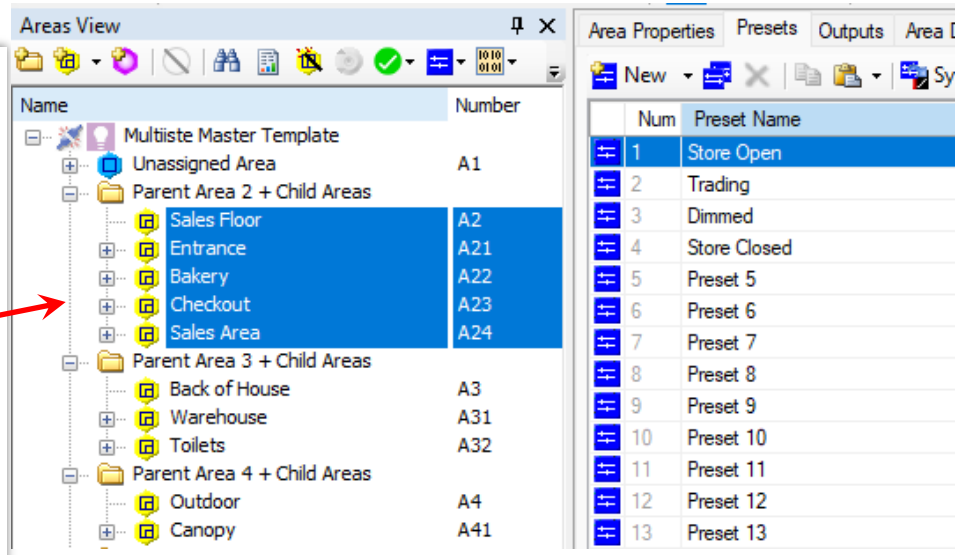
System Builder | Rename Presets

Rename Presets in Parent and Child areas

Each Area (including BLA) must be configured with 64 preset

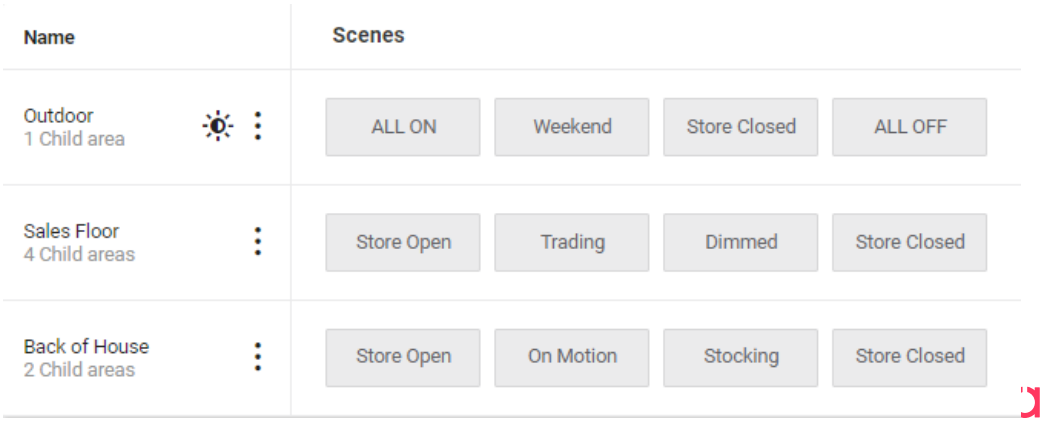
Thanks to Multisite SB Template, all Areas are equipped with 64 Presets already.

- In Areas view, **select Area** and go to **Presets** tab. The **most efficient** approach is to **select Parent Area** and **all related Child Areas** together.
- **Rename Presets** to corresponding Scene names from Project Template Form



At the end presets configuration in System Builder, Cloud and Project Template PDF form must be the same.

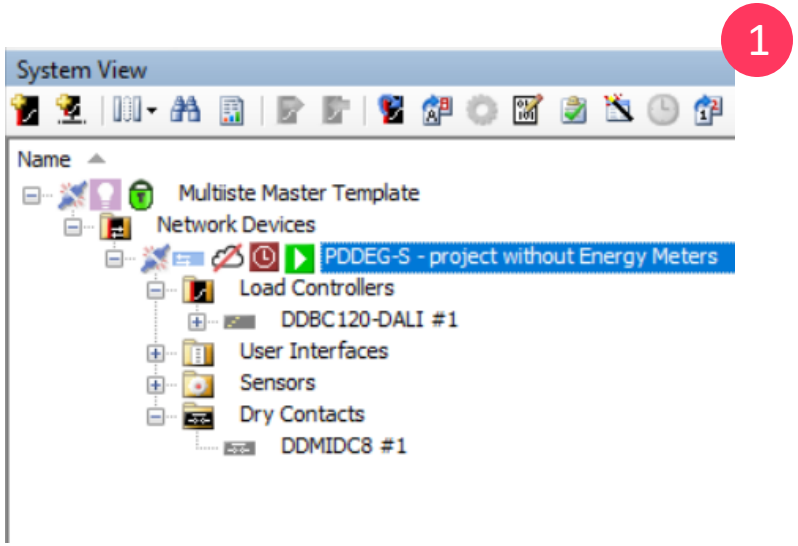
Area 1		Area 1 scenes			
Sales Floor #2	(BLA ID=2)	Store Open	(Scene ID=1)	Traiding	(Scene ID=2)
Define Child areas and Logical channels on page 7		Dimmed 70%	(Scene ID=3)	Store Closed	(Scene ID=4)
Area 2		Area 2 scenes			
Back of House #3	(BLA ID=3)	Store Open	(Scene ID=1)	On Motion	(Scene ID=2)
Define Child areas and Logical channels on page 11		Stocking 100%	(Scene ID=3)	Store Closed	(Scene ID=4)



System Builder | Clean up job file 1/3

1- **System configuration**

- For each DALI Addressable Controller:
  - Check if the correct DALI devices are within the expected DALI controller. If additional DDBCx20 have been created by System Designer to allocate the DALI devices, move the DALI devices to the corresponding Load Controller by drag and dropping them.
  - Copy and paste configuration from sensors on the template to those added by you. Check next slide for more details on sensor configuration.
- For each Dry contacts used for alarm integration:
  - Keep only the type of dry contact proposed in the template (DDMIDC8/DDLI8I8O) and choose between the standard (armed when dry contact closed) or reversed configuration (disarmed when dry contact closed).



interact

System Builder | Clean up job file 2/3

1- **Antumbra configuration**

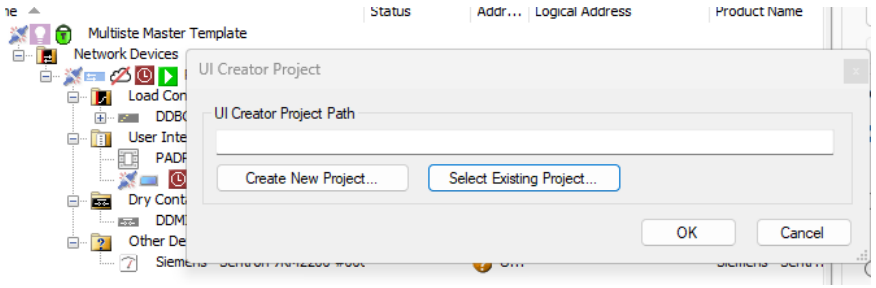
- Copy and paste the configuration from one of the Antumbras on the template that better fits your configuration to the added Antumbra. Feel free to edit the Presets or Areas to control, as long as you use Join 0x83 for each button and the correct BLA so it keeps synchronized if Child Areas are being controlled.

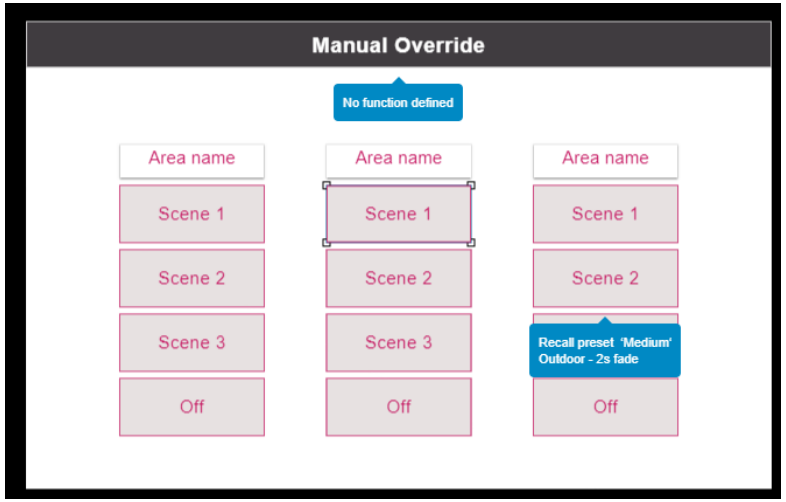
2- **Touch Screen configuration**

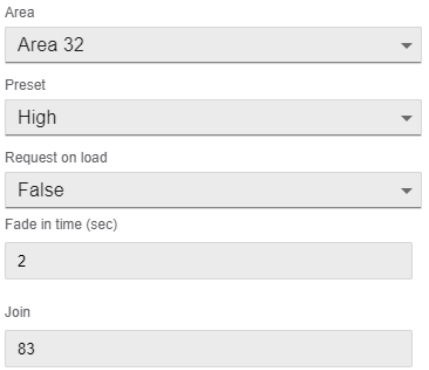
•Download the PDTS Multisite Master Template folder from the Partner Portal (Software and Tools>FLX>**multisite**)

- Open the last version of UI Creator via SB hob file* select the folder Multisite Master Template v1.
- The template includes 3 Areas with 4 Presets each. The Areas will automatically get the Area name.
- If required, please adjust number of Areas, Presets and names.
- Keep in mind join byte 0x83 and a proper BLA's are associated with Presets.

*Open UI creator by right-clicking on the PDTS and selecting UI Creator > Launch UI Creator. This way it will import Logical configuration changes (modified area numbers, names) into PDTS Multisite Template







System Builder | Clean up job file 2/3

1- **Sensor configuration**

- For each sensor, both DALI and Dynet, copy and paste the configuration of one of the proposed sensors from the template.
- For each feature (Motion, Open Loop, or Closed Loop) choose the Area (Parent/Child) that the sensor will control and enable the desired features.
- Fine tune the settings of each feature but ensuring Join is 0x81 for Motion and 0x82 for Light Control, and BLA is filled with the corresponding Parent Area when sensor controls a single Child Area.
- **Always use** at least 1 minute **Resend Inhibit Period** to avoid over-flooding the DyNet network
- Set the maximum Update period time for minimizing the traffic on the network.

2- **Energy meter configuration**

- Add as many meters as required following the instructions at the end of this chapter.
- Configure the meters and power zones following the same instructions.

3- **General review**

- Check devices have unique names and delete those that are not used.
- Ensure the topology is correct with all the spur devices under the PDDEG-S.
- Make sure all controllers have 64 Presets. Otherwise, create them and synchronize from Logical to Device.
- Make sure all Areas (Parent+Child) have 64 Presets created.

System Builder | Join Bytes review

During commissioning (offsite preparation & onsite commissioning), ensure proper Join Bytes are set:

- **0x81 –** Motion control
- **0x82 -** Light regulation
- **0x83** - Manual override (Antumbra / Revolution/ PDTS/ dry contacts)
- **0x84** – Scheduler message (no need to fill in)
- **0x85** – Alarm integrations

Join Bytes:

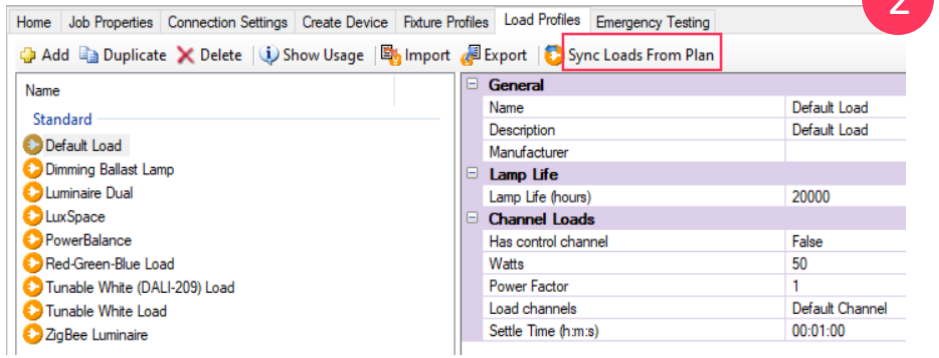
- Allow to understand network traffic (For problems root causing purposes)
- Are mandatory to enable a feature (0x83, Manual Override with timer)
- Will be used in future for other features

System Builder | Check Outputs settings

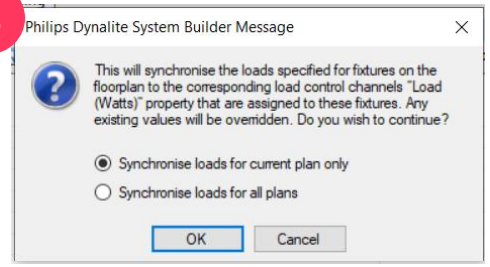
Except for addressable controllers (unassigned outputs during offsite commissioning), if luminaires have been assigned with the correct **fixture profile and logical grouping** by using System Designer and graphical commissioning, **Load and BLA will be added** to the outputs automatically:

1. Confirm that all available outputs have the Loads (watts) column filled with expected data, as well as the BLA and Power Category.
2. If Load is not correctly assigned, in the System View click the Project name on the tree, and select the Load Profiles tab.
3. Click on Sync Loads From Plan. Select any applicable option on the new dialog and click OK.
4. Confirm that all data is synchronized then in the outputs tab. If it is still not there, previous steps were not done properly. Alternatively, you can also manually fill these columns with the correct data.

2

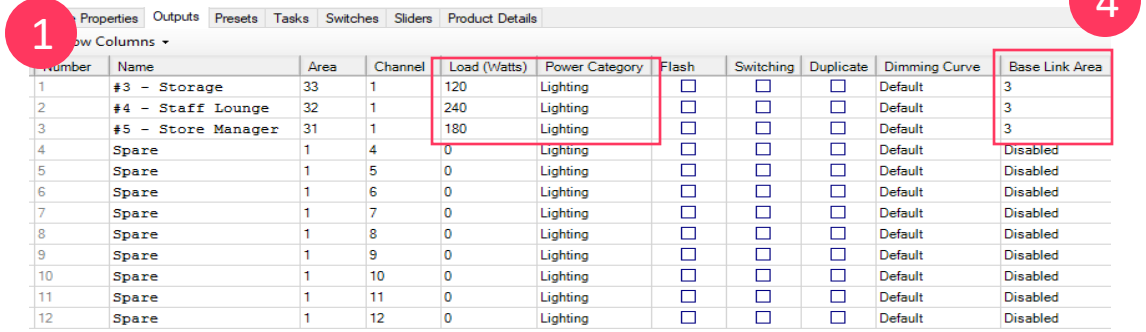


3



1

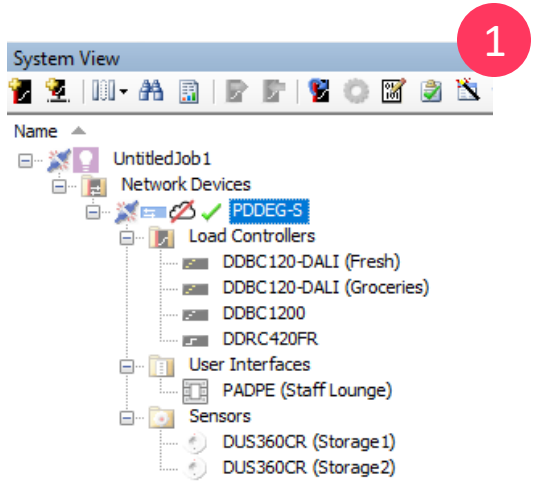
4

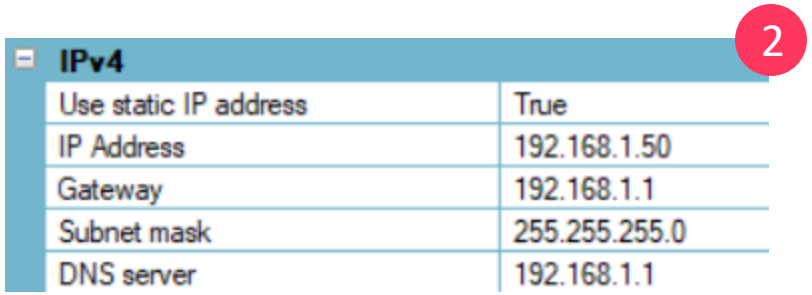


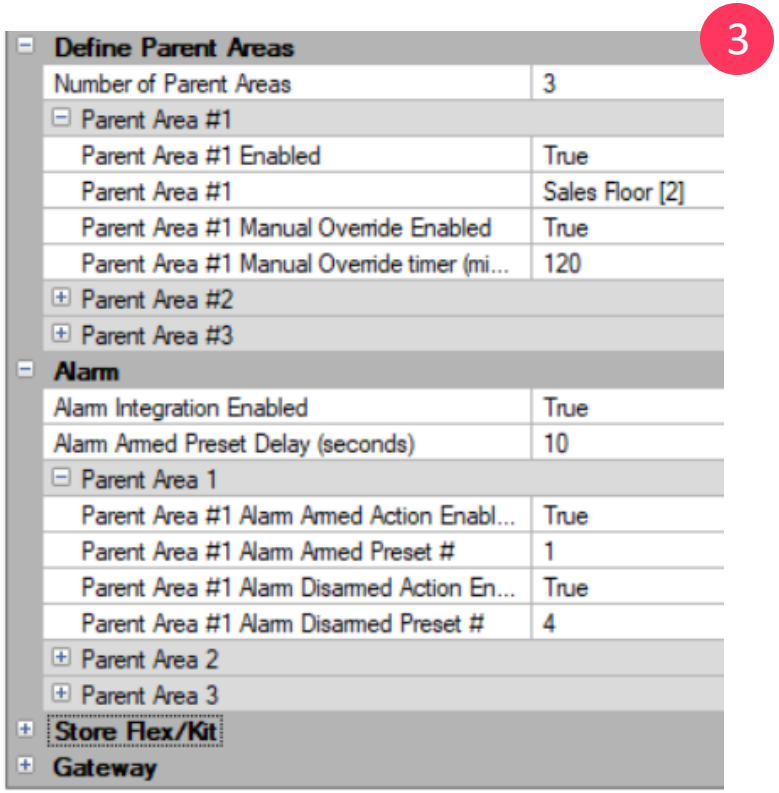
System Builder | PDDEG-S Gateway

Add the site gateway

1. In the **System** view, make sure all devices are under the **PDDEG-S.**
2. On the **Ports** tab, add the PDDEG-S IPv4 network settings (Static/DHCP).
3. In the **Task template,** define the **Base Link Areas** to which **Manual Override** feature applies. Additionally, if Alarm integration is required configure the parameters on the **Task Template**.







interact

System Builder | Additional configurations – unique naming

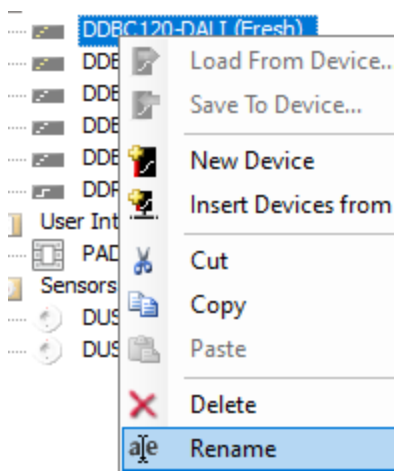
Rename Devices

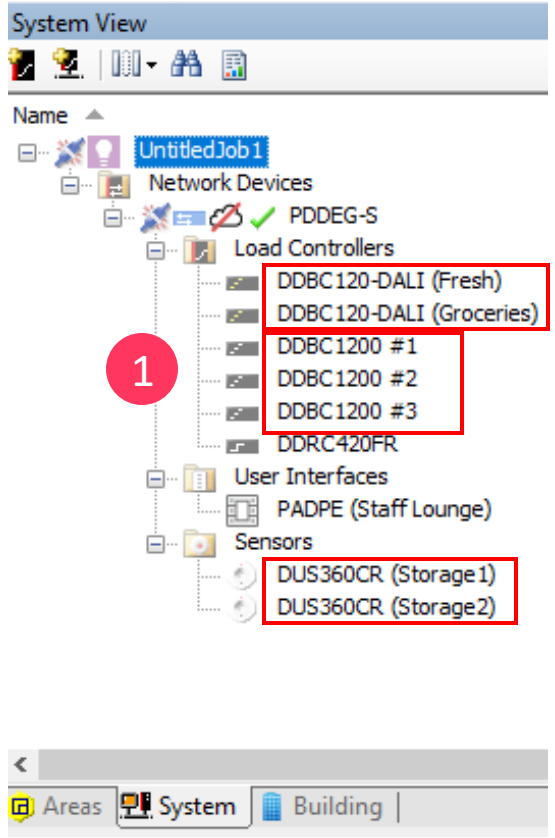
When the same type of device exists multiple times in the system, make sure to **change the name** and **make it unique.**

1. In the **System** view, right-click on the **Device** and select **Rename.**

Assign unique names, for example:

- **3xDDBC1200** → DDBC1200 #1, DDBC1200 #2, DDBC1200 #3
- **2xDUS360CR** → DUS360CR (Storage1), DUS360CR (Storage2)
- **2xDDBC120** → DDBC120-DALI (Fresh), DDBC120-DALI (Groceries)





System Builder | Save job data to the cloud

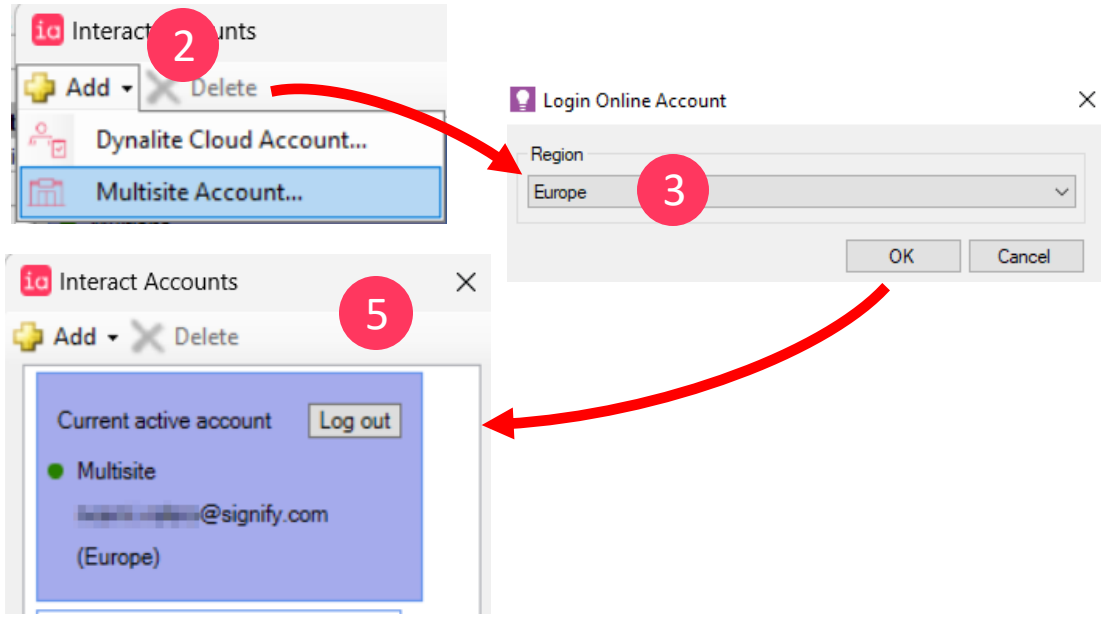
Login to the cloud

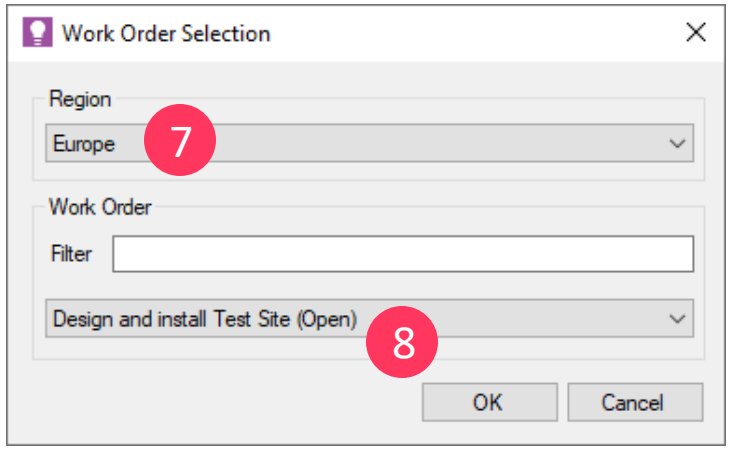
*The **user account** must be registered in **Microsoft Azure Active Directory** before you can login to the Retail Account.*

1. On the **Tools** menu, click **Interact Accounts**
2. Click **Add**, and select **Multisite Account**
3. Select **Europe** as a region, and click **OK**
4. Select your account to login to. If required, fill in your password
5. Account has been linked with Interact cloud

Save job file to the cloud

6. On the **File** menu, click **Save As** and select **Save Job To Cloud**
7. In the **Work Order Selection** menu, select the Region: Europe
8. Find and choose applicable work order, then click **OK**
9. Wait until the file is successfully saved to the cloud. Confirm this in the **Application** logs. Then, close the jobfile.





interact

Offsite preparation
Connected Emergency Light Testing

Architecture FLX - Multisite

Connected emergency lighting testing

Introduction

Functional test

The purpose of a functional test is to test the integrity of the circuit and the correct operation of a lamp, a changover device and battery emergency power supply.

Duration test

The purpose of a duration test is to verify whether the battery has sufficient capacity to illuminate the emergency fixture for the rated duration.

Preparation:

- **Clarify** together with Customer requirements for Functional and Duration tests, especially define clear schedule and interval for all tests.

a

Connected emergency lighting testing

Introduction

Emergency DALI Luminaires in System Builder

Emergency DALI luminaire with embedded battery might be discovered in

System Builder as:

- Two DALI drivers with two short addresses (usually luminaires with integrated EM system)
- Single DALI driver with one short address (usually anti-panic lights and exit signages that work in maintained or non-maintained mode)

Luminaires with integrated emergency system

Type 1

Exit signage

Type 2

Anti-panic lighting

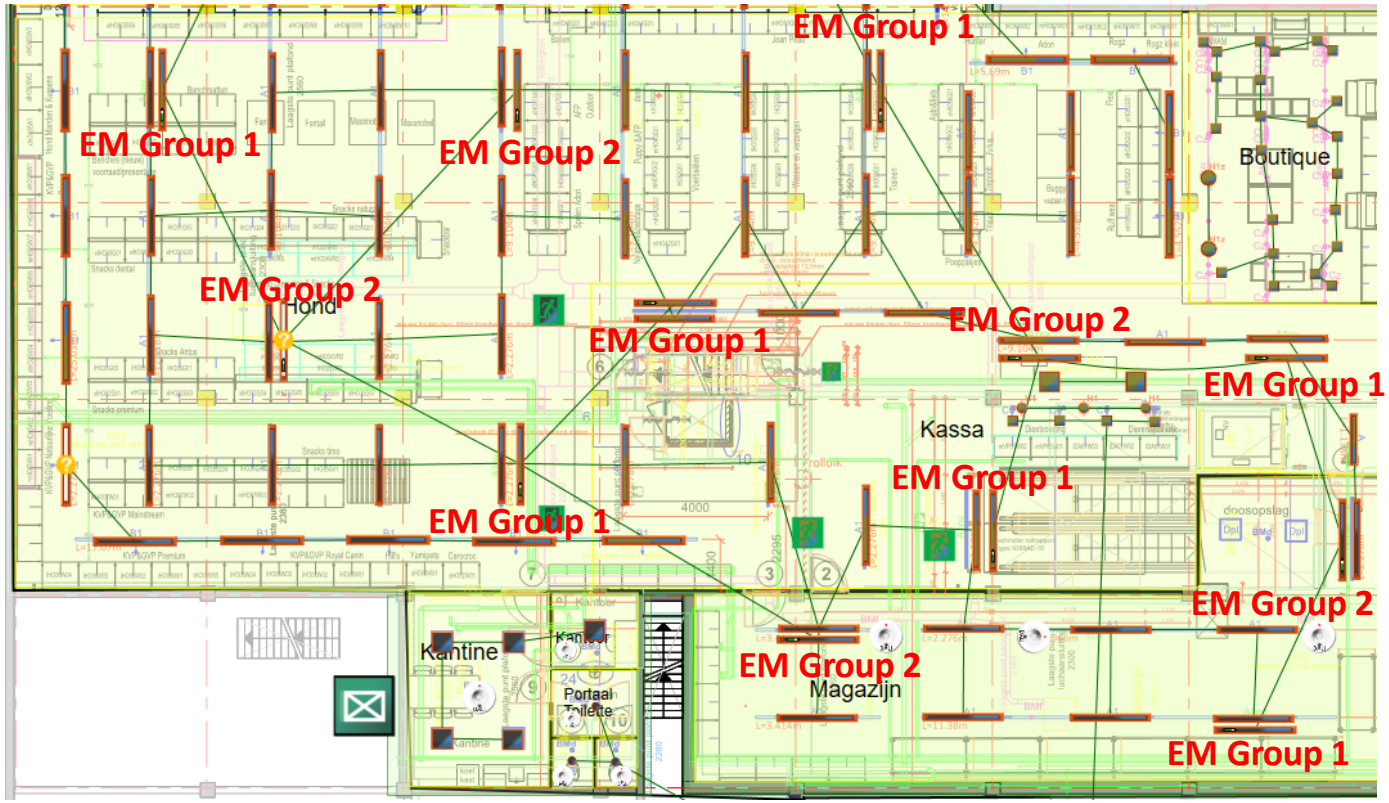
Type 3

interact

System Builder – configurations

Please note that:

- The rule of thumb is to assign emergency ballasts that are located next to each other in separate groups.
- Each group must be tested separately.
- At least one group must be always ready for the real emergency case



interact

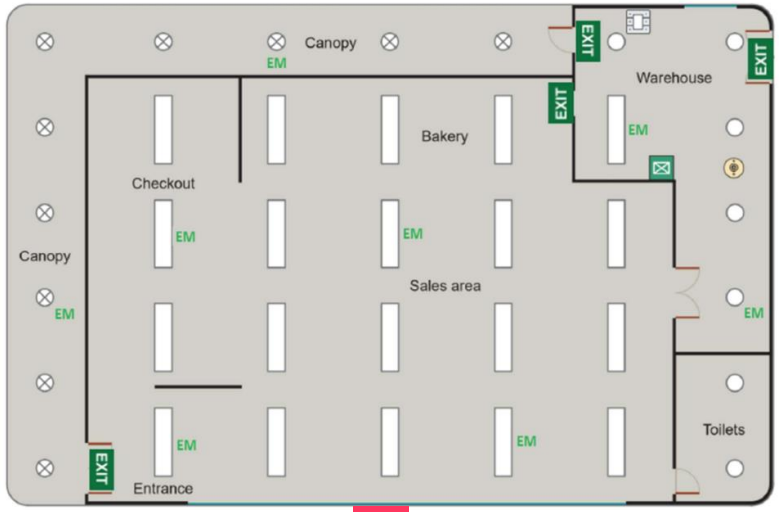
Connected emergency lighting testing

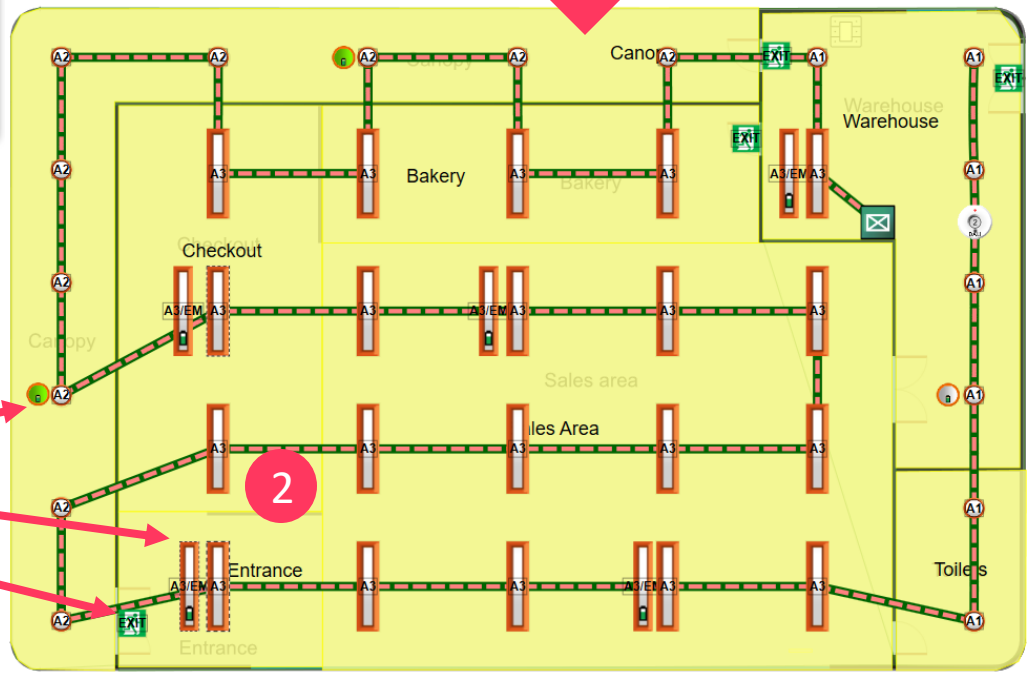
In system Designer mode:

1. Create additional emergency fixtures → **8.Set up Fixtures**
   - Configure Load = 0W for EM profile and luminaire with integrated EM system
   - Configure nominal load for EM profiles with maintained operation mode (usually EXIT signs, anti-panic)
2. Place Emergency fixtures on the drawing
   - In the designed location (anti-panic, Exit signs)
   - Next to standard lighting fixture (for luminaires with integrated EM system)

Code	Description	Fixture Type	Load Type	LED Strip	Load	Unit	Power Factor	Lamp Life (hours)	Colour	Icon
A1	LED Downlight	Standard	DALI	☐	10	Watts	1	20000		
A2	LED Downlight (IP44)	Standard	DALI	☐	20	Watts	1	20000		
A3	Flat Panel LED	Standard	DALI	☐	20	Watts	1	20000		
A1/EM	LED Downlight EM	Standard	DALI	☐	0	Watts	1	20000		
A2/EM	IP44 EM	Standard	DALI	☐	0	Watts	1	20000		
A3/EM	Flat Panel LED EM	Standard	DALI	☐	0	Watts	1	20000		
EXIT	EXIT	Standard	DALI	☐	8	Watts	1	20000		

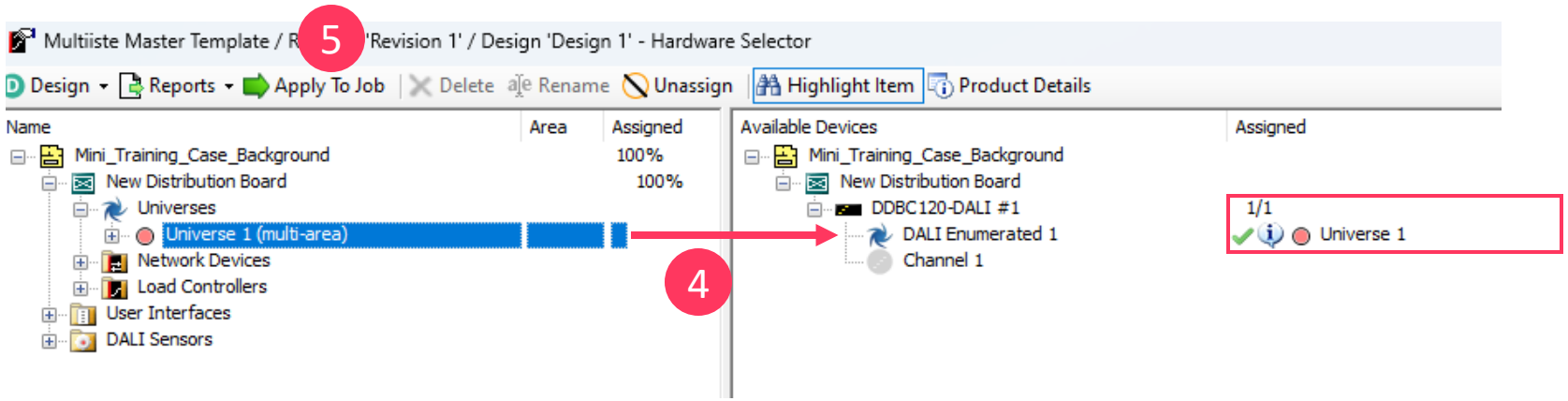
1





Connected emergency lighting testing

3. Extend DALI line to cover all newly added EM fixtures → **10 Group Fixtures**
    - Remember to connect end of DALI line with DB
4. Link updated DALI universe with Dali controller in →**15 Select Hardware** → **HW selector**
5. **Apply to Job** and quit Hardware selector
6. Close **System Designer** mode



interact

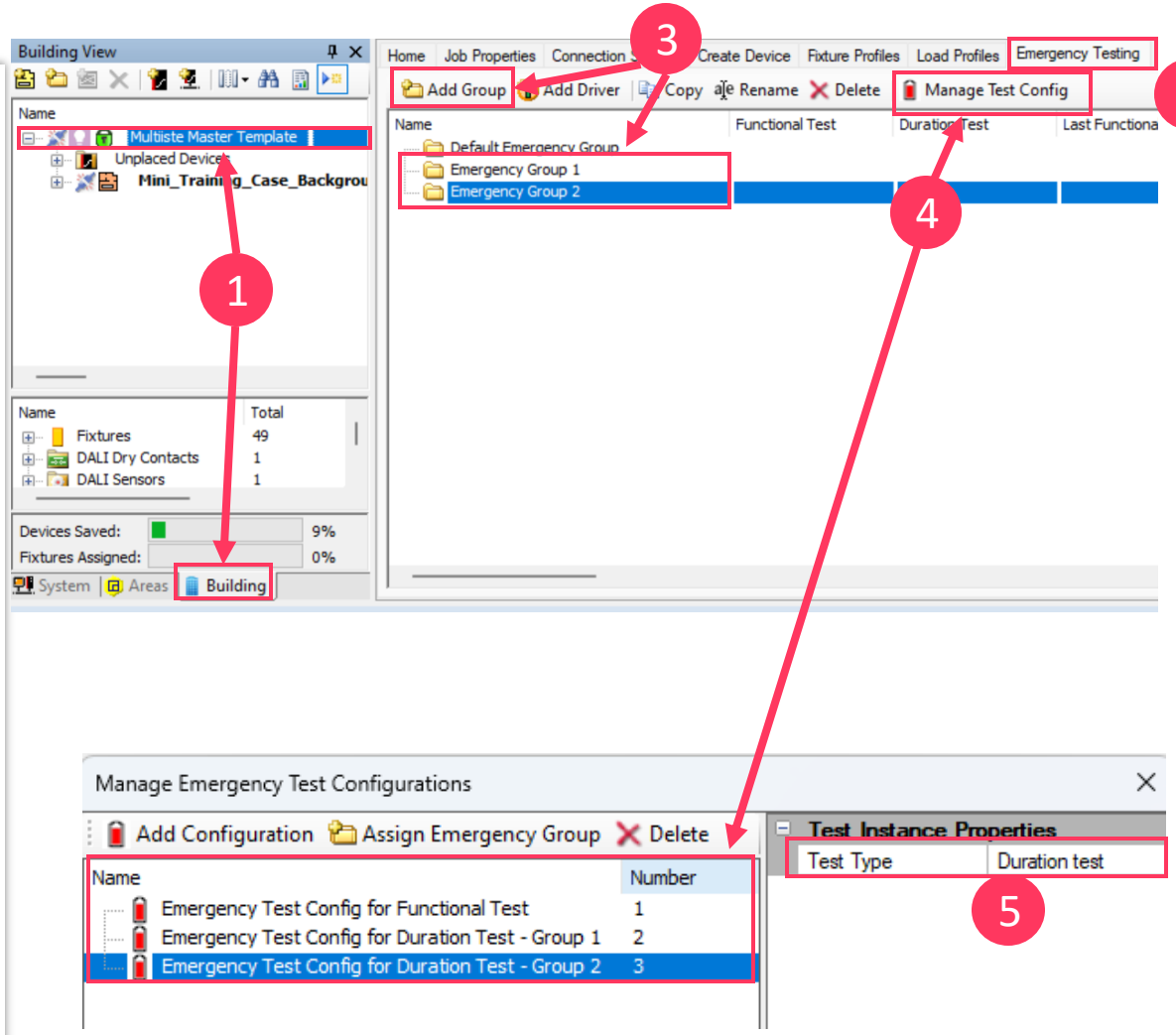
Connected emergency lighting testing

Create Emergency Groups

1. Go to **System** or **Building** Tab and click on the project name
2. Go to **Emergency Testing** tab
3. Click **Add Group** and create at least 2 emergency groups
   - The rule of thumb is to assign emergency ballasts that are located next to each other in separate groups.
   - Drivers in every second emergency group must be always available for the real emergency case. That means duration test should be performed only for maximum half of emergency groups at the time. Duration test for other groups should be started when all batteries are fully recharged in all groups

Create configuration groups

4. Click **Manage test Config button** and create at least 3 test configurations.
5. Specify **Test Type** for created Emergency Test Configurations. There should be **at least 1 Functional and 2 Duration** Test Types.
6. Save job file to the Cloud



Note: Assignment of Emergency Groups to Emergency test configurations is covered in onsite commissioning instruction

interact

interact

Configure metered energy

Architecture FLX - Multisite

Multisite metered energy | Introduction

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

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

Multisite metered energy | Preparation

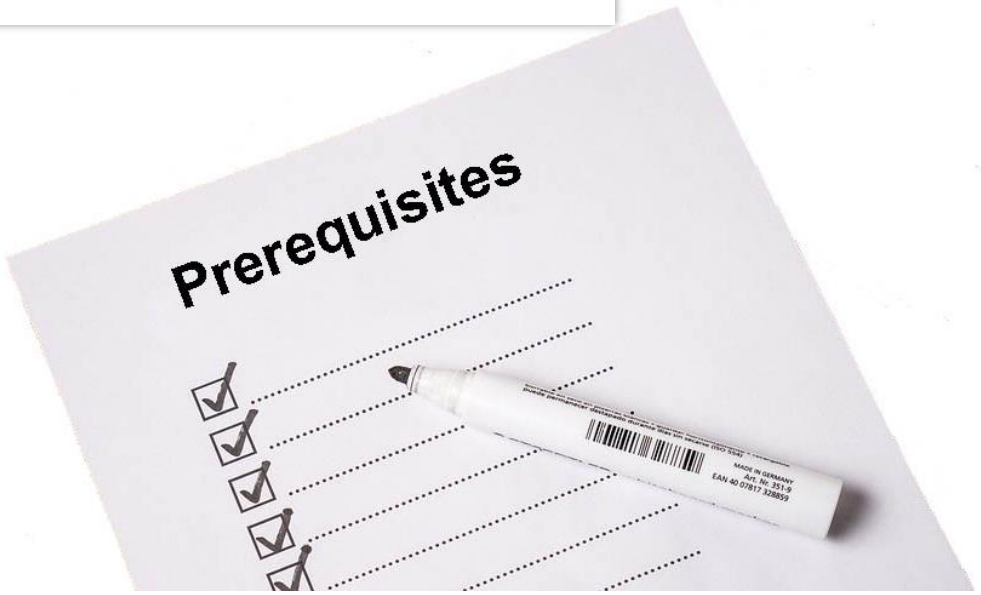
In order to configure Metered Energy, following components are required:

System Builder

- Latest version, available on Dynalite.com
- **Technician** license → Support.controls@signify.com

Firmware

- PDDEG-S version: 1.23 or higher
- PDEG/PDEB version: 3.58 or higher



interact

Multisite metered energy | Preparation

Offsite preparation

.
.
.

Step A – generic Multisite Offsite System Builder job file preparation

Step B – additional Metered Energy configurations

B1: Modbus RS 485

B2: Modbus IP

Important: to configure **Metered Energy,** Step A **must be accomplished** prior to Step B

2 Prepare System Builder job file

- Start with System Designer mode
- Finalize logical hierarchy
- Set Base Link Areas and channel loads
- Configure PDDEG-S Gateway
- Create preset placeholders
- Configure Manual Override, BMS and Alarm integrations
- Configure controllers, sensors, UI's
- Configure Job file time zone
- **Save job file to the Cloud and close it.**

A

Metered Energy configurations

Modbus RS485 (RTU)

- **Open job file from the Cloud**
- Additional PDDEG-S configurations
- Add and configure Modbus Meters
- Add and configure PDEG/PDEB/DDNG485
- Save job file to the Cloud

B1

or

Modbus IP (TCP)

- **Open job file from the Cloud**
- Add and configure Modbus Meters
- Configure PDDEG-S
- Save job file to the Cloud

B2

interact

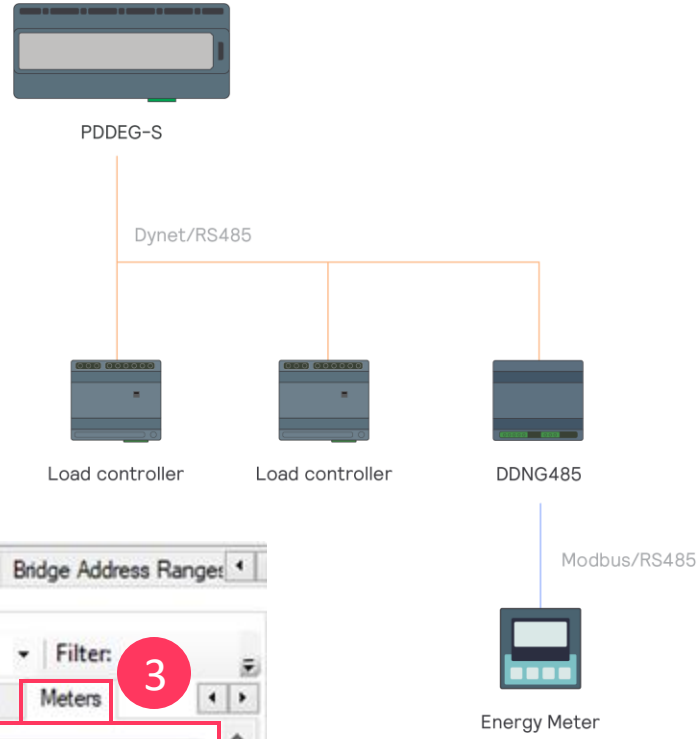
Configure Modbus RS485 metering with DDNG485

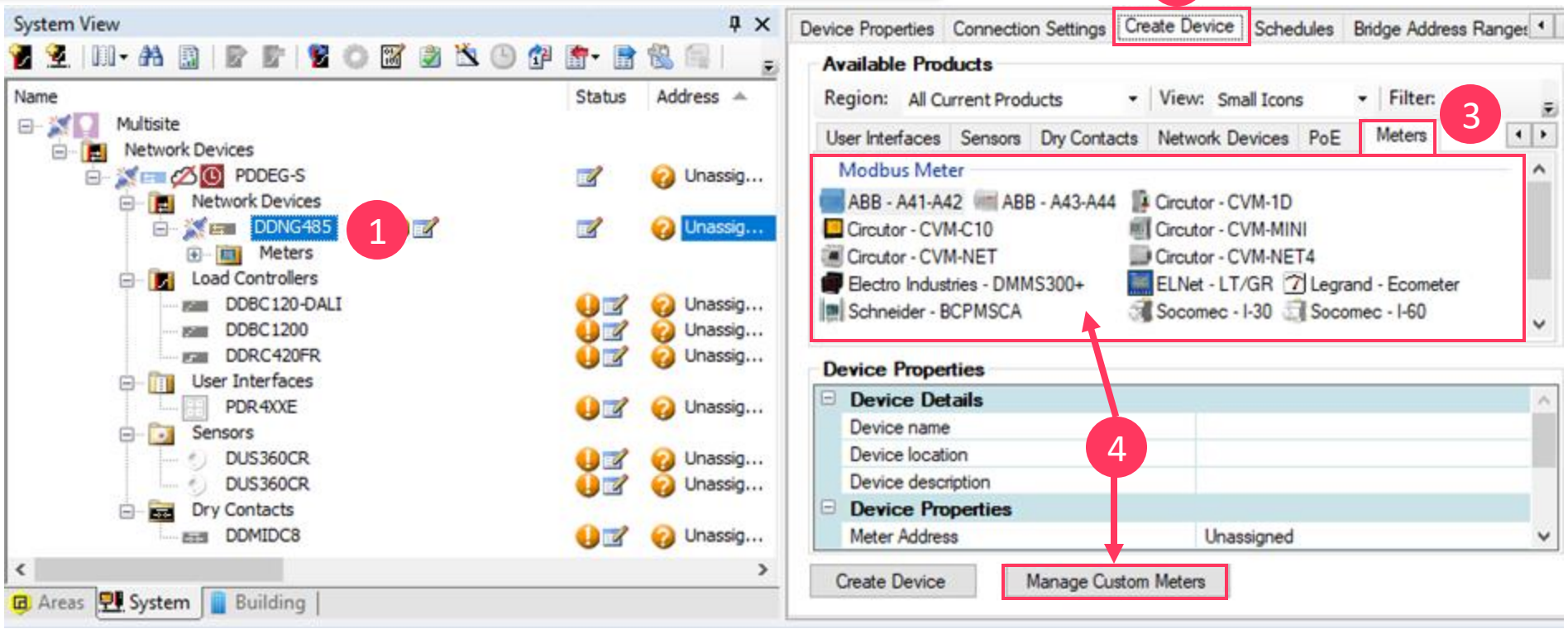
Architecture FLX - Multisite

Metered energy - Modbus RS485 | Add and configure Modbus meters

To add Modbus meters:

1. In the **System** view, add new **DDNG485** device under **PDDEG-S,** and click on it.
2. Go to the **Create Device** tab.
3. Select **Meters** tab.
4. Choose **Modbus Meter** from the existing list or click **Manage Custom Meters**





interact

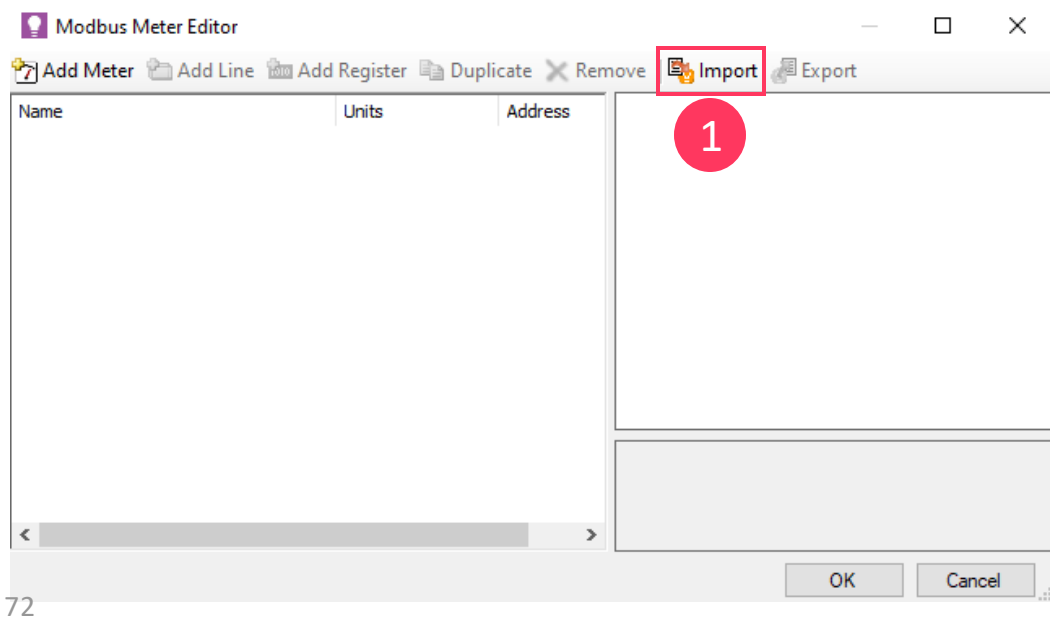
Metered energy - Modbus RS485 | Add and configure Modbus meters

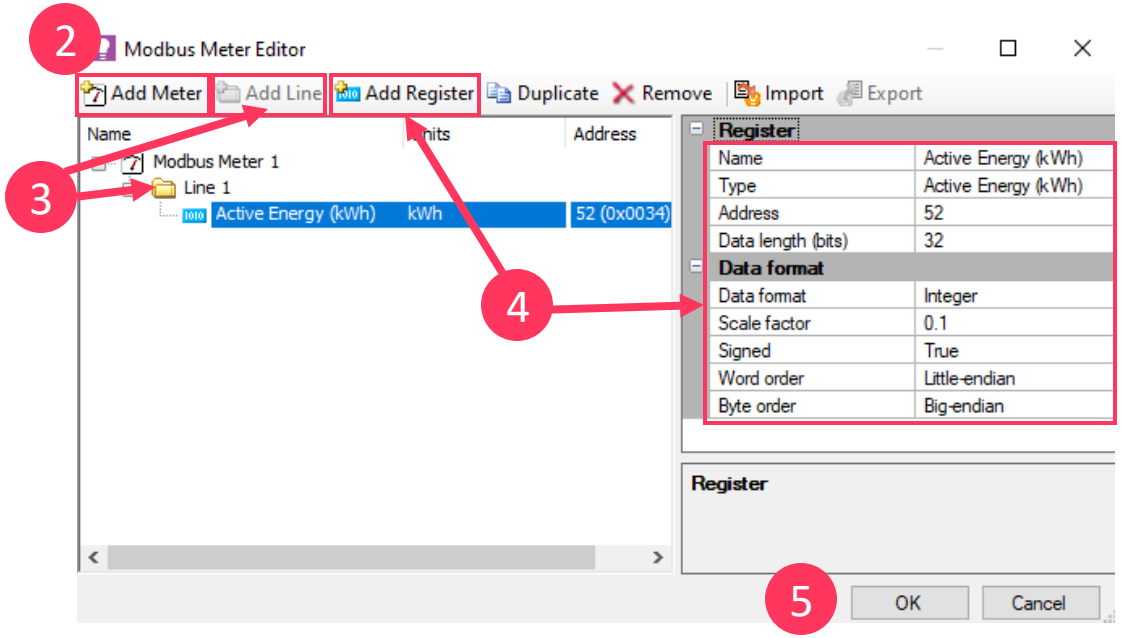
When selected **Manage Custom Meters** :

1. Click **Import**, to load Modbus from the external *.mmx file, for example → **Carel MT300W3200.mmx**

or,

2. Click **Add Meter**.
3. Create a **Line**.
4. **Add Register** and configure an **Active Energy** register, according to Modbus Meter technical documentation.
5. Click **OK**.





interact

Metered energy - Modbus RS485 | Add and configure Modbus meters

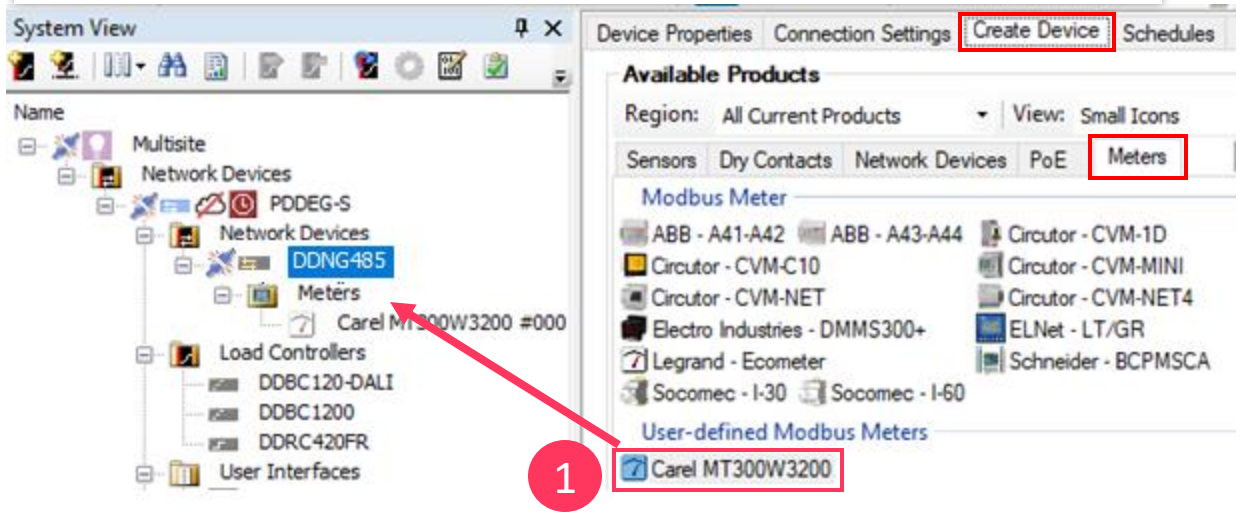
Custom meter will appear on **Meters** list (DDNG485 --> *Create Device* tab)

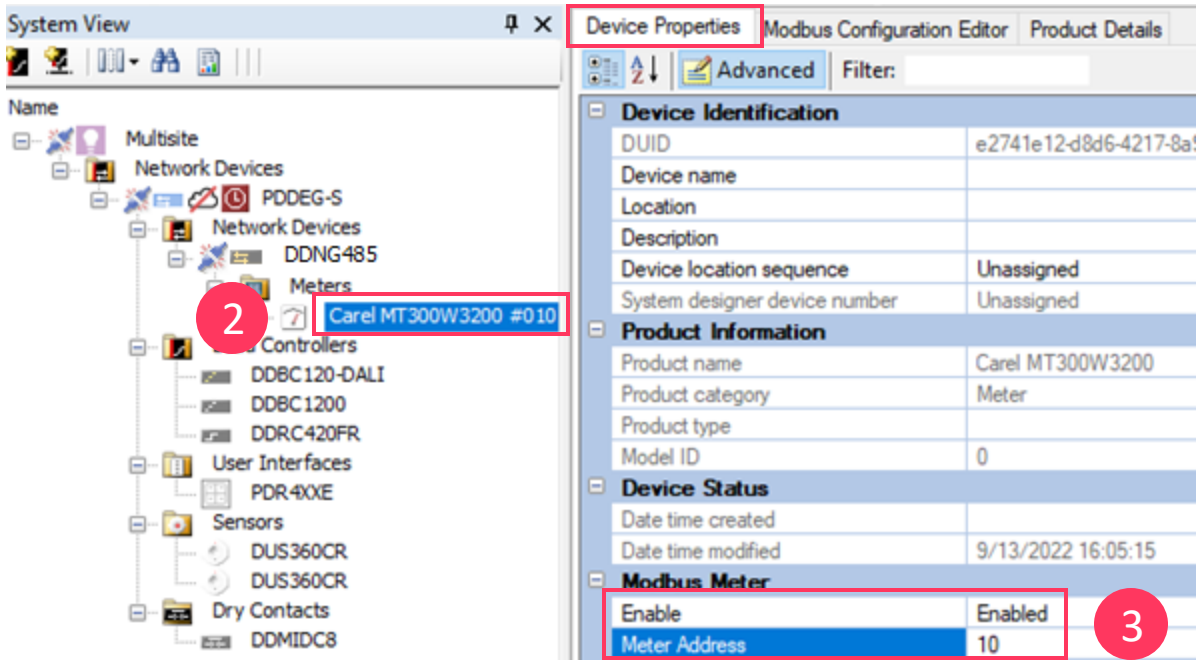
1. **Drag & Drop** Custom Meter under **DDNG485**.

<u>From now onwards, all the steps are relevant for Modbus meters added from SB list or created as Custom Meters</u>

2. **Click** on the Modbus Meter.

3 On the **Device Properties** tab, specify **Meter Address** and ensure meter is **Enabled**.



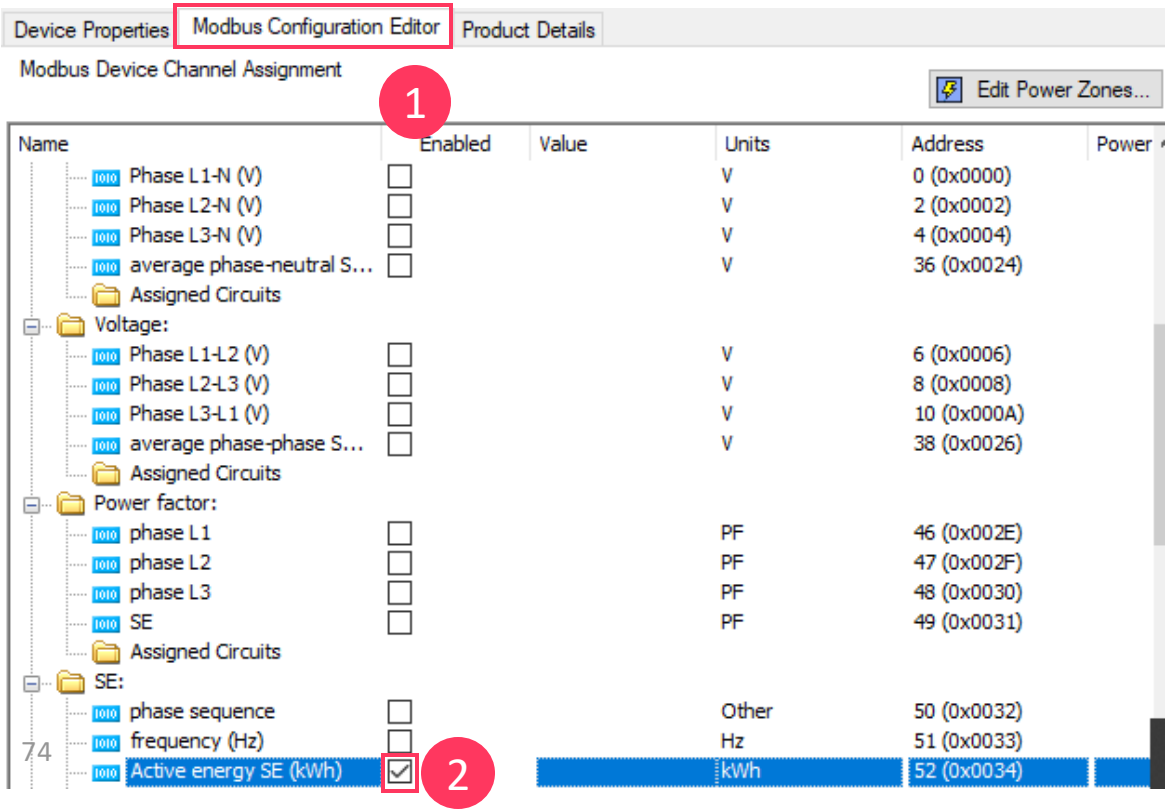


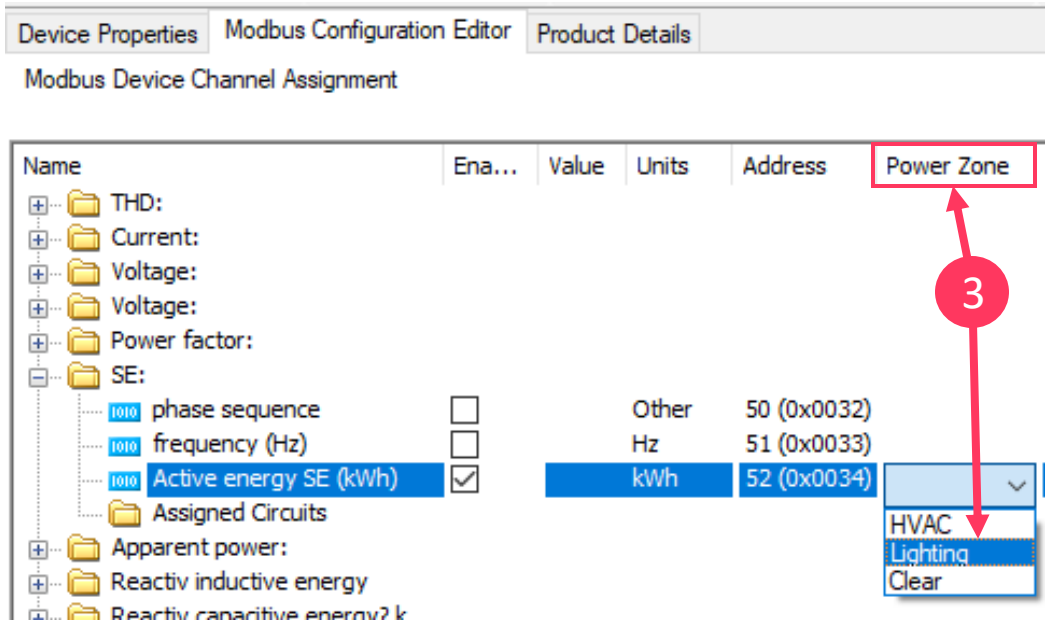
interact

Metered energy - Modbus RS485 | Add and configure Modbus meters

Having selected Modbus meter in the System view:

1. Go to **Modbus Configuration Editor** tab.
2. **Enable** an **Active Energy** register.
3. In a **Power Zone** column, assign desired **Power Zone** to the **Active Energy** register.



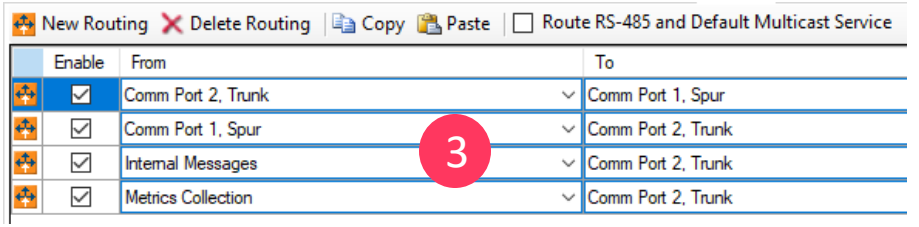


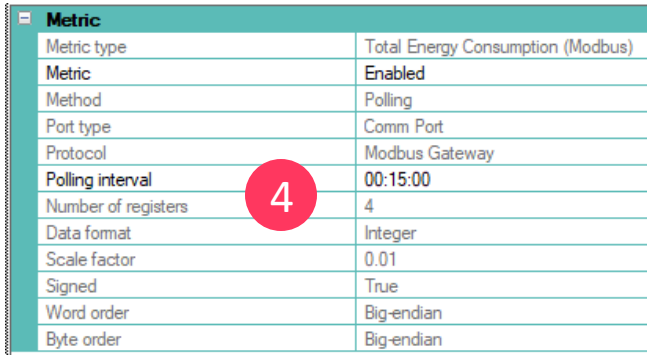
interact

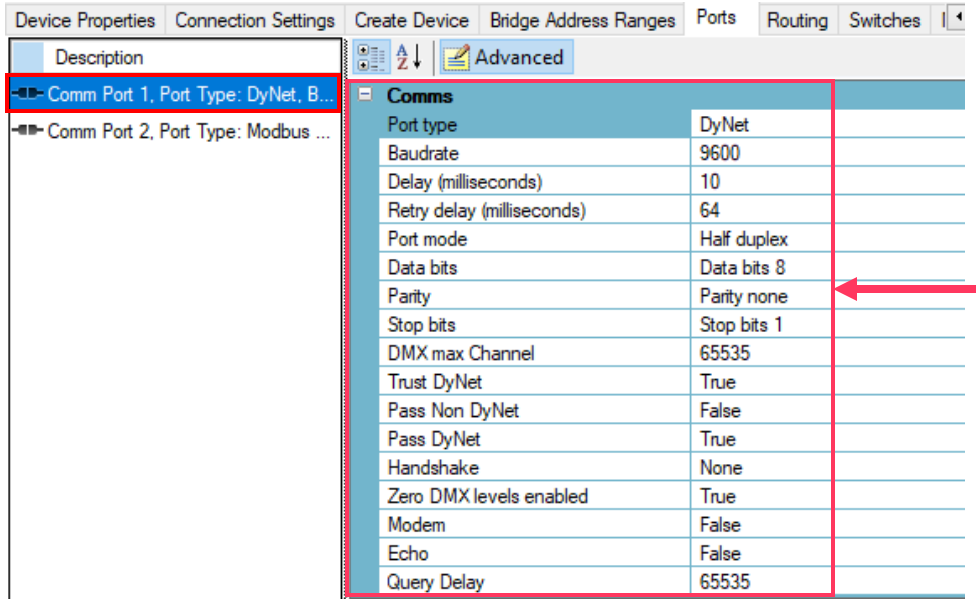
Metered energy - Modbus RS485 | Additional DDNG485 configurations

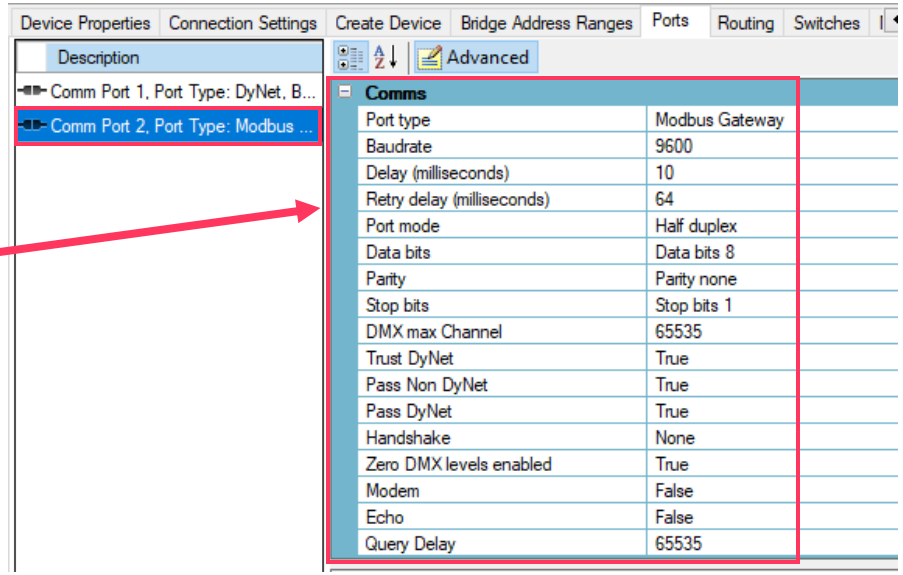
In order to finalize **DDNG485** configuration as a Modbus gateway:

1. In the **System** view select **DDNG485.**
2. Verify **Comm Port1** and **Com Port 2** configurations.
3. Cross check routing setting on the **Routing** tab.
4. On the **Metrics** tab, ensure **Total Energy Consumption** metric **Polling Interval** is set to **15** minutes.









2

interact

interact

Configure Modbus IP metering

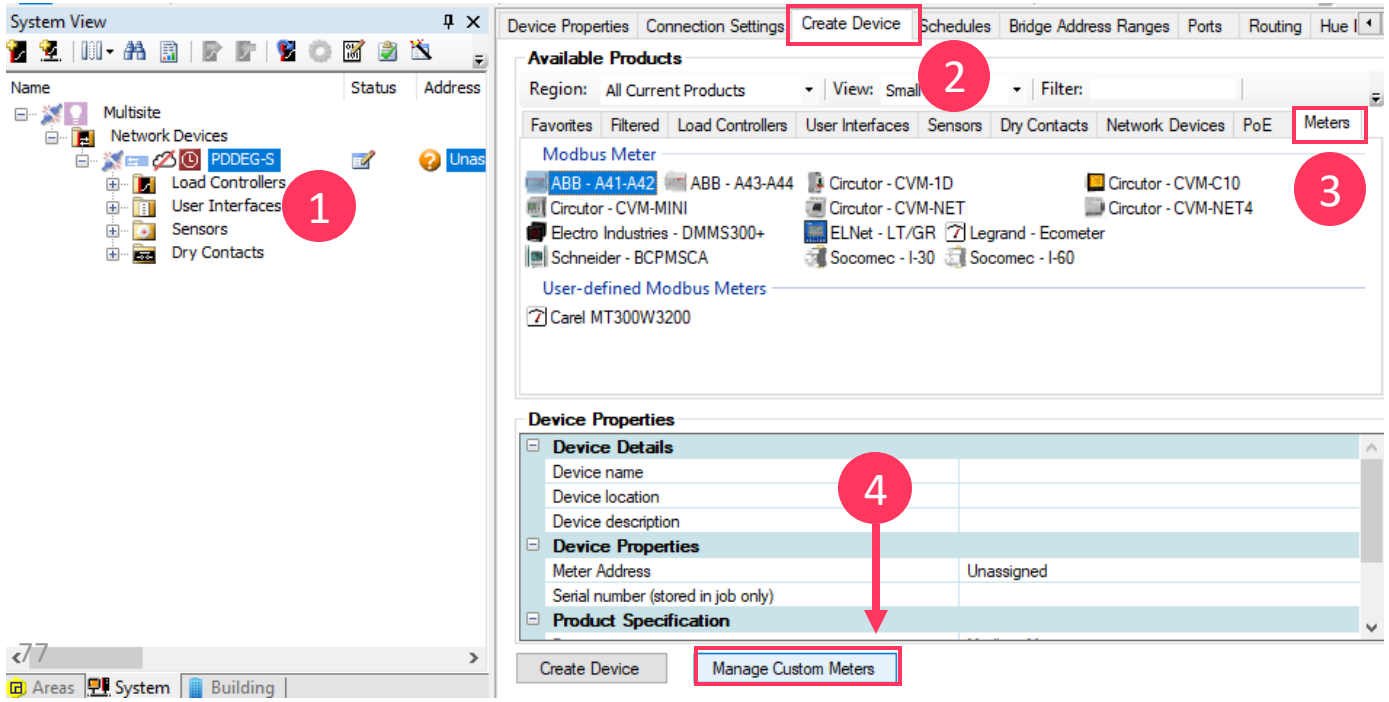
Architecture FLX - Multisite

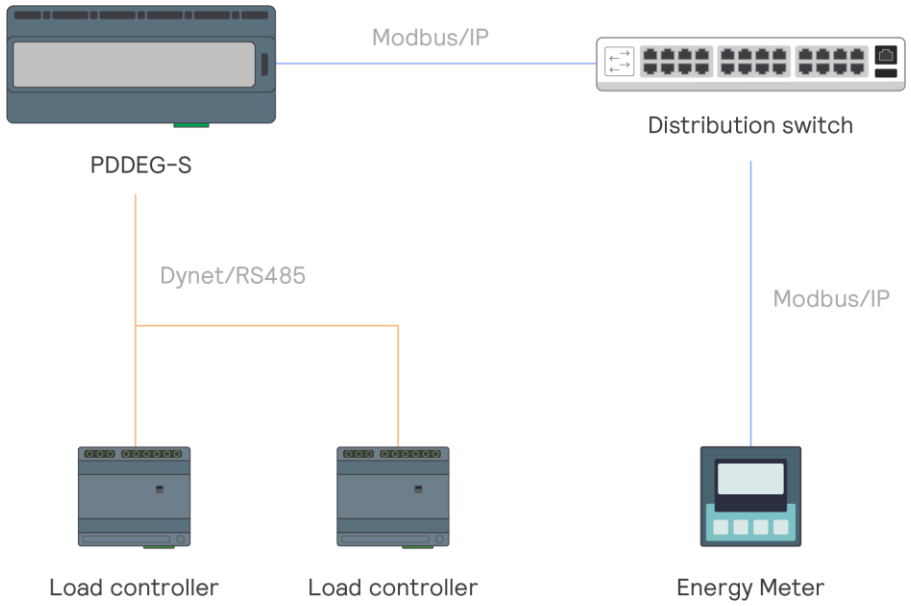
Metered energy - Modbus IP | Add and configure Modbus Meters

Step B2: Open Job file from the Cloud

To add Modbus meters:

1. In the **System** view, **click** on **PDDEG-S**.
2. Go to the **Create Device** tab.
3. Select **Meters** tab.
4. Click **Manage Custome Meters**





interact

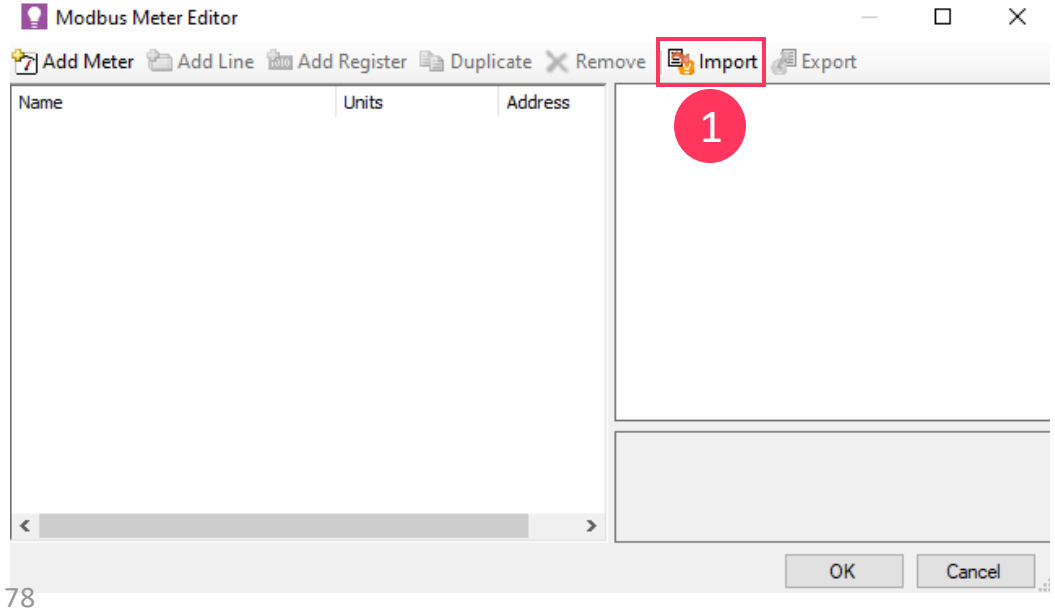
Metered energy - Modbus IP | Add and configure Modbus Meters

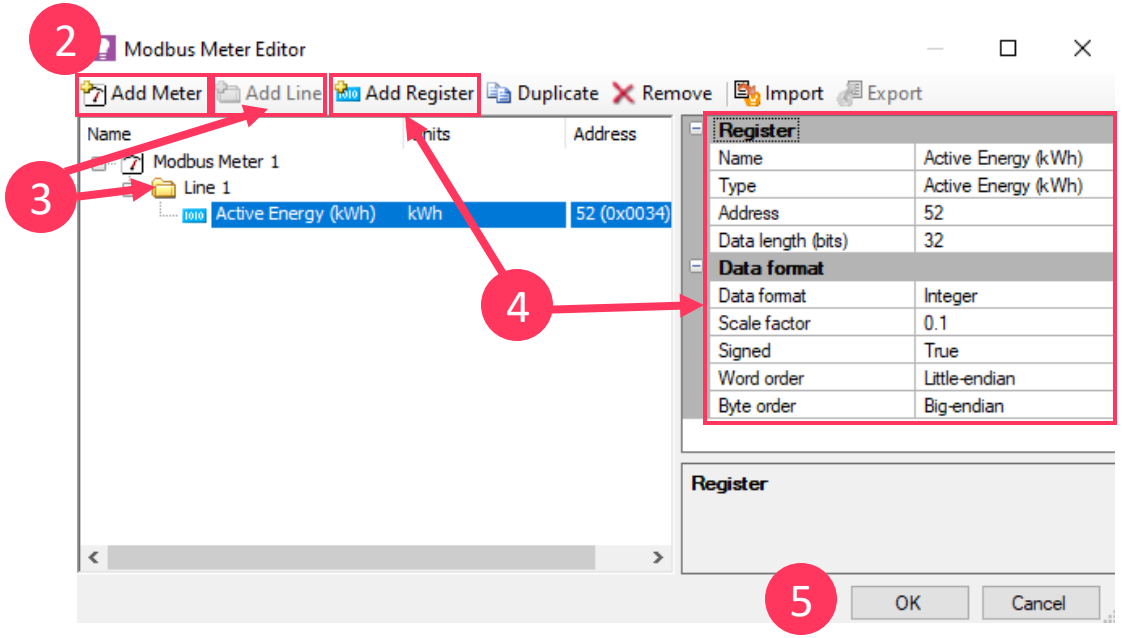
When selected **Manage Custom Meters** :

1. Click **Import**, to load Modbus from the external file

or,

2. Click **Add Meter**
3. Create a **Line**
4. **Add Register** and configure an **Active Energy** register, according to Modbus Meter technical documentation.
5. Click **OK**



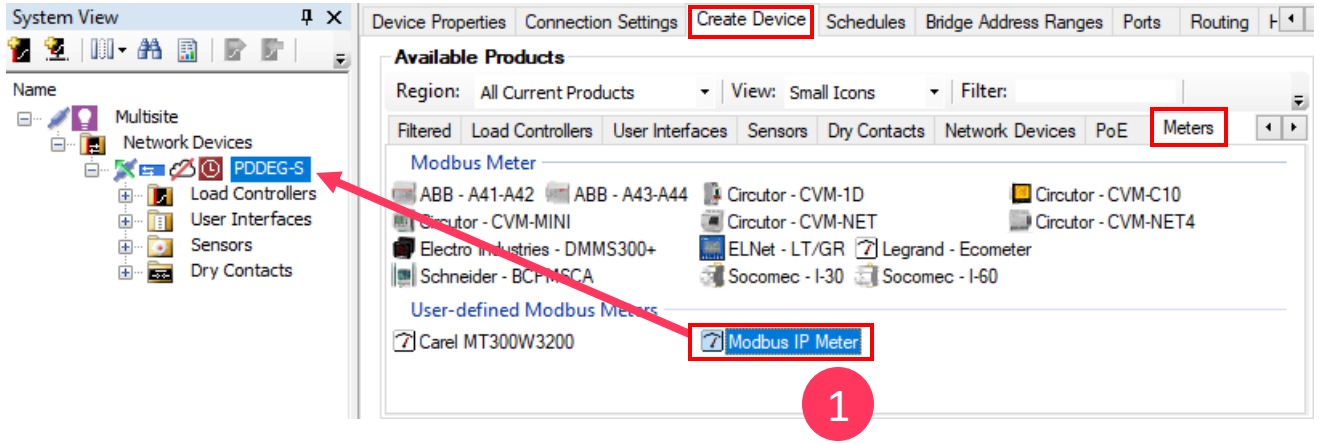


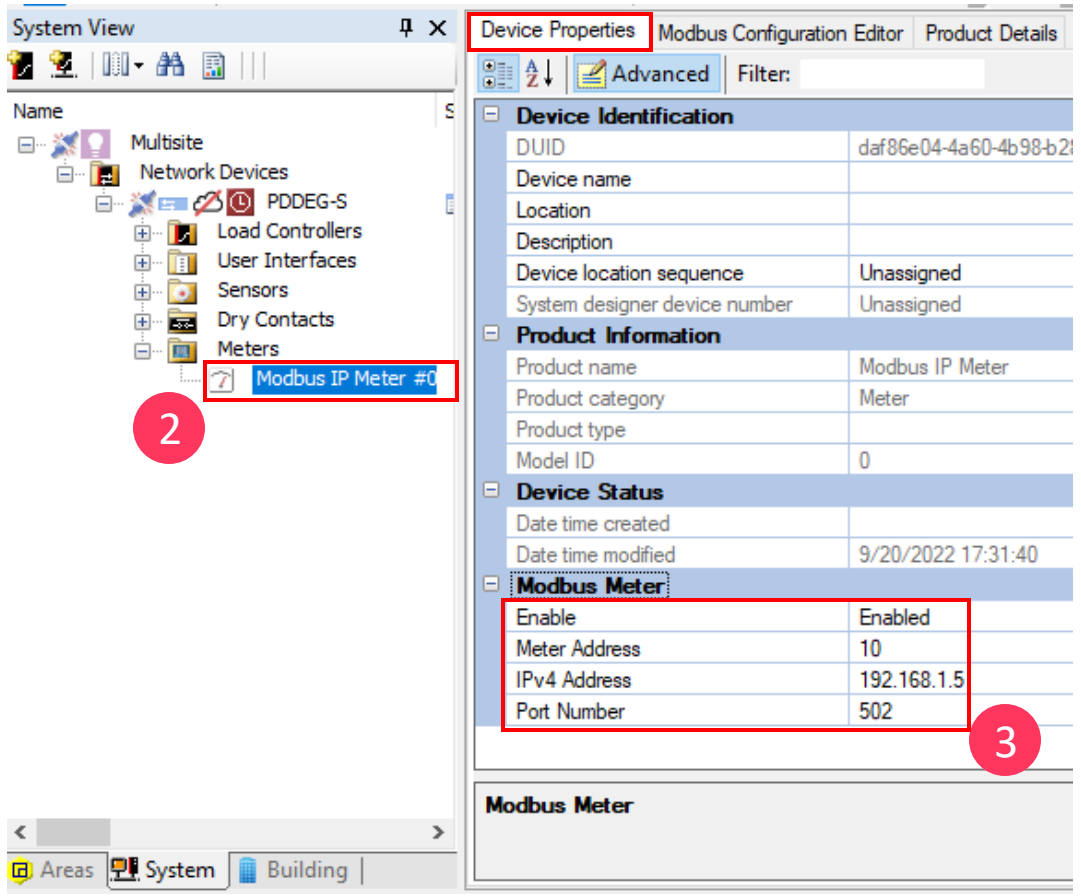
interact

Metered energy - Modbus IP | Add and configure Modbus Meters

Custom meter will appear on **Meters** list (*PDDEG-S--> Create Device tab*)

1. **Drag & Drop** custom meter under **PDDEG-S**
2. **Click** on the Modbus Meter
3. On the **Device Properties** tab, specify **Meter Address** and ensure meter is **Enabled.** Fill in meter **IP address** and **Port number**.



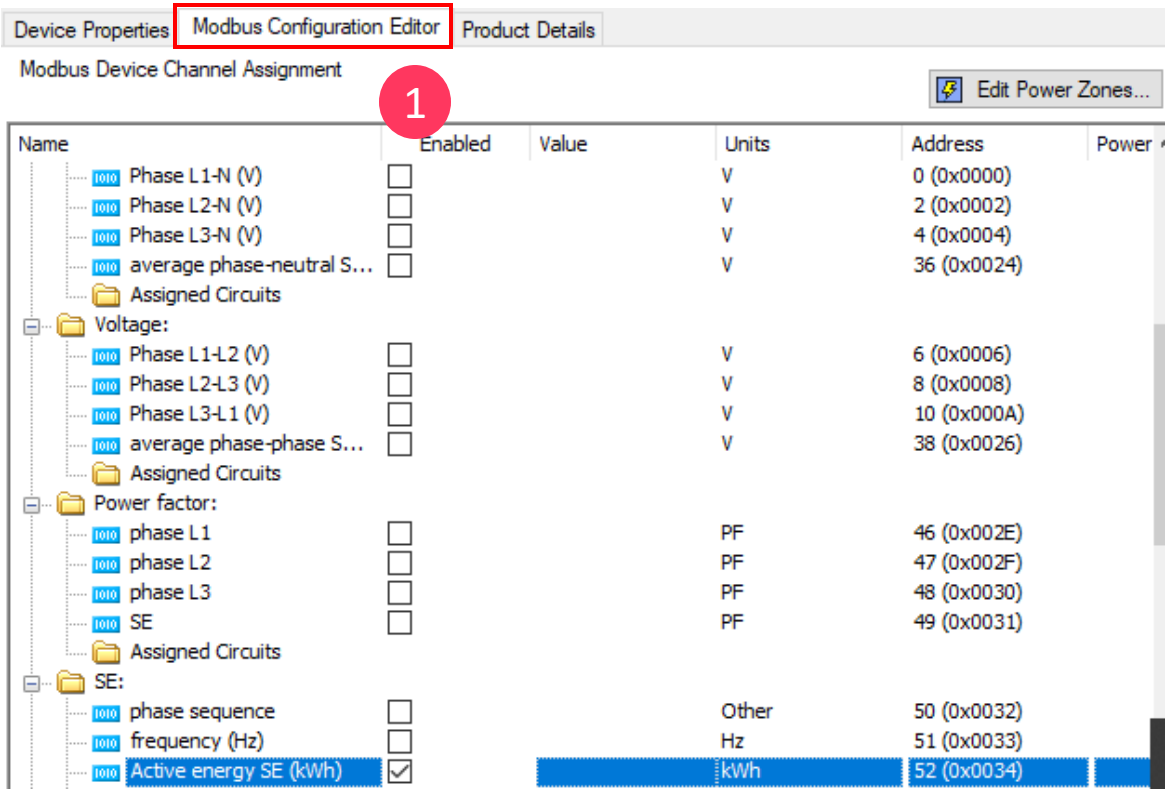


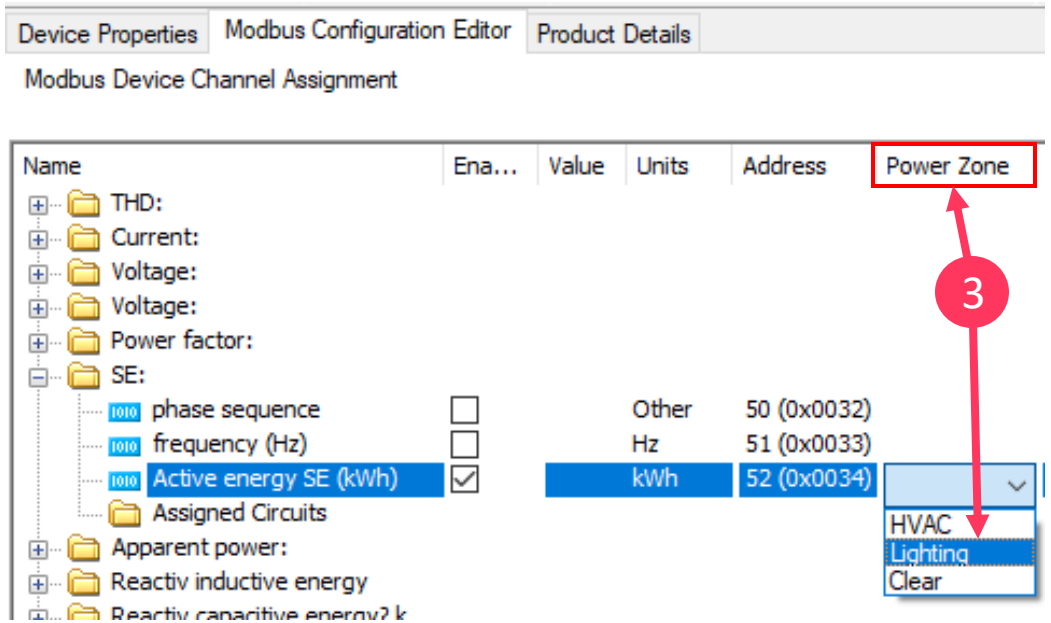
interact

Metered energy - Modbus IP | Add and configure Modbus Meters

Having selected Modbus meter in the System view:

1. Go to **Modbus Configuration Editor** tab.
2. **Enable** an **Active Energy** register.
3. In a **Power Zone** column, assign desired **Power Zone** to the **Active Energy** register.





interact

Metered energy - Modbus IP | PDDEG-S configuration

In order to finalize **PDDEG-S** configuration for Metered Energy:

1. On the **Metrics** tab, ensure that **Total Energy Consumption** metric has a **Polling Interval** of **15** minutes

Metric	
Metric type	Total Energy Consumption (Modbus)
Metric	Enabled
Method	Polling
Port type	Ethernet
Protocol	Modbus gateway
Polling interval	00:15:00
Number of registers	2
Data format	Integer
Scale factor	0.1
Signed	True
Word order	Little-endian
Byte order	Big-endian

1

interact

interact

Configure Modbus RS485 metering with PDEB/PDEG

Architecture FLX - Multisite

Metered energy - Modbus RS485 | Additional PDDEG-S configurations

Ensure System Builder job file is closed before running these steps:

1. **Open Job file from the Cloud**.
2. In the **System View**, click on **PDDEG-S**.
3. On the **Ports** tab, change the setting **Use static IP address** to **True**. Specify static IP address, Subnet mask and network Gateway IP address.
4. On the **Ports** tab, create an additional IPv4 Server Port, configured as shown on the picture.
5. Ensure all routs are configured in the **Routing** tab.

IPv4	
IPv4 ports	Enabled
Use static IP address	True
IP Address	192.168.1.20
Gateway	192.168.1.1
Subnet mask	255.255.255.0
DNS server	8.8.8.8

3

Port	Type, Index	Connection	Description
Comm Port 1	1, 1	Spur	Baudrate: 9600
IPv4 Port 1	2, 1	Spur	TCP Server, Port: 50000
Web Socket 1 /...	5, 1	Trunk	

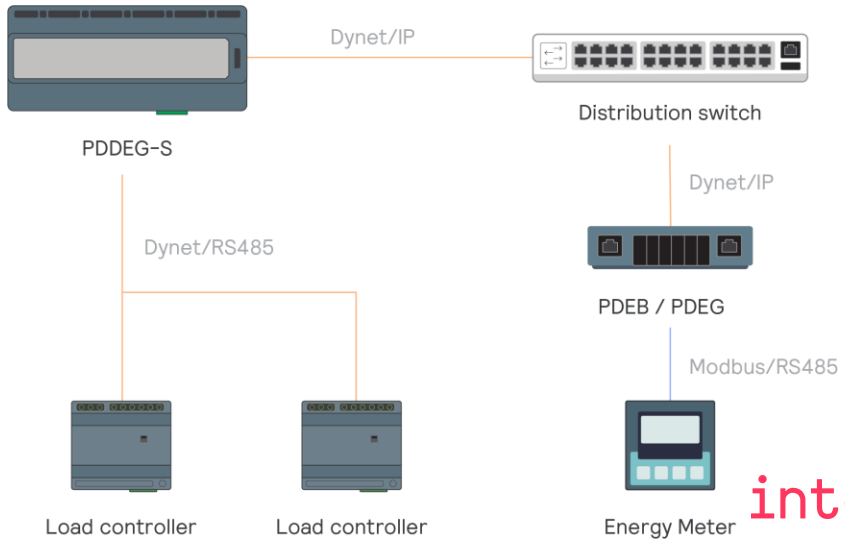
Port	
Port type	DyNet2
Mode	Server
Port Number	50000
Protocol	TCP
Flags	
Secure port	False
Connection	Spur
Area zero transmit	Disabled
Sign on at start up	Enabled

4

New Routing | Delete Routing | Copy | Paste | Route RS-485 and Default Multicast Service

Enable	From	To	Filters
☑	IPv4 Port 1, Spur, TCP Server, Port: 50000	Web Socket Port 1 / Cloud Connection , Trunk	No filter
☑	Web Socket Port 1 / Cloud Connection , Trunk	IPv4 Port 1, Spur, TCP Server, Port: 50000	No filter
☑	Internal Messages	Web Socket Port 1 / Cloud Connection , Trunk	No filter
☑	Internal Messages	IPv4 Port 1, Spur, TCP Server, Port: 50000	No filter
☑	IPv4 Port 1, Spur, TCP Server, Port: 50000	IPv4 Port 1, Spur, TCP Server, Port: 50000	No filter
☑	Metrics Collection	Web Socket Port 1 / Cloud Connection , Trunk	No filter
☑	Internal Messages	Comm Port 1, Spur	No filter
☑	Comm Port 1, Spur	Web Socket Port 1 / Cloud Connection , Trunk	No filter
☑	Web Socket Port 1 / Cloud Connection , Trunk	Comm Port 1, Spur	No filter
☑	Metrics Collection	IPv4 Port 1, Spur, TCP Server, Port: 50000	No filter
☑	Metrics Collection	Comm Port 1, Spur	No filter

5

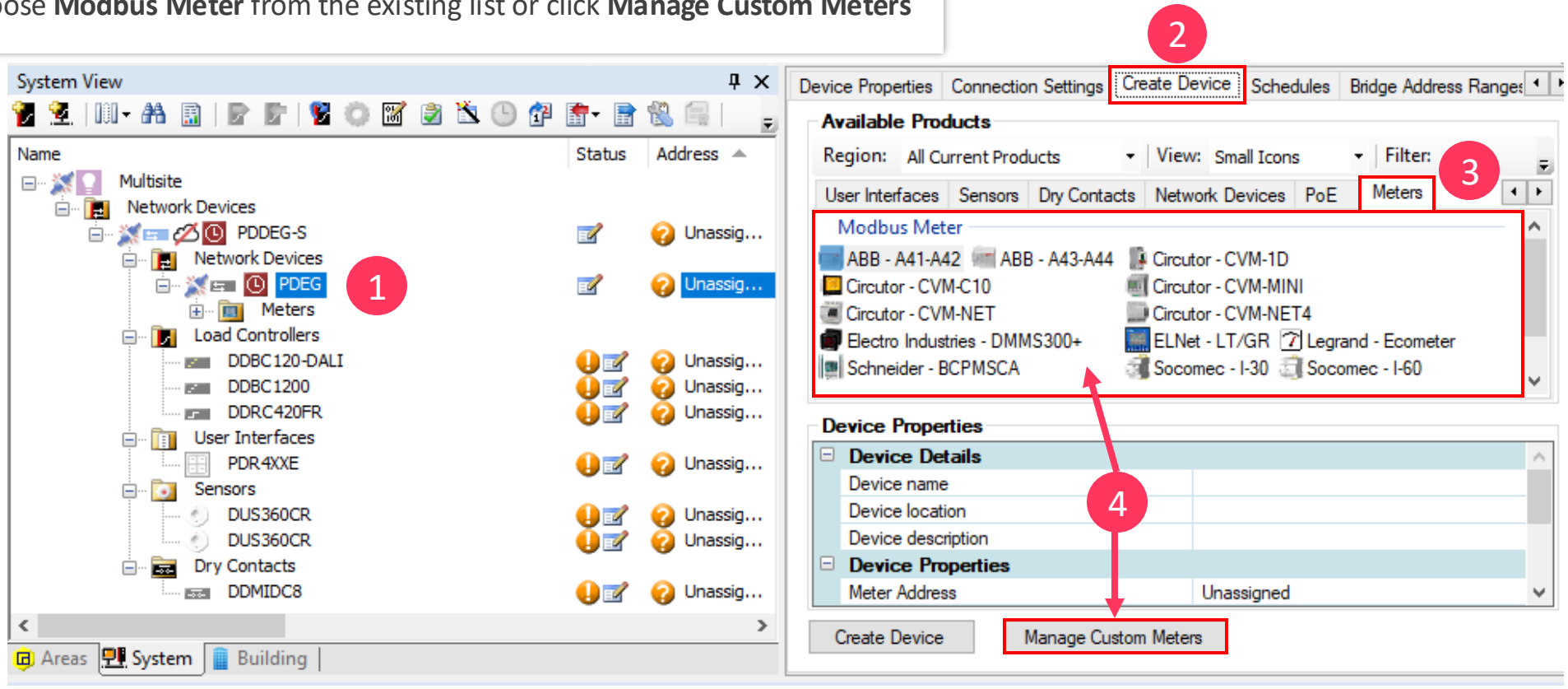


interact

Metered energy - Modbus RS485 | Add and configure Modbus meters

To add Modbus meters:

1. In the **System** view, add **PDEG/PDEB** device under **PDDEG-S,** and click on it.
2. Go to the **Create Device** tab.
3. Select **Meters** tab.
4. Choose **Modbus Meter** from the existing list or click **Manage Custom Meters**



interact

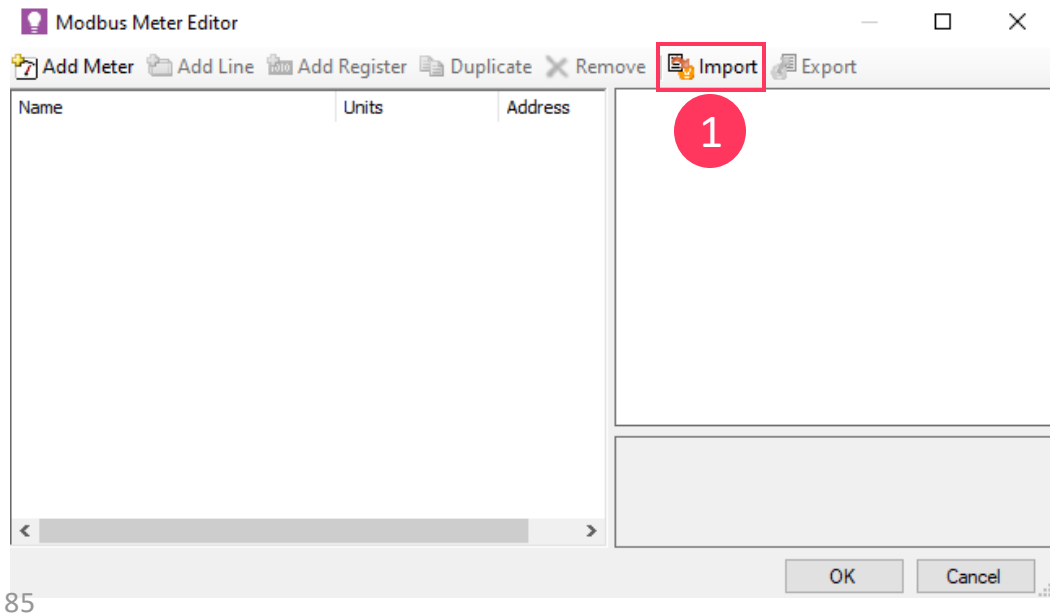
Metered energy - Modbus RS485 | Add and configure Modbus meters

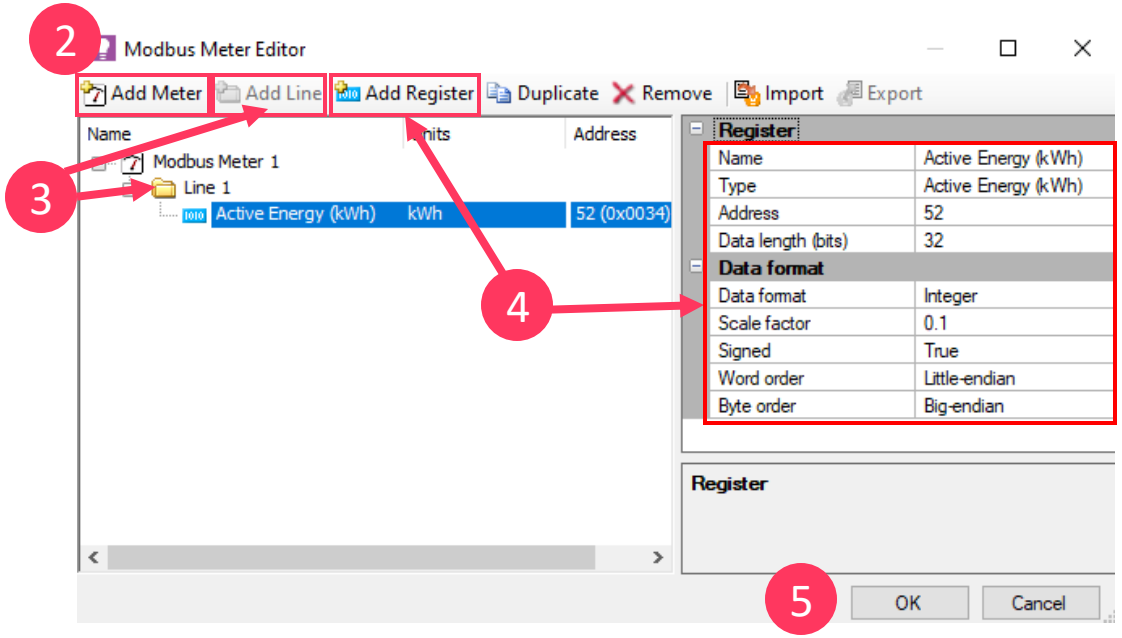
When selected **Manage Custom Meters** :

1. Click **Import**, to load Modbus meter from the external *.mmx file, for example → Carel MT300W3200.mmx

or,

2. Click **Add Meter**.
3. Create a **Line**.
4. **Add Register** and configure as an **Active Energy** register, according to Modbus Meter technical documentation.
5. Click **OK**.





interact

Metered energy - Modbus RS485 | Add and configure Modbus meters

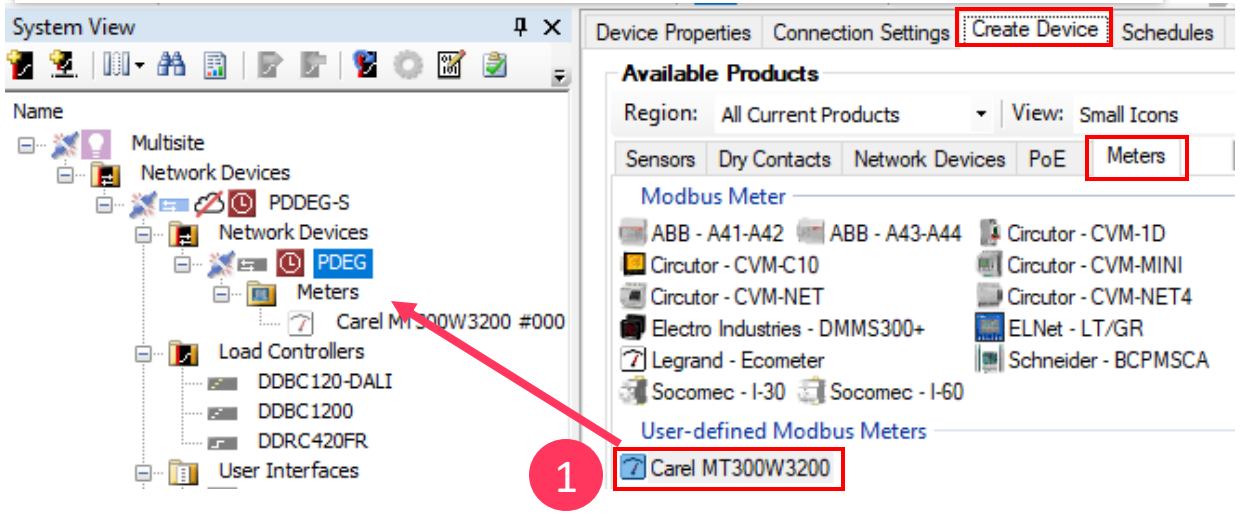
Custom meter will appear on **Meters** list (PDEG --> *Create Device* tab)

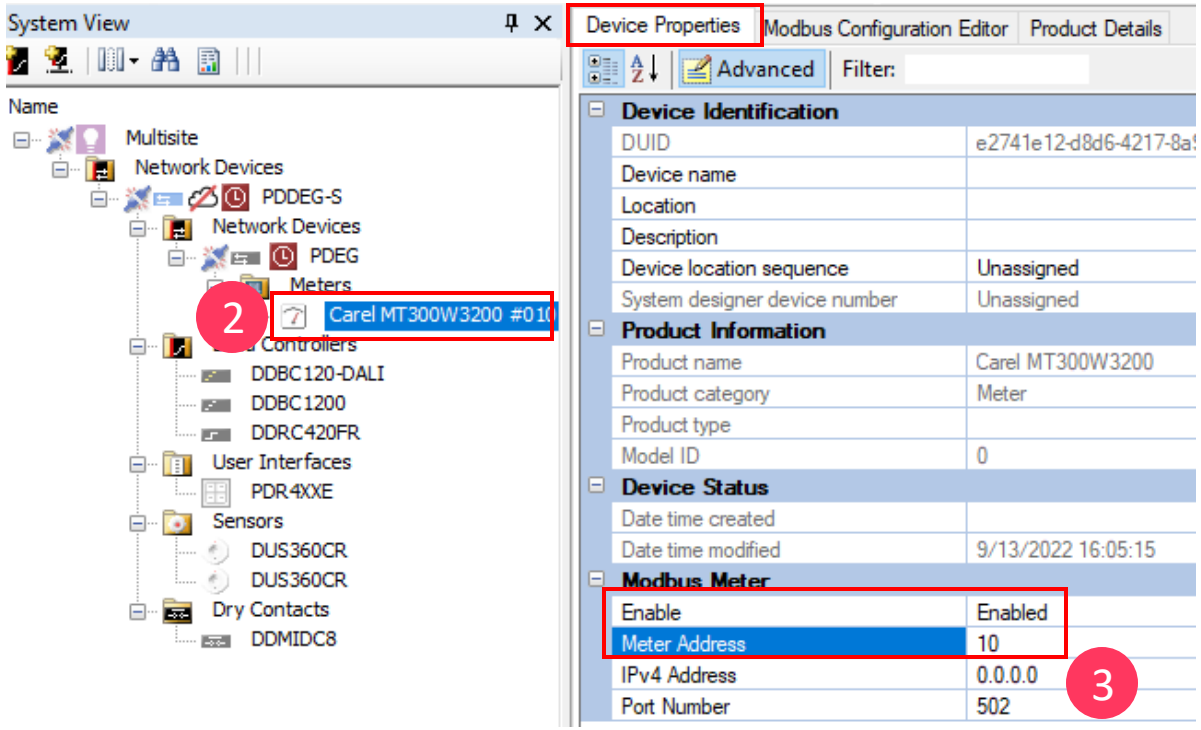
1. **Drag & Drop** Custom Meter under **PDEG/PDEB**.

<u>From now onwards, all the steps are relevant for Modbus meters added from SB list or created as Custom Meters</u>

2. **Click** on the Modbus Meter.

3 On the **Device Properties** tab, specify **Meter Address** and ensure meter is **Enabled**.



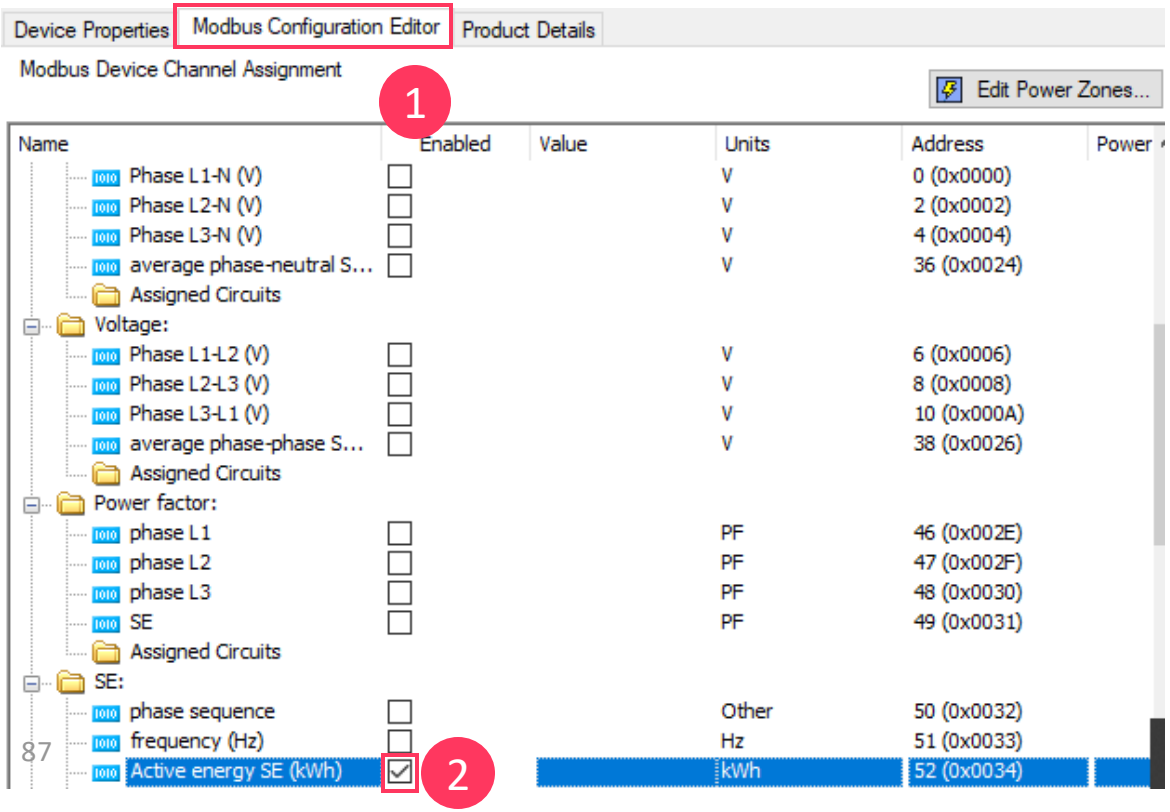


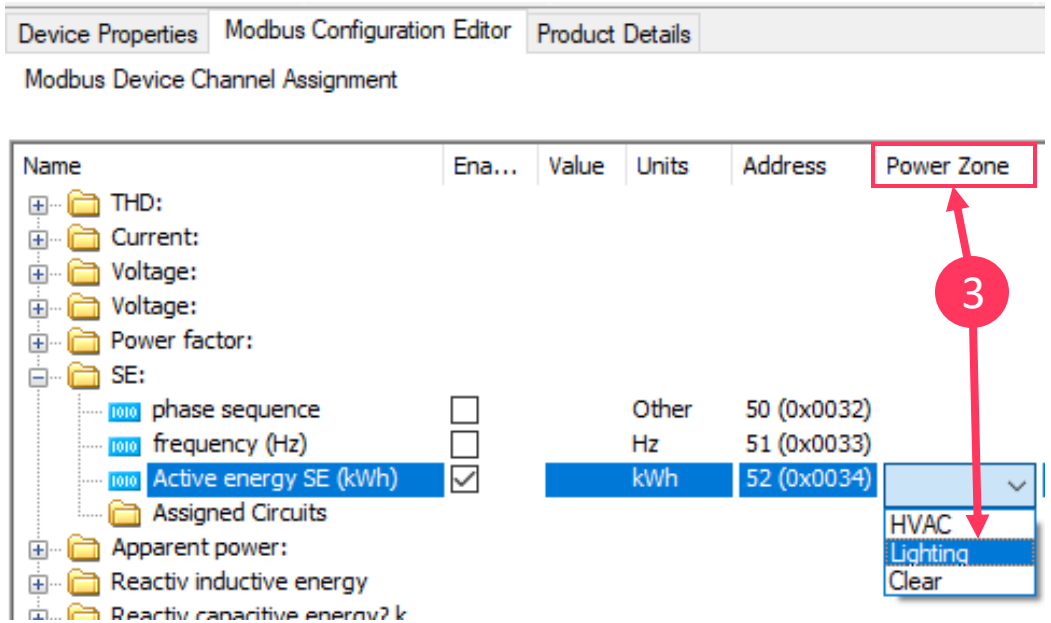
interact

Metered energy - Modbus RS485 | Add and configure Modbus meters

Having selected Modbus meter in the System view:

1. Go to **Modbus Configuration Editor** tab.
2. **Enable** an **Active Energy** register.
3. In a **Power Zone** column, assign desired **Power Zone** to the **Active Energy** register.

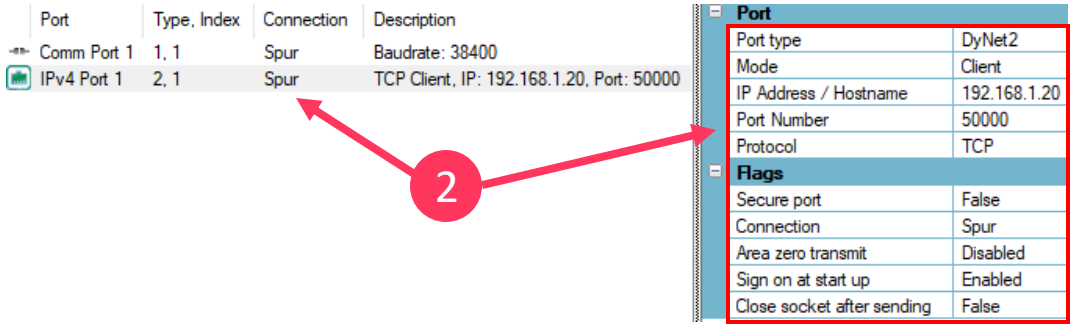


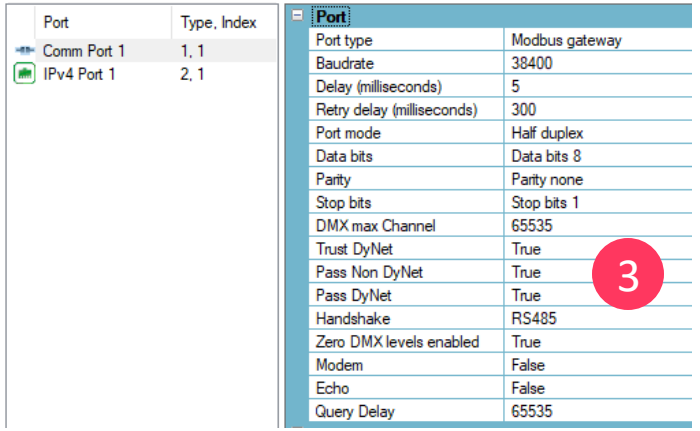


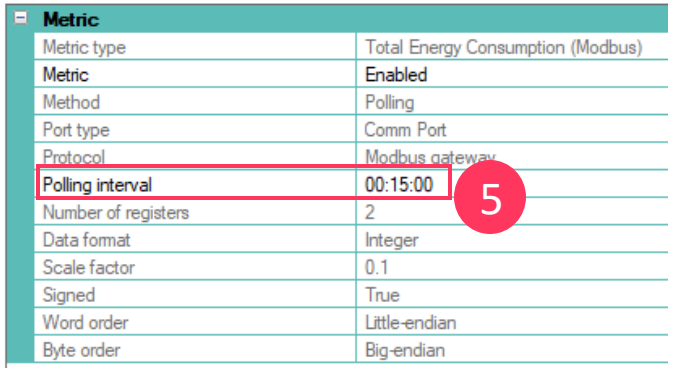
Metered energy - Modbus RS485 | Add and configure PDEG/PDEB

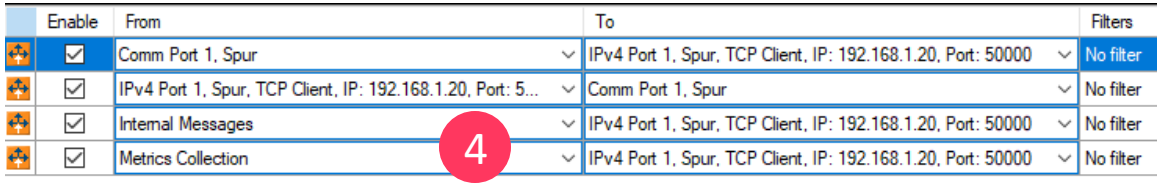
In order to configure **PDEG/PDEB** as a Modbus gateway:

1. Configure **PDEG/PDEB** IP address, Gateway and Subnet. PDEG must belongs to the same network as PDDEG-S.
2. On the **Ports** tab, create an additional **IPv4 Client** Port, indicating PDDEG-S IP address as a **Hostname**. Apply all shown settings.
3. On the **Ports** tab, configure **Comm Port 1** as **a Modbus Gateway** type. Apply all indicated settings.
4. Cross check routing setting on the **Routing** tab.
5. On the **Metrics** tab, ensure **Total Energy Consumption** metric **Polling Interval** is set to **15** minutes.









interact

interact

Plan installation and commissioning

Architecture FLX - Multisite

Plan commissioning | Preparation

Request work order for Site Engineer

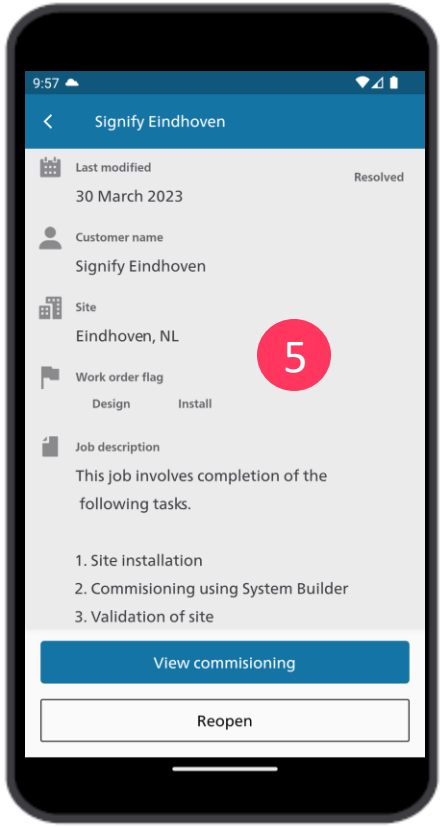
Before onsite activities, a work order for Site Engineer must be requested and proceeded by Global Software Operations team. The installer receives an email when the work order is assigned.

Install Philips Dynalite Enabler app

*Before going onsite, install the **Philips Dynalite Enabler app*** on the phone.

It is recommended to check if the **Philips Dynalite Enabler app** functions as expected to prepare for the onsite commissioning.

1. Open the app on your device
2. Select region: **Global**
3. Enter your username (email address), then tap **Next**
4. Enter your password. Tap **Sign In**
5. Select the **work order.** It is expected to observe work order summary page with a **Start Commissioning** button**. Do not start commissioning** before site visit.



interact

Plan installation | Connectivity audit

Order hardware

System Designer tool can generate reports with complete overview of all designed in system components. Make sure all the hardware required for the project have been ordered.

Perform a connectivity audit

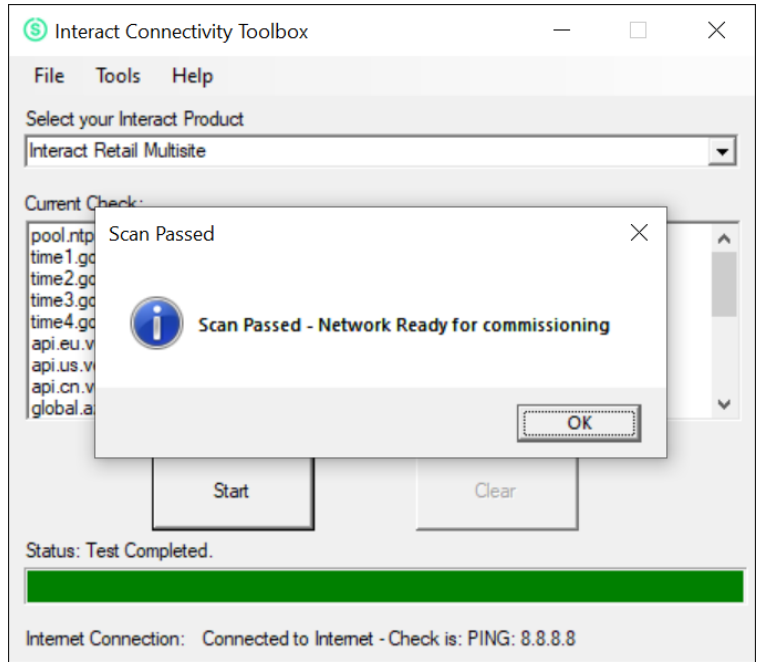
IT department of customer should be informed about number of endpoints which must be accessible from the internal network in order to provide gateway connectivity to Interact Cloud.

*More information is available on the **Signify Partner Portal** in the **Security Statement** document.*

*To ensure customer IT infrastructure is ready for the Multisite installation, it is advised to run on the customer site an **Interact Connectivity Toolbox.***

Ideally, this should happen prior to the commissioning date, with close cooperation between Signify and customer's IT department.

1. Visit **Signify Partner Portal** and download **Interact Connectivity Toolbox** software and **Technical Note** document
2. Follow all the steps described in the **Technical Note**



interact

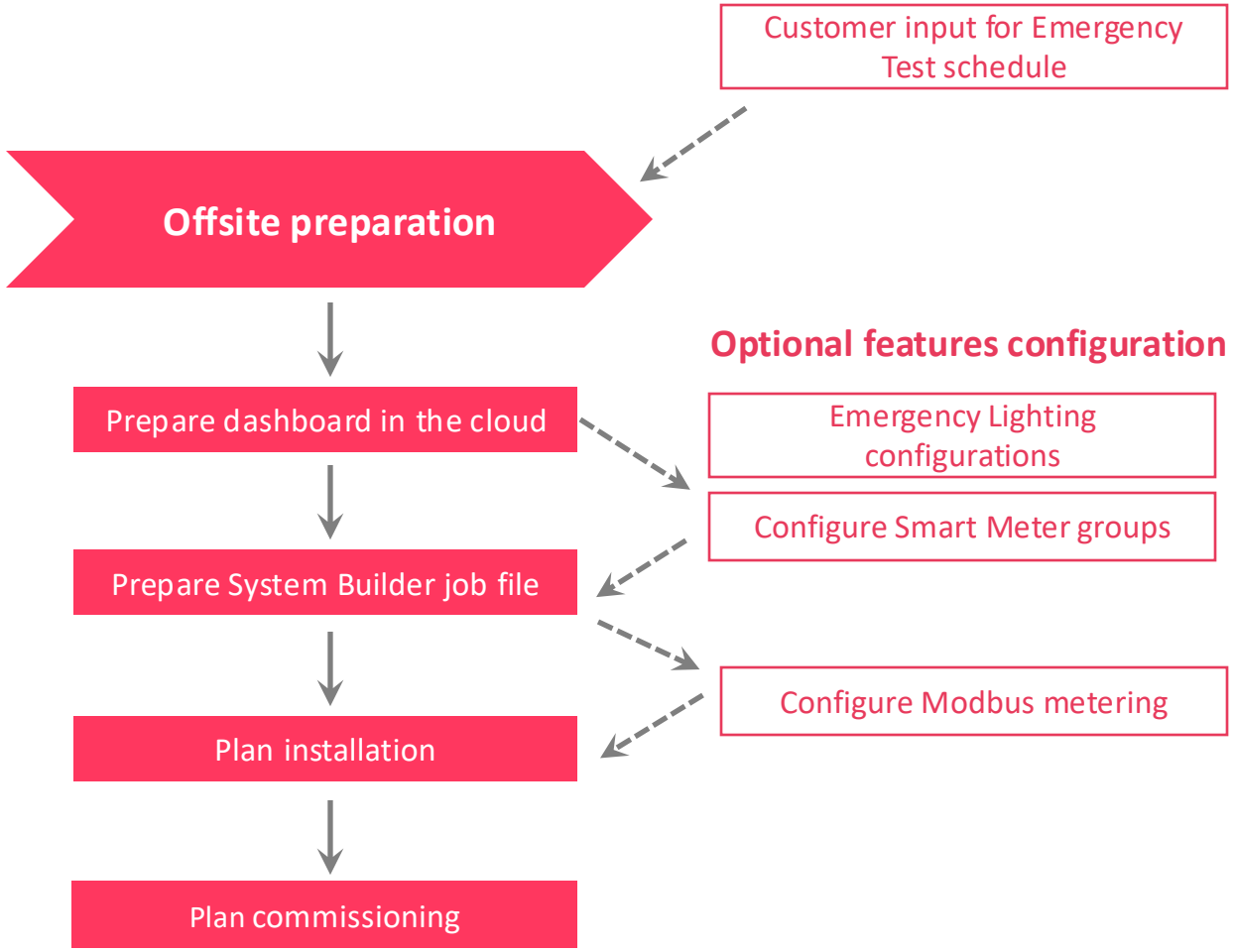
Lesson review

Architecture FLX - Multisite

Lesson review | Onsite installation, commissioning and validation

In this lesson, you have learnt:

- Which are the steps to be taken in the offsite commissioning.
- Base Link Areas need to be defined and linked to each channel before uploading the System Builder file to the cloud. Plus, all the areas have 64 presets, devices have unique names, and the gateway have 100 schedules, 30 public holidays, and 30 special events.
- Manual Override integration features need the task and join additional configuration.
- How to configure Connected Emergency Light Testing feature
- Metered Energy configurations are only relevant for projects that are meant for monitoring of an Active Energy consumption through Modbus meters.



interact

interact