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# **Commissioning: offsite preparation**

Architecture FLX - Multisite

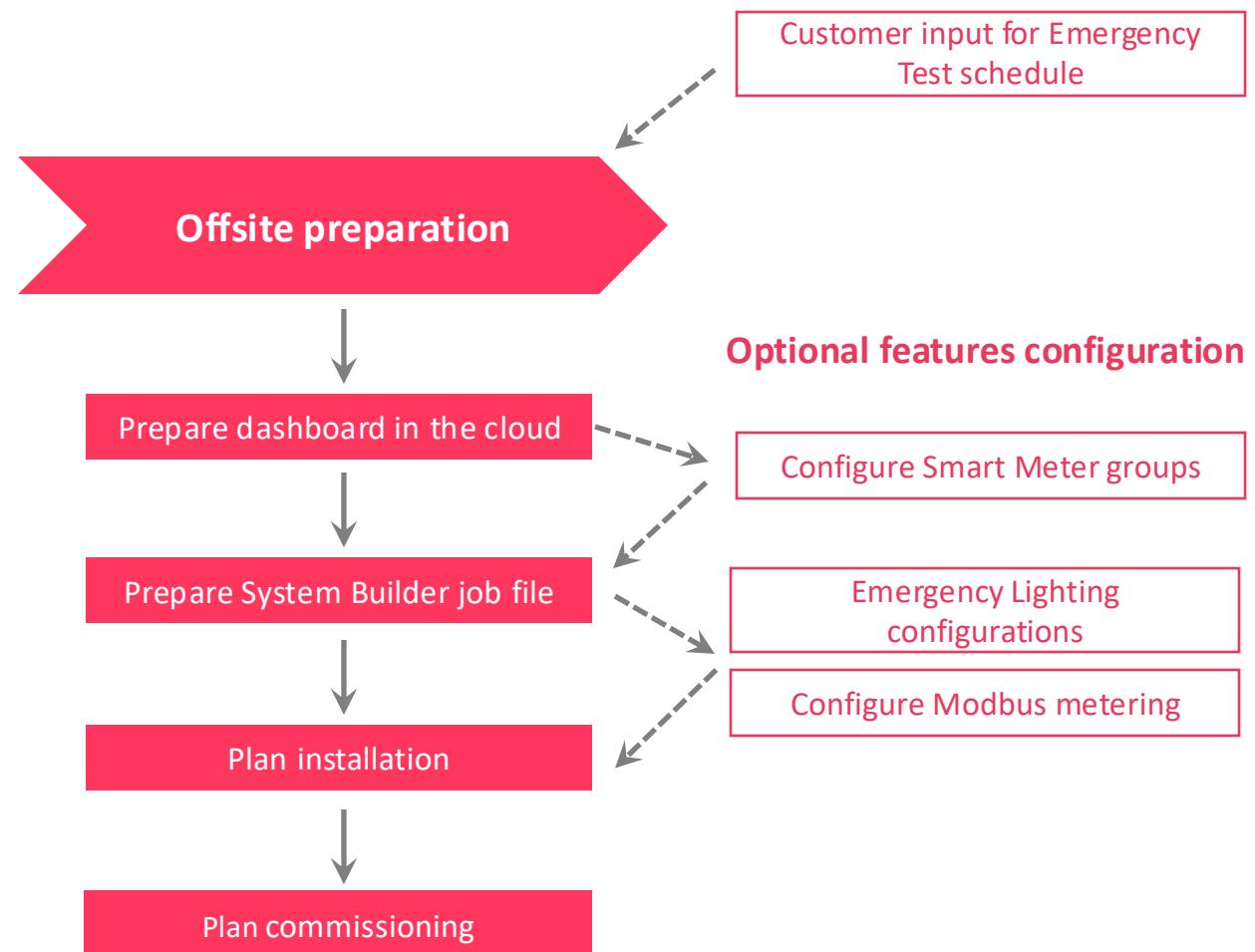
### Learning objectives | Multisite offsite preparation

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 license 
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  
Sales Floor #2  
Define Child areas and Logical channels on page 7

Area 1 scenes	
Trading #1	All Off #5
Stocking #2	Hello #6
Cleaning #3	
Trading Eco #4	

Area 2  
Back of House #3  
Define Child areas and Logical channels on page 11

Area 2 scenes	
Trading #1	All Off #5
Stocking #2	
Cleaning #3	
Trading Eco #4	

Area 3  
Outdoor #4  
Define Child areas and Logical channels on page 13

Area 3 scenes	
All ON, Park D/N #1	
Sign On, Park+Fac D/N #2	
All D/N #3	
All Off #4	

#### Dashboard – Cloud configuration

Name	Scenes
Sales Floor 7 nested areas	Trading Stocking Cleaning Trading Eco All Off Hello
Back of House 3 nested areas	Trading Stocking Cleaning Trading Eco All Off
Outdoor 2 nested areas	All ON, Park D/N Sign On, Park+Fac D/N All D/N All Off

#### System Builder

Name	Number
IAR Multisite	
Unassigned Area	A1
Cash Registers	A21
Sales Floor	A2
Back of House	A3
Outdoor	A4
Main Sales Floor	A22
Bakery	A23
Fresh Food	A24

Num	Preset Name
1	Trading
2	Stocking
3	Cleaning
4	Trading Eco
5	All Off
6	Hello

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**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.

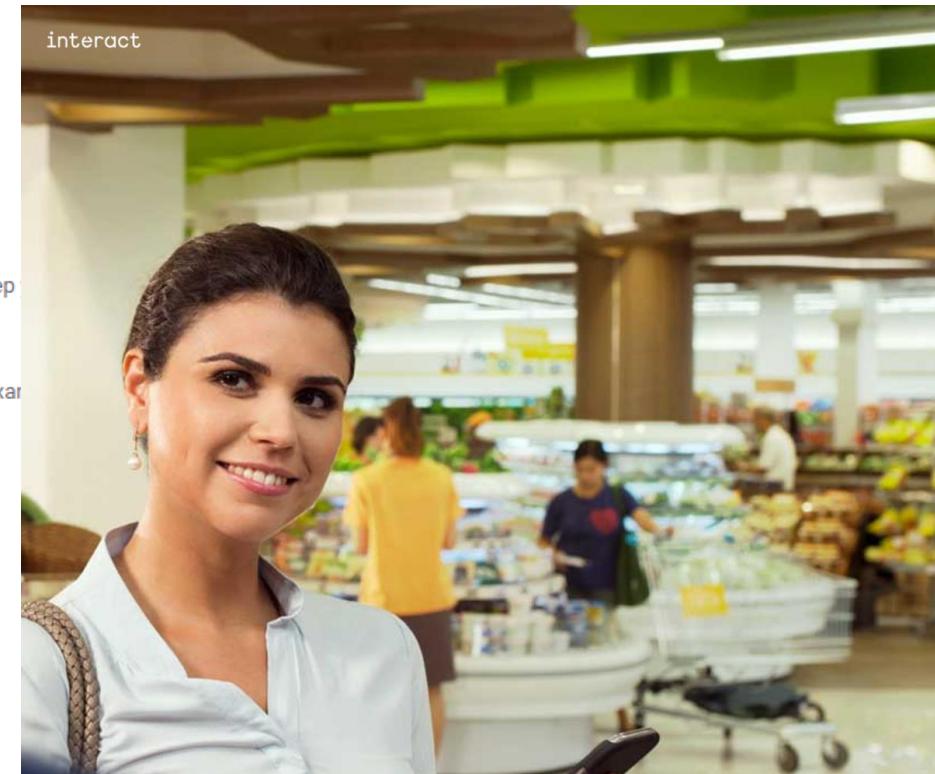
1. In the browser settings, change the cookies setting to **Allow all cookies**
2. Browse to the web page with the address: [www.eu.retail.interact-lighting.com](http://www.eu.retail.interact-lighting.com)
3. Login and follow the authentication steps.

#### General settings

Allow all cookies

**1**  Sites can use cookies to improve your browsing experience, for example, to keep to remember items in your shopping cart

 Sites can use cookies to see your browsing activity across different sites, for example, to personalize ads



**Log in**

Interact Multisite &  
Indoor Navigation

**Log in**

If you click 'Log in' you have read and agree to the  
[terms of use](#) and [privacy notice](#).

This site uses open source packages, you can  
find a list of the used packages with their  
[licences here](#).

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## 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

Areas & scenes

Search for an area

Name      Scenes

No data available

Configuration

Assets      Light control      Energy

Areas & scenes

SuperCenter

Create new area

Create new area

Enter the area ID

2

Enter the area name

Sales Floor

**Day & Night Mode**

Day and night mode allows you to set a different light level during the day (after sunrise) and at night (after sunset).

The day and night mode will be activated at the right time automatically by the system.

Cancel      Save

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## 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....)



The screenshot shows the 'Areas & scenes' section of the Interact Cloud interface. On the left, there's a sidebar with icons for 'Areas & scenes' (selected), 'Assets', 'Light control', and 'Configuration'. The main area displays a table with three rows: 'Sales Floor' (0 nested areas), 'Back of House' (0 nested areas), and 'Outdoor' (0 nested areas). Each row has a three-dot menu icon on the right. A 'Create new area' button is located at the top right of this table. A red arrow labeled '1' points from the 'Sales Floor' row to the three-dot menu icon. A red arrow labeled '2' points from the 'Create new area' button to a 'Create new scene' button in a modal dialog. The dialog is titled 'Create new scene' and contains two input fields: 'Enter the scene id' with the value '1' and 'Enter the scene name' with the value 'Trading'. A red circle labeled '3' is placed over the 'Enter the scene name' field. The bottom right of the dialog has 'Cancel' and 'Save' buttons.

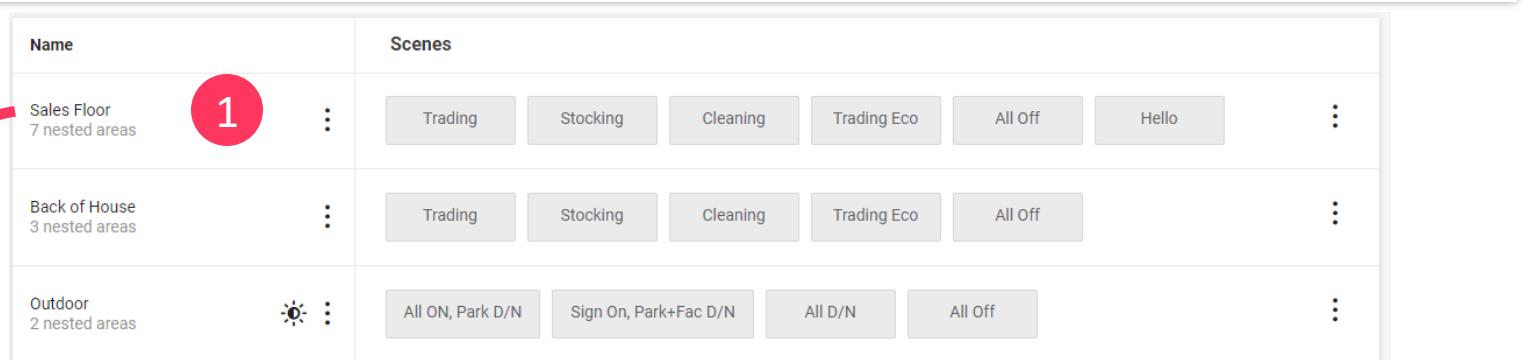
## Interact Cloud | Add child areas

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....





**1**

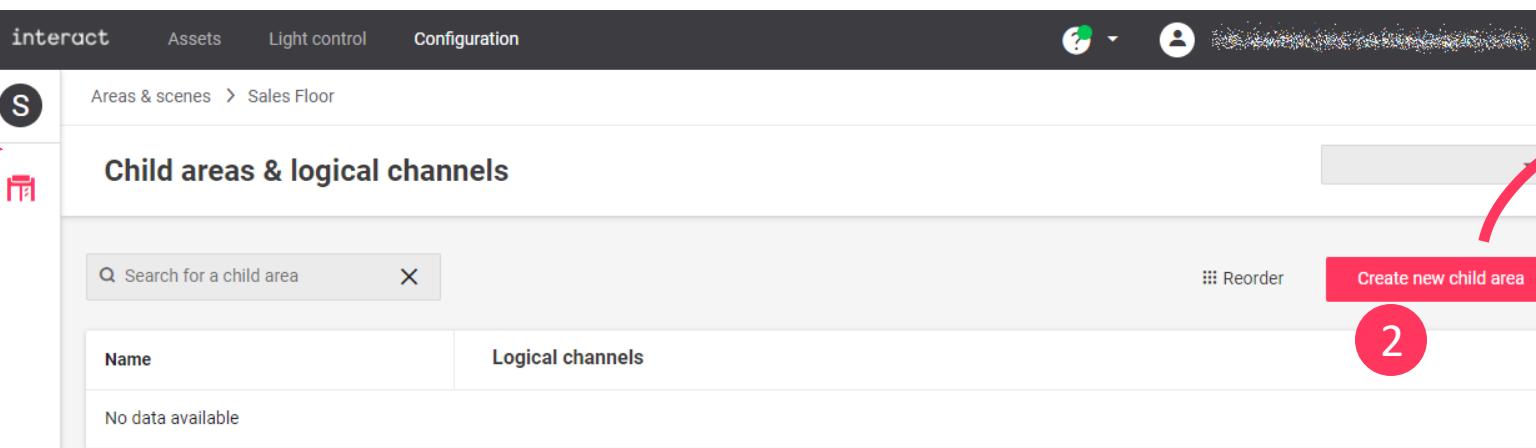
**Create new child area**

Enter the child area ID

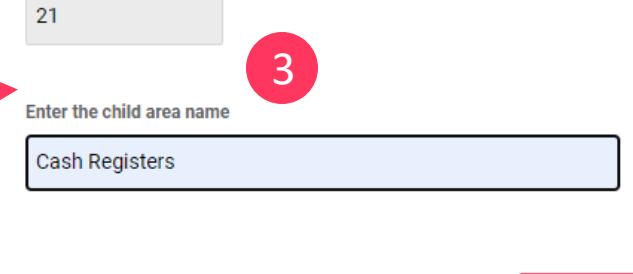
Enter the child area name

**2**

**3**



**2**



**3**

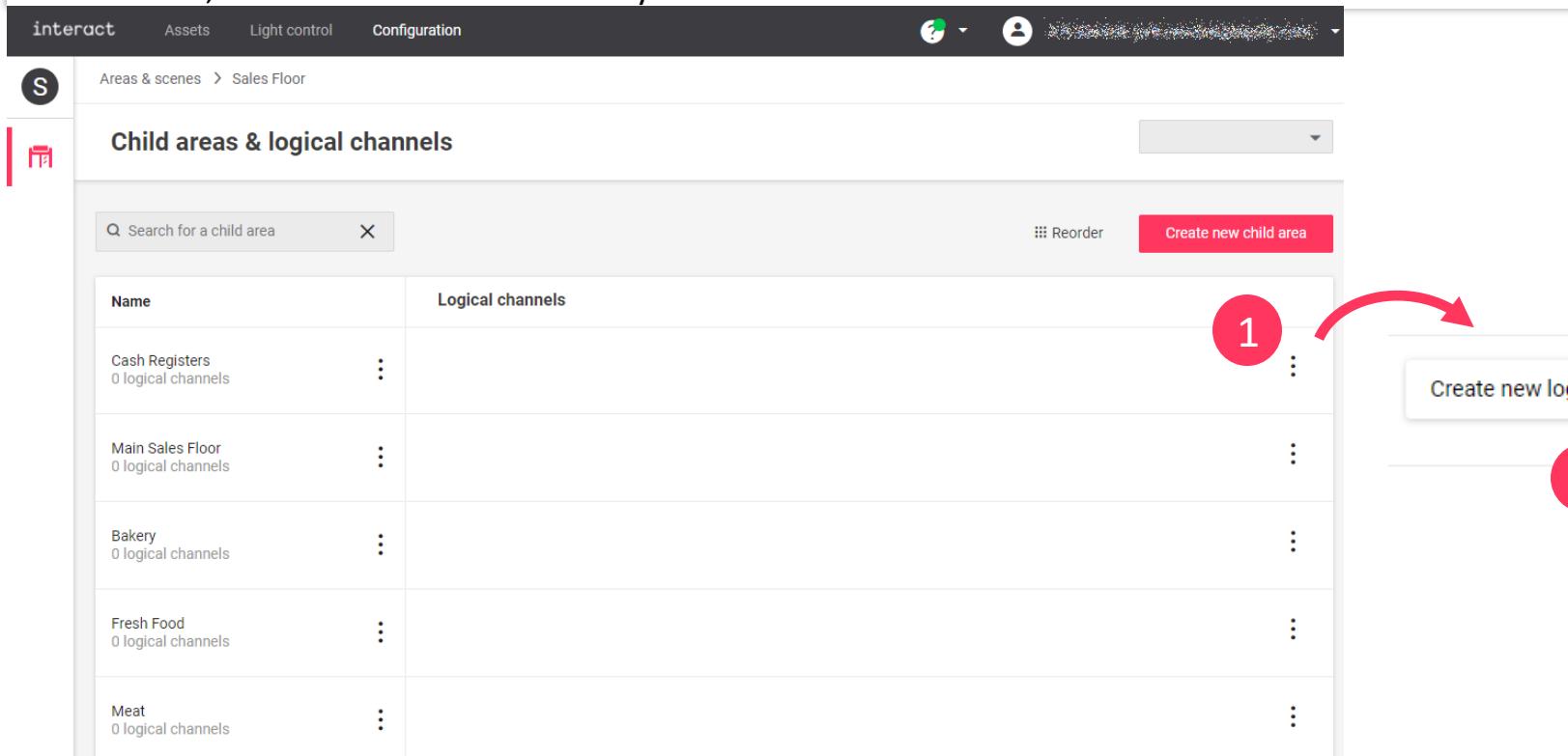
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## Interact Cloud | Add logical channels

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.



Areas & scenes > Sales Floor

Child areas & logical channels

Search for a child area

Reorder

Create new child area

Name	Logical channels
Cash Registers 0 logical channels	⋮
Main Sales Floor 0 logical channels	⋮
Bakery 0 logical channels	⋮
Fresh Food 0 logical channels	⋮
Meat 0 logical channels	⋮

Create new logical channel

Enter the logical channel type

Dimming/Swi

Enter the logical channel ID

1

Enter the logical channel name

Cash Register 1

Cancel

Save

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



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## 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**



The screenshot shows the 'Edit usage' interface for managing areas, scenes, and channels. The main view on the left lists areas: 'Sales Floor' (6 child areas), 'Back of House' (8 child areas), and 'Outdoor' (5 child areas). Each area has a list of scenes (Trading, Stocking, Cleaning, Trading Eco, All Off, Hello) and a 'More' button. A red arrow points from the 'Edit usage' button (labeled 1) to the 'Edit usage' dialog on the right. The dialog shows the same area list, but with different scene states: 'Sales Floor' has 'Trading' (dark), 'Stocking' (dark), 'Cleaning' (dark), 'Trading Eco' (light), 'All Off' (light), and 'Hello' (light). 'Back of House' has 'Trading' (light), 'Stocking' (dark), 'Cleaning' (dark), 'Trading Eco' (light), and 'All Off' (dark). 'Outdoor' has 'All ON, Park D/N' (dark), 'Sign On, Park+Fac D/N' (light), 'All D/N' (light), and 'All Off' (dark). A red circle labeled 2 is on the 'Sales Floor' row. A red circle labeled 3 is on the 'Cleaning' button for 'Sales Floor'. A red circle labeled 4 is on the 'Save' button in the dialog. A red arrow points from the 'Save' button to the 'Save' button in the main interface.

Name	Scenes
Sales Floor 6 child areas	Trading Stocking Cleaning Trading Eco All Off Hello
Back of House 8 child areas	Trading Stocking Cleaning Trading Eco All Off
Outdoor 5 child areas	All ON, Park D/N Sign On, Park+Fac D/N All D/N All Off

1 Edit usage Create new area

Name	Scenes
Sales Floor 7 child areas	Trading Stocking Cleaning Trading Eco All Off Hello
Back of House 8 child areas	Trading Stocking Cleaning Trading Eco All Off
Outdoor 5 child areas	All ON, Park D/N Sign On, Park+Fac D/N All D/N All Off

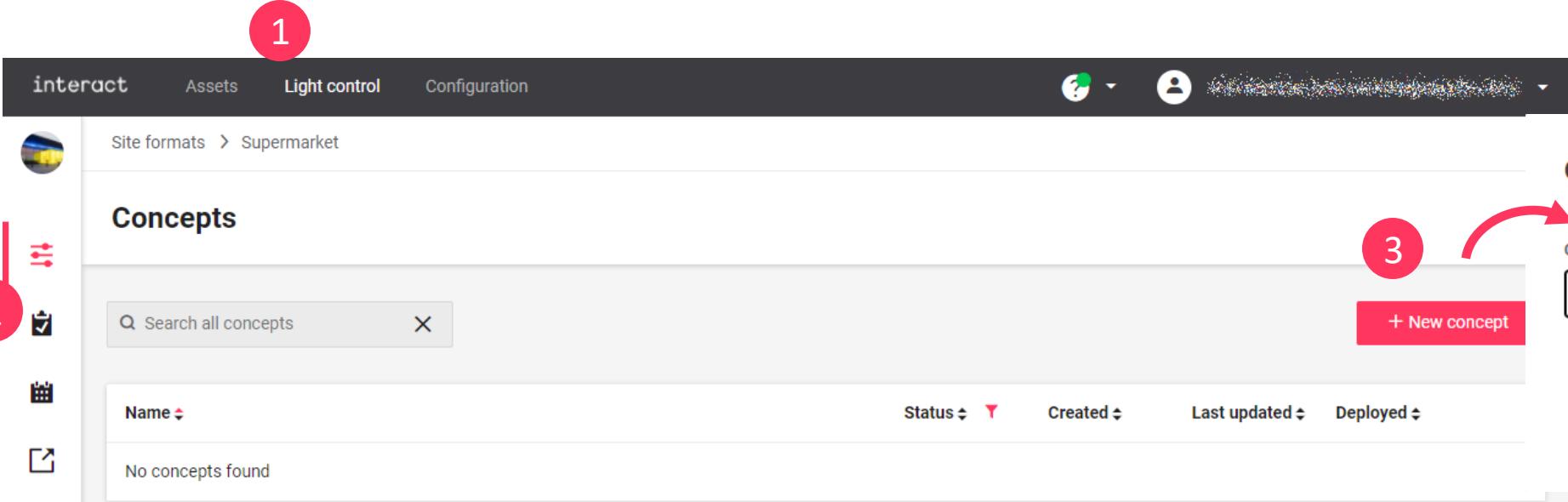
Cancel Save

## 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**



The screenshot shows the 'Concepts' page in the Interact Cloud interface. A red circle labeled '1' is on the 'Light control' menu item. A red circle labeled '2' is on the 'Concepts' icon in the left sidebar. A red circle labeled '3' is on the '+ New concept' button. A red circle labeled '4' is on the 'Create' button in the bottom right corner of the modal. The modal itself has a title 'Create a new concept' and a text field 'Give the concept a name' containing the value 'Standard'.

## 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



The screenshot shows the 'Concepts' page in the Interact Cloud interface. On the left, there is a sidebar with icons for Site formats, Concepts, and other settings. The main area is titled 'Concepts' and shows a table of concepts. The first concept, 'Standard', is highlighted with a red circle containing the number '1'. A red arrow points from this circle down to the row for 'Sales Floor', which is highlighted with a red circle containing the number '2'. The table has columns for 'Name' and 'Status'. The 'Sales Floor' row shows '7 child areas' and has status buttons for 'Trading', 'Stocking', 'Cleaning', 'Trading Eco', 'All Off', and 'Hello'. The 'Back of House' row shows '2 child areas' and has status buttons for 'Trading', 'Stocking', and 'Cleaning'. The 'Outdoor' row shows '0 child areas' and has a status button for 'All ON, Park D/N'.

Name	Status
Standard	Default Draft
Sales Floor 7 child areas	Trading Stocking Cleaning Trading Eco All Off Hello
Back of House 2 child areas	Trading Stocking Cleaning
Outdoor 0 child areas	All ON, Park D/N

## Interact Cloud | Edit concept 2/3

Start editing the light settings for the area:

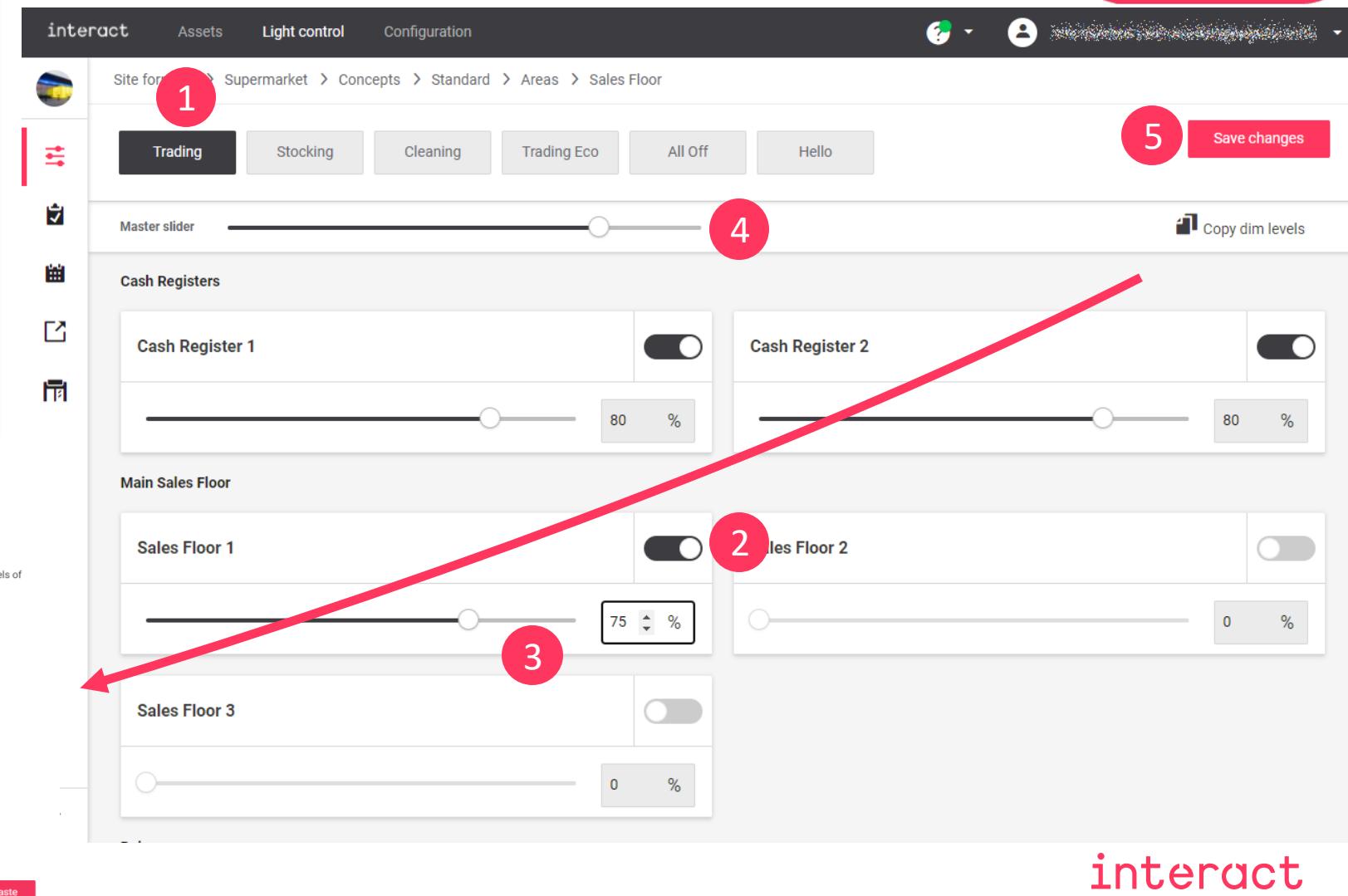
1. Select a **Scene** to edit channel level settings
2. Switch the zone **ON** or **OFF**, using a toggle switch
3. Move the **dim slider** to adjust light level, or enter the value in the box
4. Use the **Master slider** to change the relative dim level of all zones that are switched to ON
5. Click **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.

## Copy dim levels

Select the scenes you want to paste the copied dim levels of **Stocking** to:

- Trading
- Cleaning
- Trading Eco
- All On
- All Off
- Promotion
- inventory
- Sport events promotions



## 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

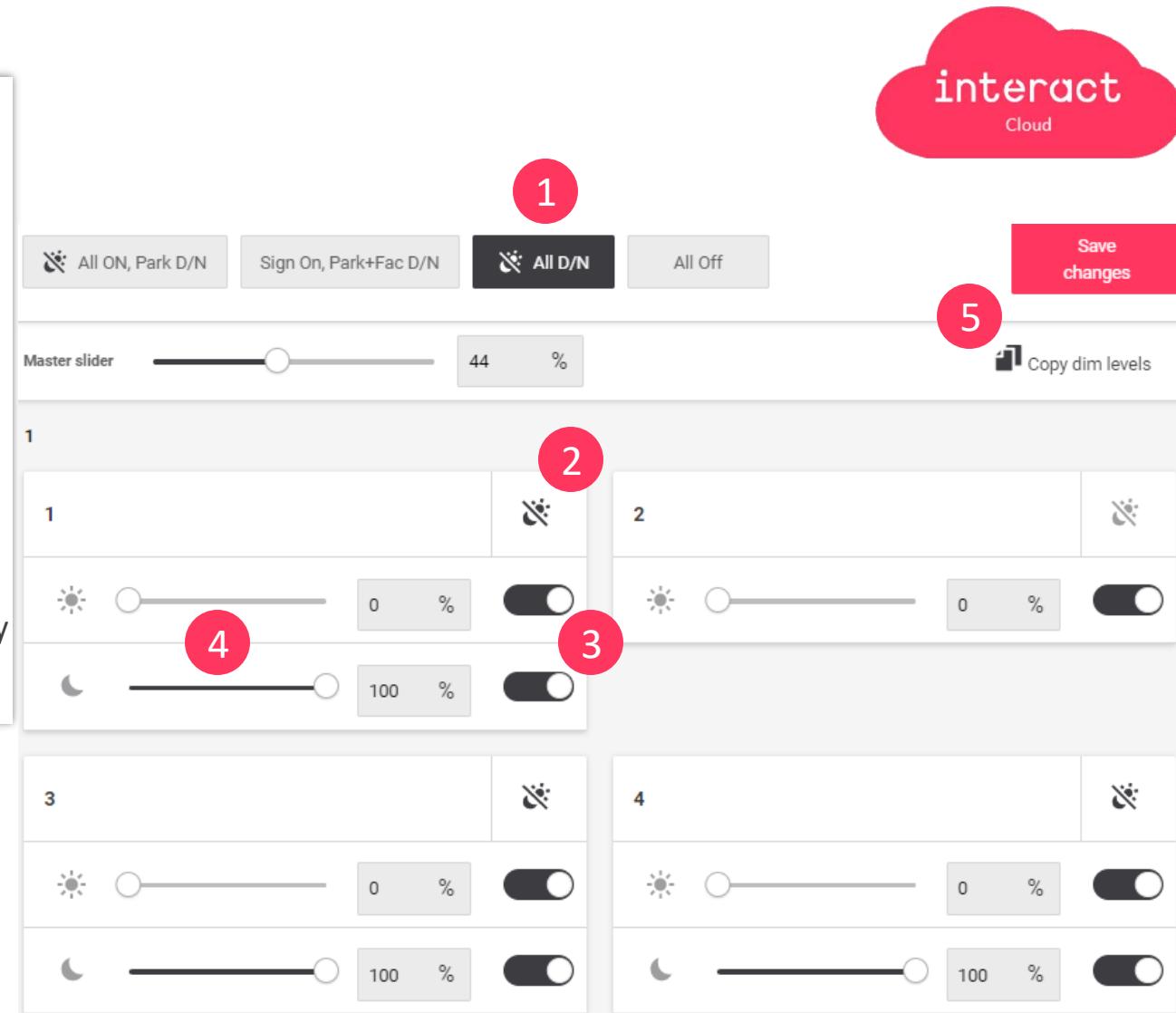
After sunrise, the Day setting is applied and after sunset, the Night setting.

Enter the area name

 ☀️ **Day & Night Mode**

Day and night mode allows you to set a different light level during the day (after sunrise) and at night (after sunset).

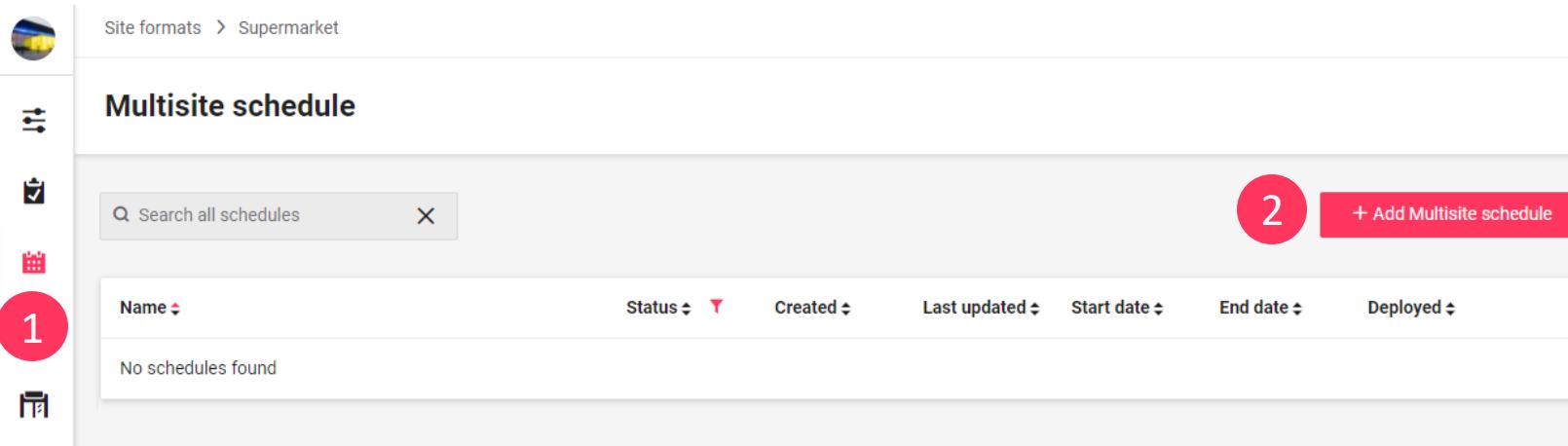
The day and night mode will be activated at the right time automatically by the system.



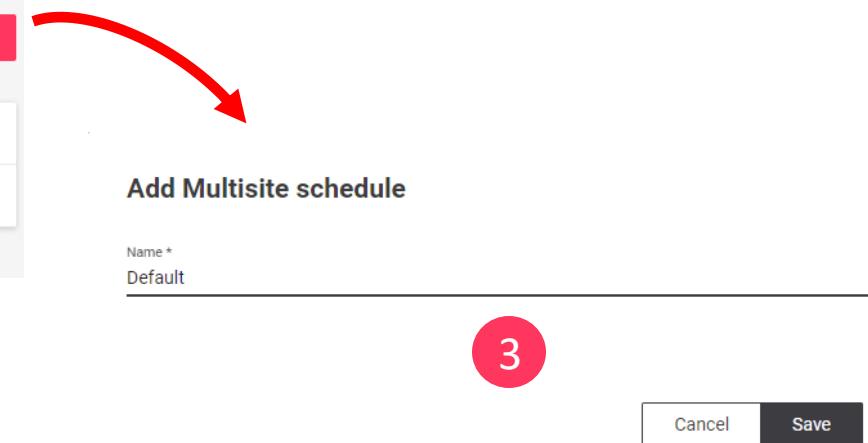
## Interact Cloud | Add schedule 1/3

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**



A screenshot of the Multisite schedule list page. On the left, a vertical sidebar shows icons for Site formats, Multisite, and Schedules. The Schedules icon is highlighted with a red circle containing the number 1. The main area shows a table with columns: Name, Status, Created, Last updated, Start date, End date, and Deployed. A search bar at the top left says "Search all schedules". A red circle containing the number 2 is on the "Add Multisite schedule" button. A red arrow points from this button to the "Add Multisite schedule" dialog box on the right.



A screenshot of the "Add Multisite schedule" dialog box. It has a single input field labeled "Name \*". The word "Default" is typed into the field. At the bottom right are "Cancel" and "Save" buttons. A red circle containing the number 3 is on the "Save" button.

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## 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**

Site formats > Supermarket > Multisite schedules > Default

**Default** No schedules were created Up to date

Time blocks Calendar

**Add Schedule**

Where

Areas

- Sales Floor
- Back of House
- Outdoor

**Add Schedule**

When

Types \* **2**  
Simple event

Start date \* **3** 9/12/2021 End date **4**

Weekly Pattern **5**

- Sunday
- Monday
- Tuesday
- Wednesday
- Thursday
- Friday
- Saturday

Monthly Pattern **6**

- January
- February
- March
- April
- May
- June
- July
- August
- September
- October
- November
- December

**Cancel** **Previous** **Next**

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## 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  to 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**

Add Schedule

Holidays: 0 out of 30  
Special events: 0 out of 30

What  
Name \*  
Standard Day

Start time \*  
00:00  Add action

Sales Floor	Unknown
Back of House	Unknown
Outdoor	Unknown

Selected action  
Start time \*  
00:00 

Area	Scene	Fade
Sales Floor	Stocking	▼ 2 sec
Back of House	Stocking	▼ 2 sec
Outdoor	All D/N	▼ 2 sec

3

1

2

What  
Name \*  
Standard Day

Start time \*  
07:00  Add action

Sales Floor	All Off	Stocking
Back of House	All Off	Stocking
Outdoor	All Off	All D/N

4

Selected action  
Start time \*  
07:00 

Area	Scene	Fade
Sales Floor	Stocking	▼ 2 sec
Back of House	Stocking	▼ 2 sec
Outdoor	All D/N	▼ 2 sec

5

6

Summary  
Standard Day - Simple event  
8 October 2021

Standard Day  
Sun, Mon, Tue, Wed, Thu, Fri, Sat

Sales Floor	All Off	Stocking	Trading	Cleaning
Back of House	All Off	Stocking	Trading	Cleaning
Outdoor	All D/N	All D/N	All Off	Sign On, Park+Fac D/N

00:00 07:00 09:00 21:00

7

Cancel Previous Add



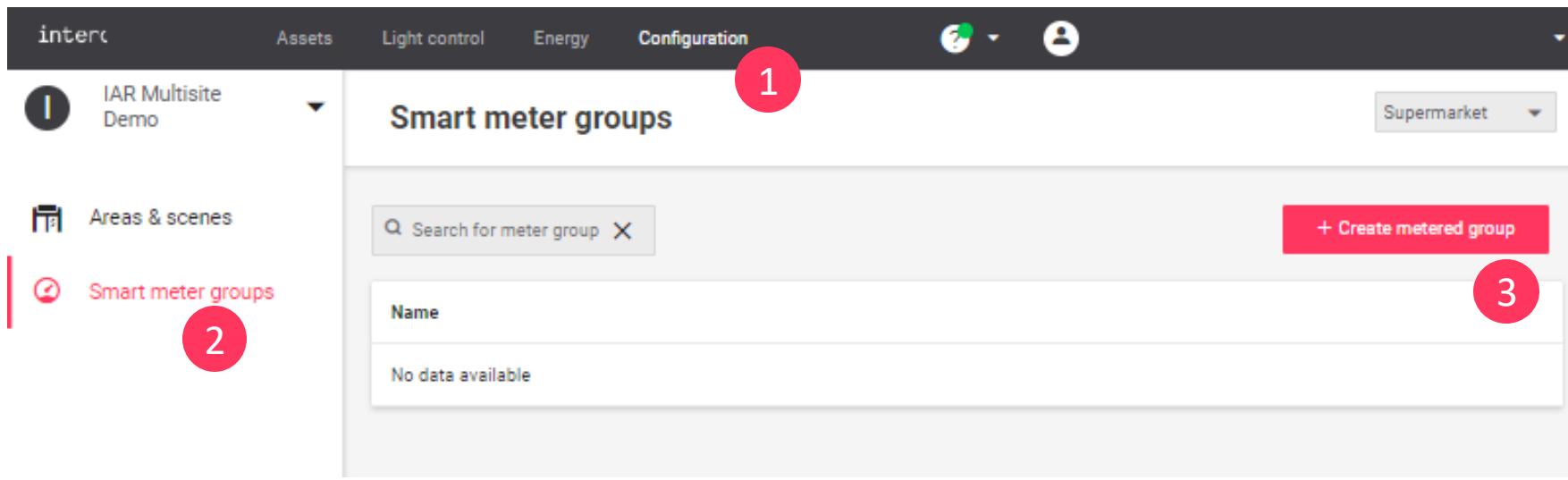
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## Interact Cloud | Add Smart meter groups

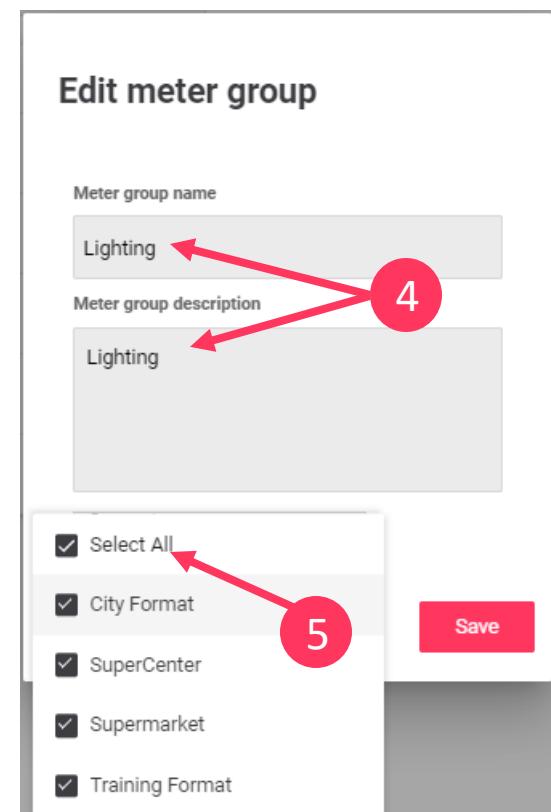
This step is only required when **smart meters** are used in the project to measure energy consumption.

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.



The screenshot shows the Multisite dashboard interface. The top navigation bar includes tabs for 'Assets', 'Light control', 'Energy', and 'Configuration'. The 'Configuration' tab is highlighted with a red circle labeled '1'. The left sidebar has items for 'IAR Multisite Demo', 'Areas & scenes', and 'Smart meter groups', with 'Smart meter groups' highlighted by a red circle labeled '2'. The main content area is titled 'Smart meter groups' and contains a search bar, a 'Create metered group' button (red circle '3'), and a table with one row showing 'No data available'.



The screenshot shows the 'Edit meter group' dialog box. It has fields for 'Meter group name' (containing 'Lighting', red circle '4') and 'Meter group description' (containing 'Lighting', red arrow pointing from the name field). Below these are checkboxes for 'Select All' (checked, red circle '5') and other options: 'City Format', 'SuperCenter', 'Supermarket', and 'Training Format'. A 'Save' button is at the bottom right.

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# **Prepare System Builder job file**

Architecture FLX - Multisite

## Multisite offsite preparation | System Builder job file Template

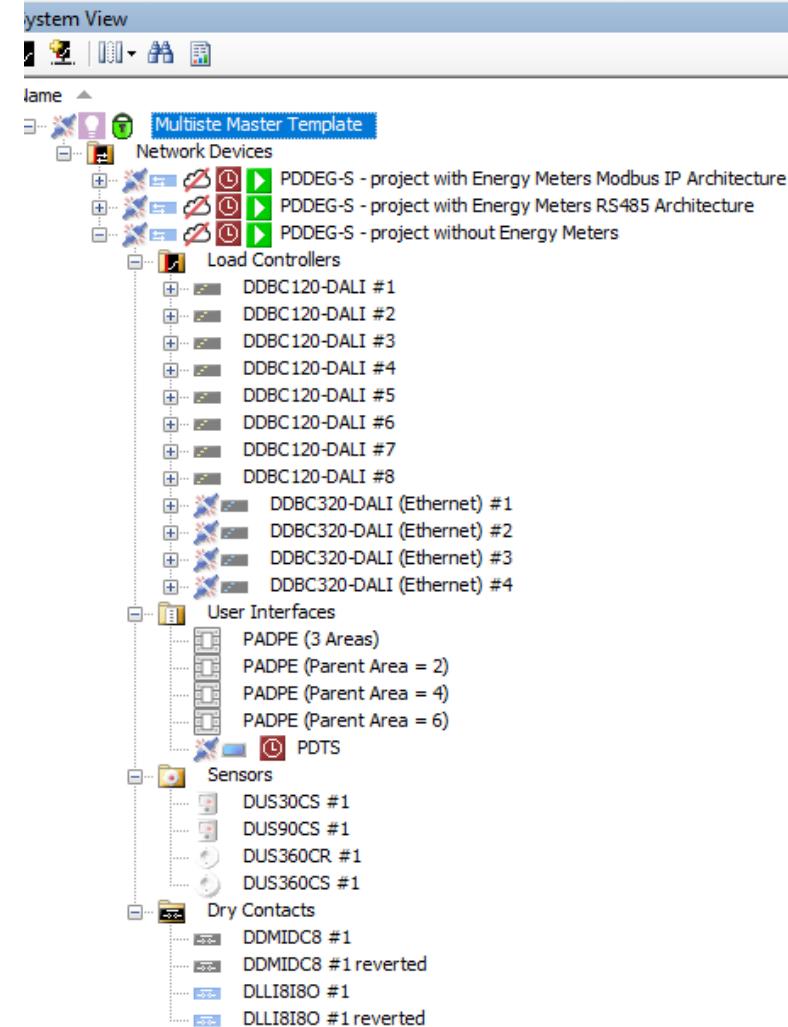
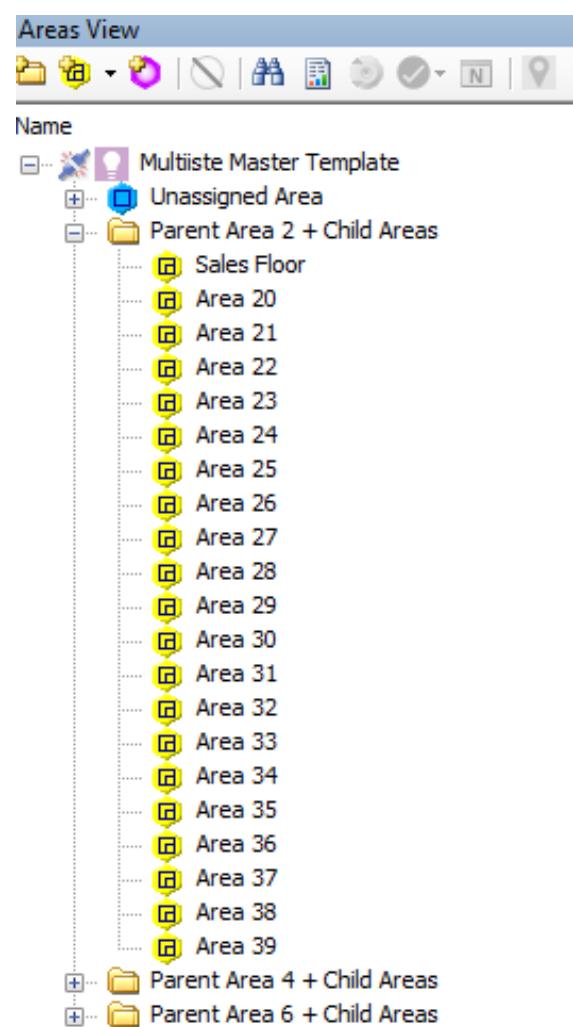
### Commissioning with System Builder job file template:

- 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.



## 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

Area Properties	
Number	31
Name	Area 31
Description	
Location	
Calibration set point (LUX)	
Area Template	
BLA	3

Category Properties	
Show Category Options	False
Category	Lighting

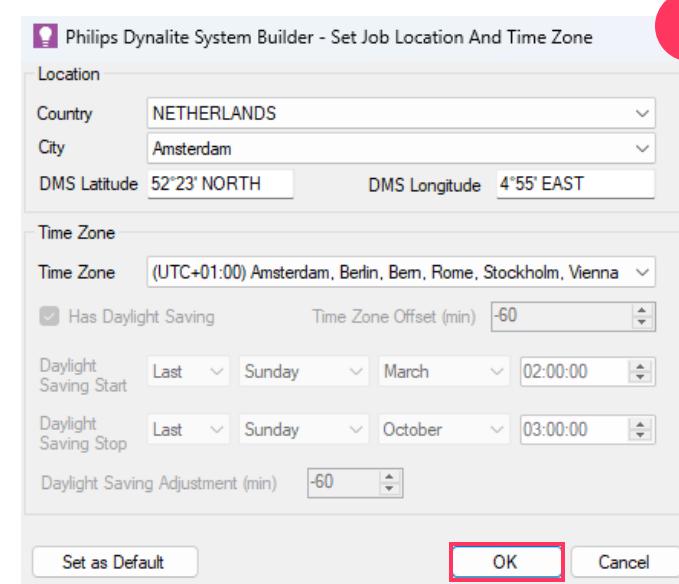
Name	
MultiSite Master Template	
Network Devices	
PDDEG-S - project with Energy Meters Modbus IP Architecture	
Load Controllers	
DDBC120-DALI #1	
DALI Sensors	
DUS360CR-DALI #2	
DALI Dry Contacts	
DPMI940-DALI #1	
User Interfaces	
PADPE (3 Areas)	
PDTS	
Other Devices	
Siemens - Sentron 7KM2200 #000	

**System Builder | Timezone**

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

For that:

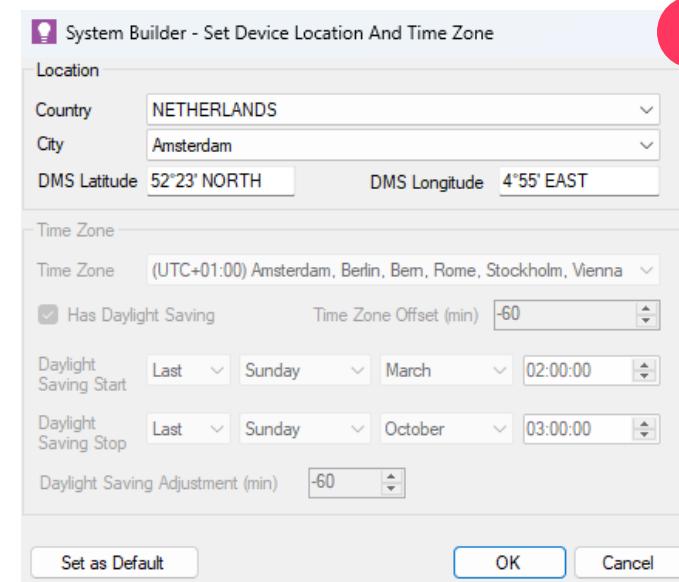
- Go to Tools from the top bar menu and select Set Location and Time Zone.
- Edit the settings if needed to match the project Location and Time Zone.
- Click OK even if no changes are made.**



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

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## System Builder | Design Mode 1/4

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

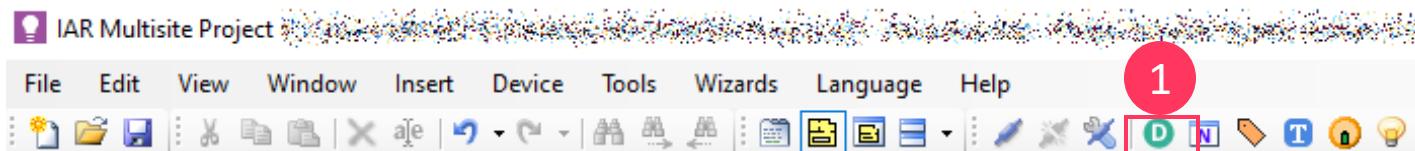
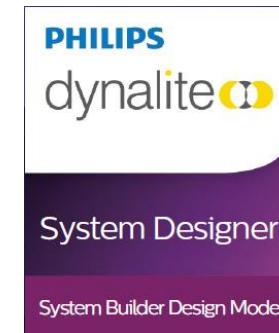
In order to use System Designer, a **technician license** for **System Builder** is required.

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**.

To start with project design:

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



## 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.

Actual length of the drawn line is 0.89 m with the saved background scale factor.

Please input the actual length of the drawn line.

Actual length  m

OK

Cancel

1

There is no saved background scale factor.

Please input the actual length of the drawn line.

Actual length  .9 m

OK

Cancel

2

There is no saved background scale factor.

Please select paper size and scale of map to calculate new scale factor.

Paper size

A0

Drawing scale 1 :

OK

Cancel

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## System Builder | Design Mode 3/7

Consider the following attention points:

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

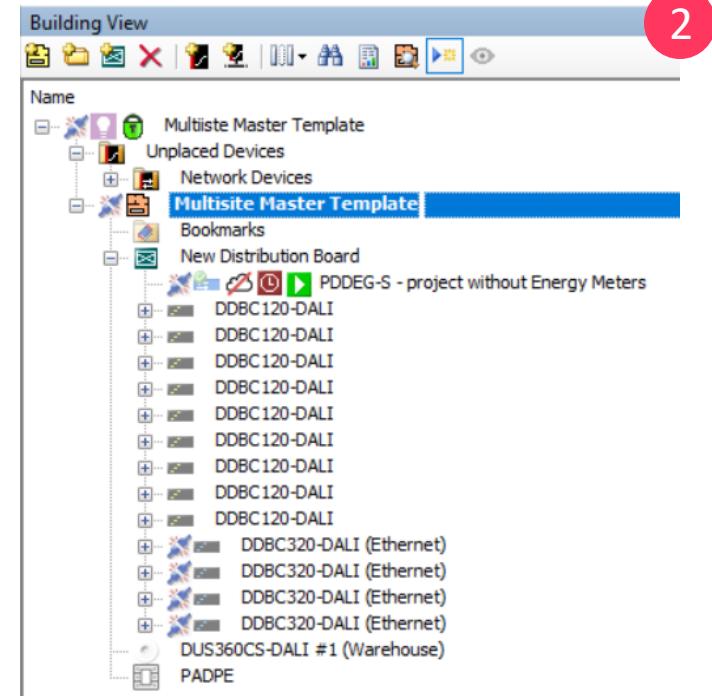
Don't forget to drag the DB on the Floor Plan.

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.

**7. Add Distribution Boards**

The location of a Distribution Board (DB) indicates where the wiring for each circuit originates. Add each DB in the Building View and enter a name. Then click and drag the DB from the Building View and place in the location of the distribution board on the plan.

[Add Distribution Board](#)



1

2

interact

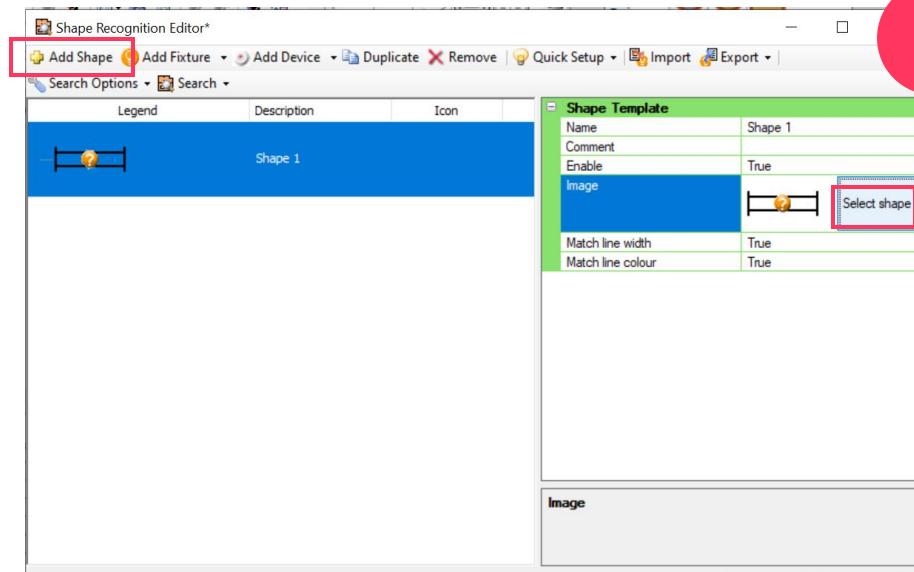
## System Builder | Design Mode 3/4

Consider the following attention points:

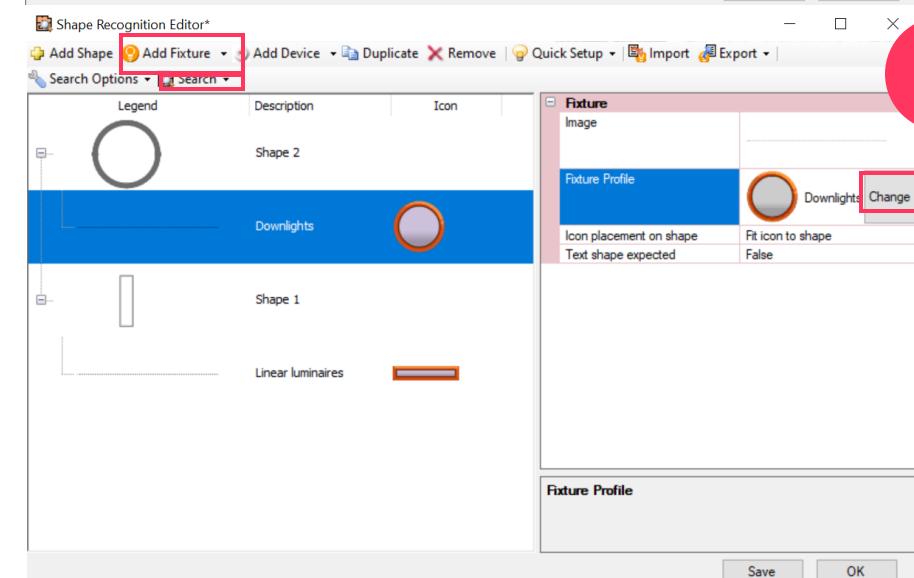
1. In step 8. Set up wired fixtures (for wireless check specific chapter):
  - Open **Quick Fixture Setup**
  - Add each type of fixture that will be installed in the project, including its type, load, lifetime and icon.
2. In step 9. Place fixtures using the **Shape recognition tool**.
  1. For each 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

Quick Fixture Setup									
Code		Description		Type	Load (Watts)	Power Factor	Lamp Life (hours)	Colour	Icon
Linear luminaires				DALI	40	0.95	50000		
Downlights				DALI	12	0.95	20000		



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

**10. Group Fixtures**

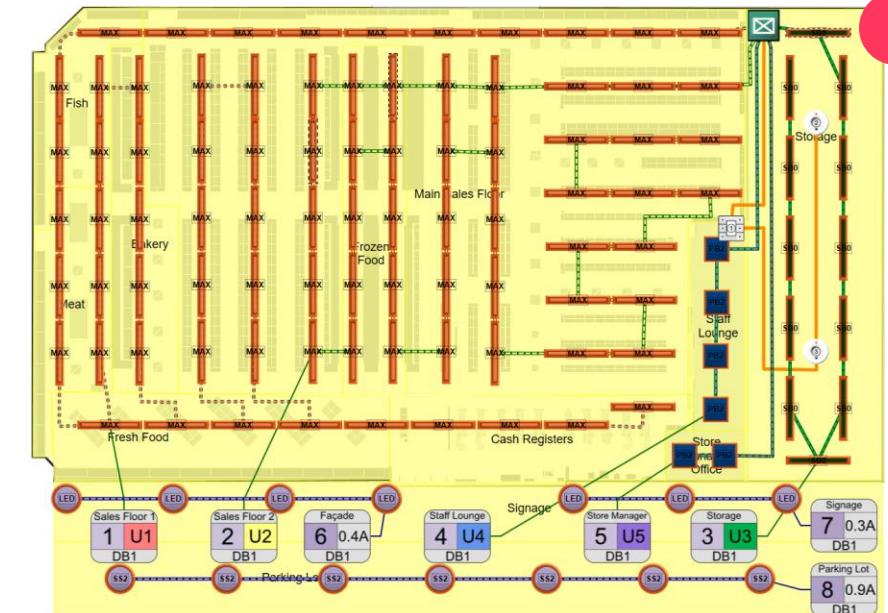
**Fixture grouping methods**

- 1) Select one or more fixtures, then right-click a selected fixture and select Group Fixtures (shortcut key C) or select Group to DALI universe (shortcut key D). To select multiple fixtures, hold down the Ctrl key and click each fixture icon or click and drag to draw a box around multiple fixture icons.
- 2) Use the Draw Fixture Group or Draw DALI Cable tools under the Draw Line icon on the Floor Plan toolbar.

[Draw Fixture Group](#)  
[Draw DALI Cable](#)

1

2



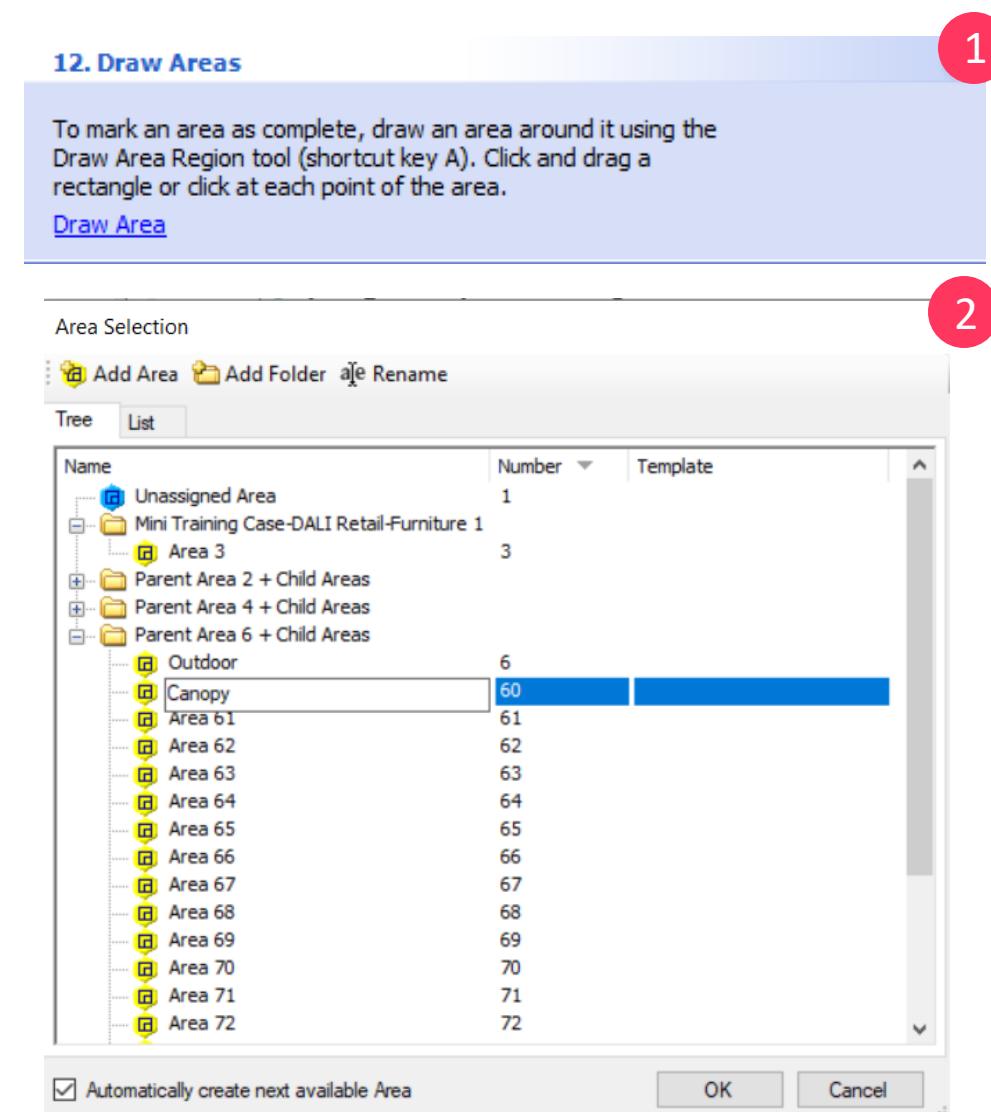
interact

## 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.

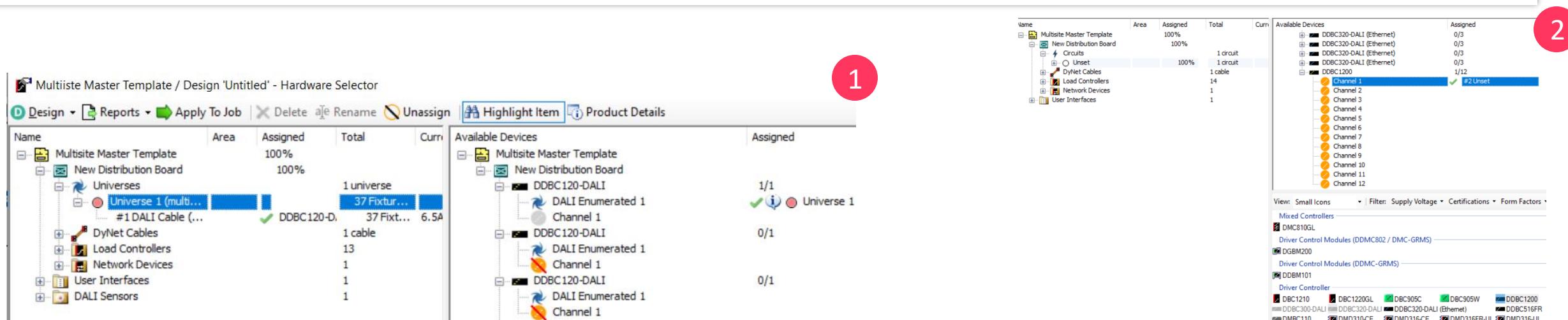


## System Builder | Design Mode 7/7

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** 



The screenshot shows the System Builder Hardware Selector window. On the left, the 'Available Devices' tree is expanded to show the 'Multisite Master Template' and its sub-components: 'New Distribution Board', 'Universes', 'DyNet Cables', 'Load Controllers', 'Network Devices', and 'User Interfaces'. The 'Universes' node has a child node 'Universe 1 (multi...)' which is selected. On the right, the 'Assigned' list shows the assignment of devices to a 'Load Controllers' node. The 'Universe 1' node is assigned to a 'DDBC120-D' device, which is connected to 'Channel 1'. The 'Assigned' list also shows other nodes like 'DDBC120-DALI' and 'DDBC120-DALI' connected to 'Channel 1'. The 'Assigned' list has a total of 14 items. The 'Available Devices' list on the right shows various DBC and DGBM models with their assigned status. A red circle labeled '1' is over the 'Available Devices' tree, and a red circle labeled '2' is over the 'Assigned' list.

## 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.

Name	Status	Address	Logical Address	Prod
Madrid Multisite	[15241.58m <sup>2</sup> ]			
Unplaced Devices				
Default Plan	[15241.58m <sup>2</sup> ]	Floor:		

Job name	Site address (Press 'Ctrl+Enter' to enter a new line)
Madrid Multisite	
Latitude	0.0
Longitude	0.0
Site size (m <sup>2</sup> )	15241.58
Site ID	099994-4.1CFF-4290

interact
Operations
Assets
Light control
Energy
Configuration

Dashboard
Site list
Settings

Site list > Signify Madrid

Signify Madrid
Format: Supermarket

Subscriptions
System health
Deployments & Scenes
Settings

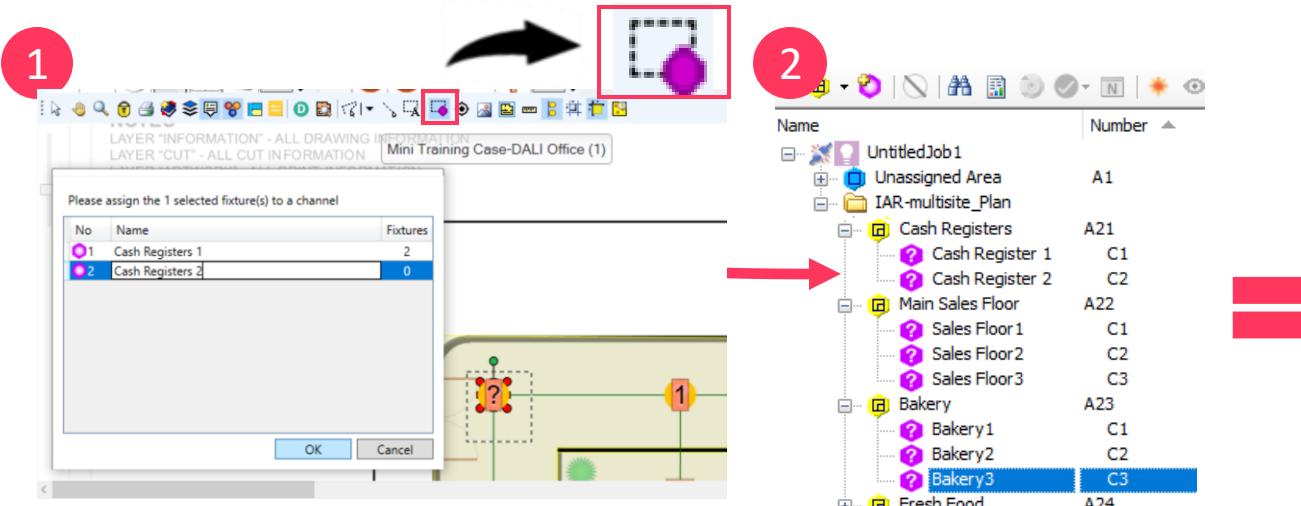
Total floor area  
 Provide or adjust the size of the floor area. i  
 15241.58 m<sup>2</sup>

## 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.



Child area naming (e.g. Cash registers, Main sales floor, Bakery, ...)	Logical channel naming
Child area name	Logical channel name
Cash Registers #21	Cash Register 1
	Cash Register 2
Child area name	Logical channel name
Main Sales Floor #22	Sales Floor1 #1
	Sales Floor2 #2
	Sales Floor3 #3
Child area name	Logical channel name
Bakery #23	Bakery1 #1
	Bakery2 #2
	Bakery3 #3

## Child areas &amp; logical channels

Name	Logical channels
Cash Registers 2 logical channels	Cash Register 1 Cash Register 2
Main Sales Floor 3 logical channels	Sales Floor 1 Sales Floor2 Sales Floor3
Bakery 3 logical channels	Bakery1 Bakery2 Bakery3

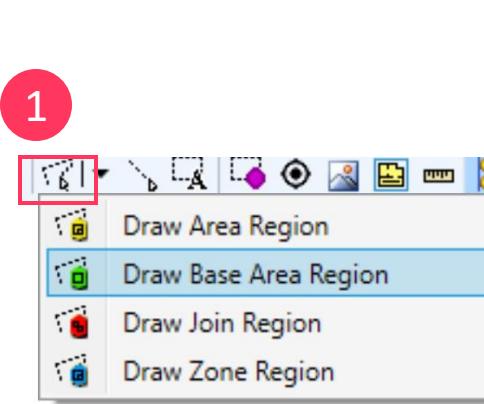
## System Builder | Finalize logical configuration and hierarchy 2/2

Create **Parent Areas** **graphically**

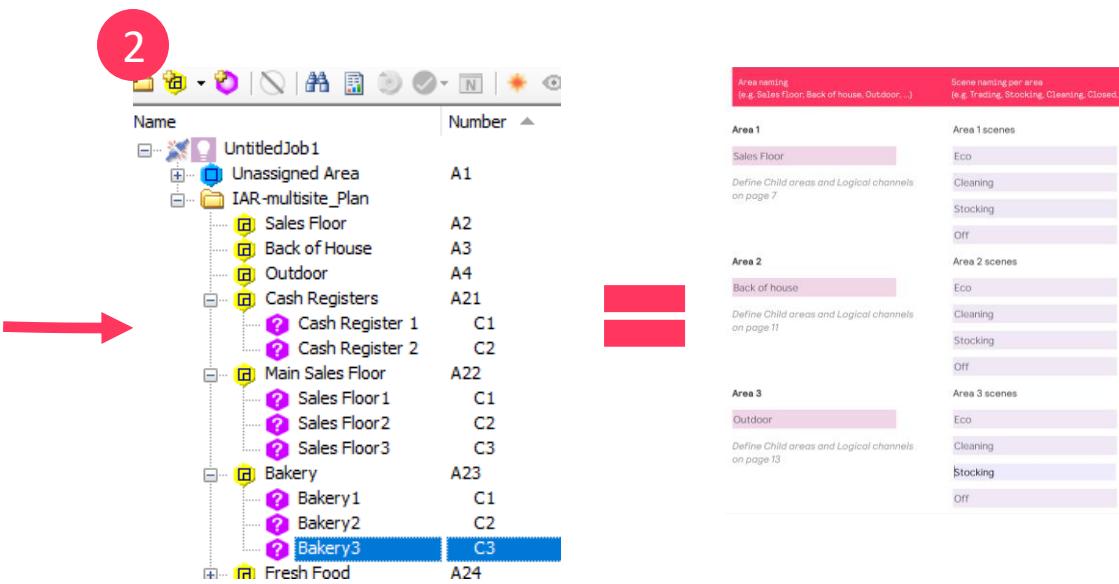
1. From the **Floor Plan** window, select  **Draw Base Area Region**. Define each **Parent Area** by clicking on the vertices of the whole region within its range. Repeat this for all **Parent Areas** ensuring that all **Child Areas** are linked to a **Parent Area**.
2. In Areas view, make sure **Parent 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
Category Properties	
Show Category Options	False
Category	Lighting



2



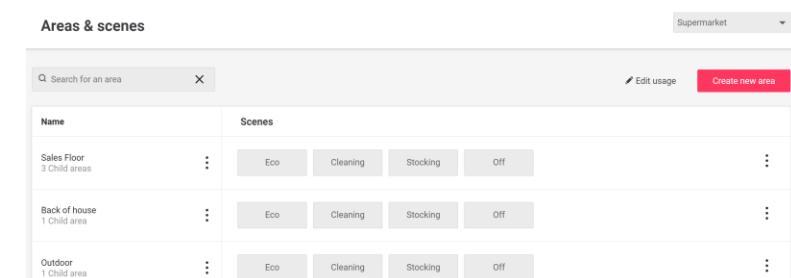
Name	Number
UntitledJob1	
Unassigned Area	A1
IAR-multisite_Plan	
Sales Floor	A2
Back of House	A3
Outdoor	A4
Cash Registers	A21
Cash Register 1	C1
Cash Register 2	C2
Main Sales Floor	A22
Sales Floor1	C1
Sales Floor2	C2
Sales Floor3	C3
Bakery	A23
Bakery1	C1
Bakery2	C2
Bakery3	C3
Fresh Food	A24

Area naming (e.g. Sales floor, Back of house, Outdoor, ...)

Area 1: Sales Floor, Area 1 scenes: Eco, Cleaning, Stocking, Off

Area 2: Back of house, Area 2 scenes: Eco, Cleaning, Stocking, Off

Area 3: Outdoor, Area 3 scenes: Eco, Cleaning, Stocking, Off



Name	Scenes
Sales Floor 3 Child areas	Eco, Cleaning, Stocking, Off
Back of house 1 Child area	Eco, Cleaning, Stocking, Off
Outdoor 1 Child area	Eco, Cleaning, Stocking, Off

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## 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

Num	Preset Name
1	Store Open
2	Trading
3	Dimmed
4	Store Closed
5	Preset 5
6	Preset 6
7	Preset 7
8	Preset 8
9	Preset 9
10	Preset 10
11	Preset 11
12	Preset 12
13	Preset 13

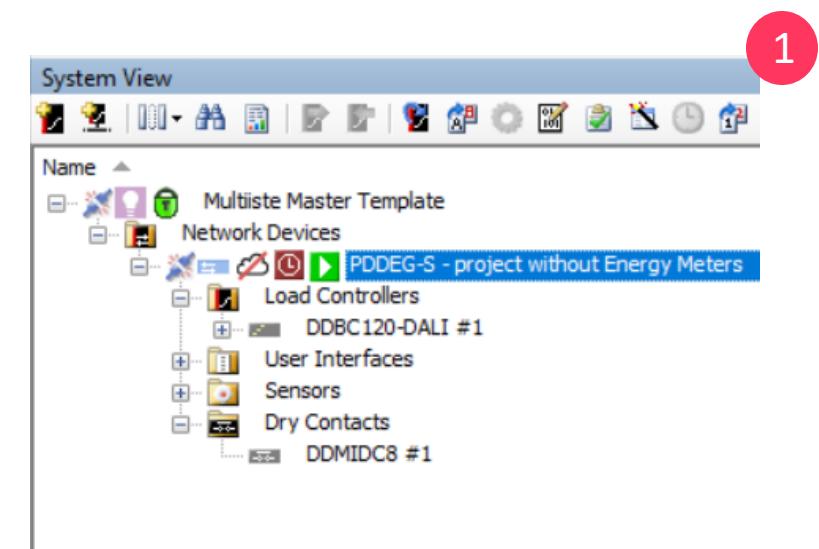
At the end presets configuration in System Builder, Cloud and Project Template PDF form must be the same.

Area 1		Area 1 scenes				Name		Scenes			
Sales Floor #2	(BLA ID=2)	Store Open	(Scene ID=1)	Trading	(Scene ID=2)	Outdoor	1 Child area	ALL ON	Weekend	Store Closed	ALL OFF
Define Child areas and Logical channels on page 7		Dimmed 70%	(Scene ID=3)	Store Closed	(Scene ID=4)	Sales Floor	4 Child areas	Store Open	Trading	Dimmed	Store Closed
						Back of House	2 Child areas	Store Open	On Motion	Stocking	Store Closed
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/DDL18I8O) and choose between the standard (armed when dry contact closed) or reversed configuration (disarmed when dry contact closed).



## System Builder | Clean up job file 2/3

### 1- Antumbra configuration

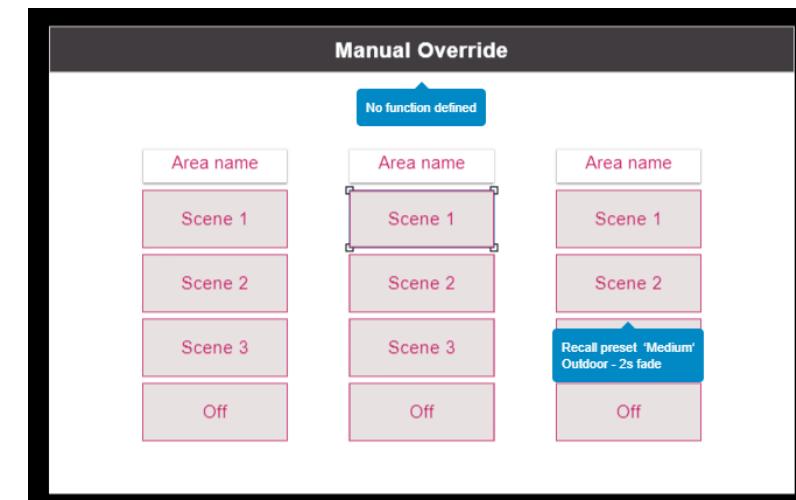
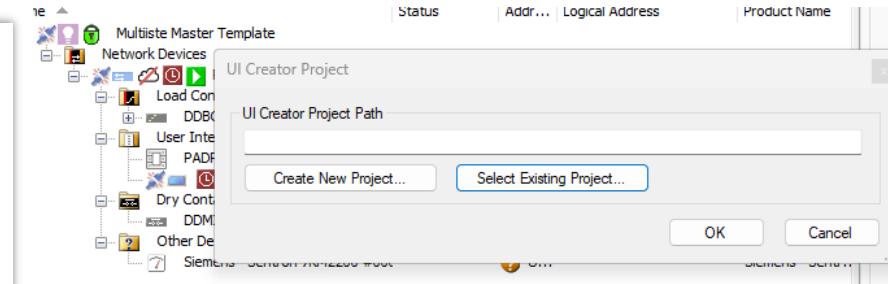
- Copy and paste the configuration from one of the Antumbra on the template that better fits your configuration to the added Antumbra. Feel free to edit the Presets or Areas to control, as long as you use Join 0x83 for each button and the correct BLA so it keeps synchronized if Child Areas are being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

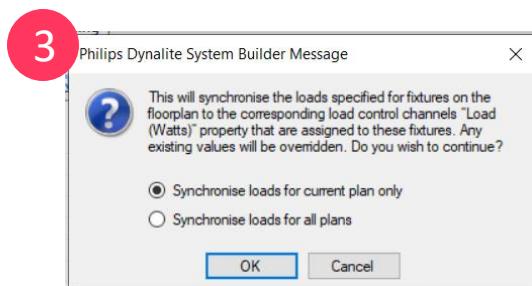
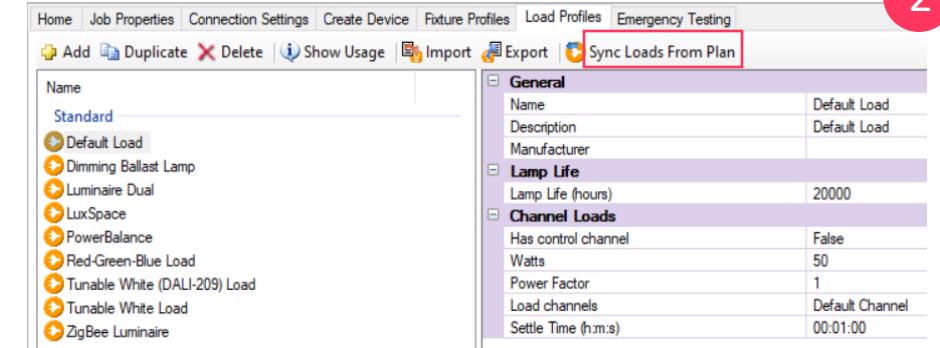
### Join Bytes:

- 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.



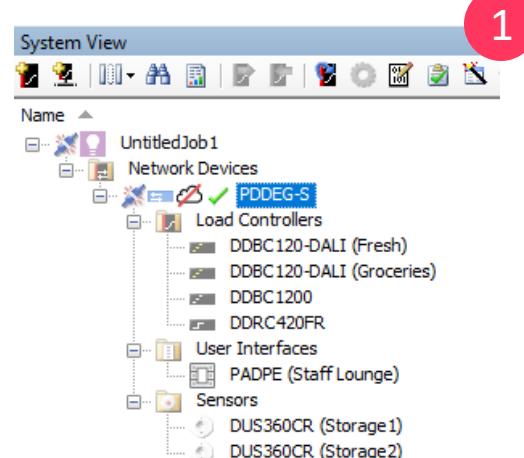
The screenshot shows the 'Outputs' tab in the System Builder. The 'Load (Watts)' column is highlighted with a red box and the number 1. The 'Base Link Area' column is highlighted with a red box and the number 4. The table lists various outputs with their properties like Area, Channel, Load (Watts), Power Category, and Dimming Curve.

Number	Name	Area	Channel	Load (Watts)	Power Category	Flash	Switching	Duplicate	Dimming Curve	Base Link Area
1	#3 - Storage	33	1	120	Lighting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Default	3
2	#4 - Staff Lounge	32	1	240	Lighting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Default	3
3	#5 - Store Manager	31	1	180	Lighting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Default	3
4	Spare	1	4	0	Lighting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Default	Disabled
5	Spare	1	5	0	Lighting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Default	Disabled
6	Spare	1	6	0	Lighting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Default	Disabled
7	Spare	1	7	0	Lighting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Default	Disabled
8	Spare	1	8	0	Lighting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Default	Disabled
9	Spare	1	9	0	Lighting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Default	Disabled
10	Spare	1	10	0	Lighting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Default	Disabled
11	Spare	1	11	0	Lighting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Default	Disabled
12	Spare	1	12	0	Lighting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Default	Disabled

## 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**.



Use static IP address	True
IP Address	192.168.1.50
Gateway	192.168.1.1
Subnet mask	255.255.255.0
DNS server	192.168.1.1

Number of Parent Areas	3
Parent Area #1	
Parent Area #1 Enabled	True
Parent Area #1	Sales Floor [2]
Parent Area #1 Manual Override Enabled	True
Parent Area #1 Manual Override timer (mi...)	120
Parent Area #2	
Parent Area #3	
Alarm	
Alarm Integration Enabled	True
Alarm Armed Preset Delay (seconds)	10
Parent Area 1	
Parent Area #1 Alarm Armed Action Enabled	True
Parent Area #1 Alarm Armed Preset #	1
Parent Area #1 Alarm Disarmed Action Enabled	True
Parent Area #1 Alarm Disarmed Preset #	4
Parent Area 2	
Parent Area 3	
Store Flex/Kit	
Gateway	

## System Builder | Additional configurations – unique naming

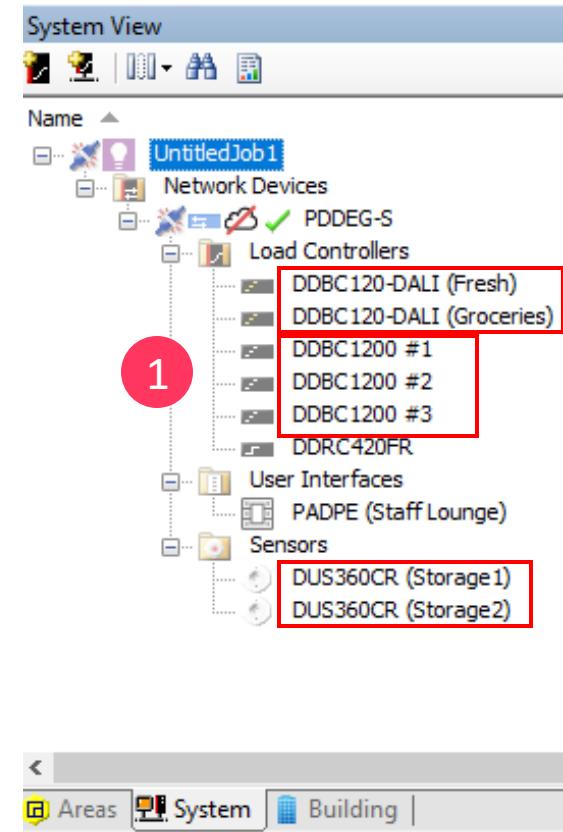
### Rename Devices

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)

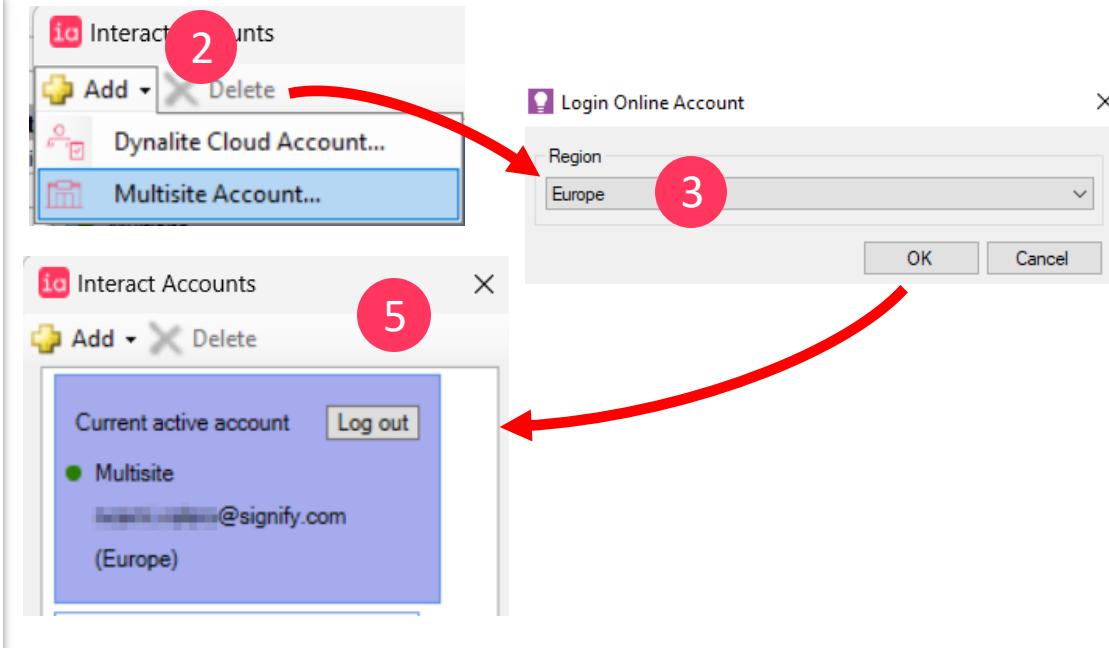


## System Builder | Save job data to the cloud

### Login to the cloud

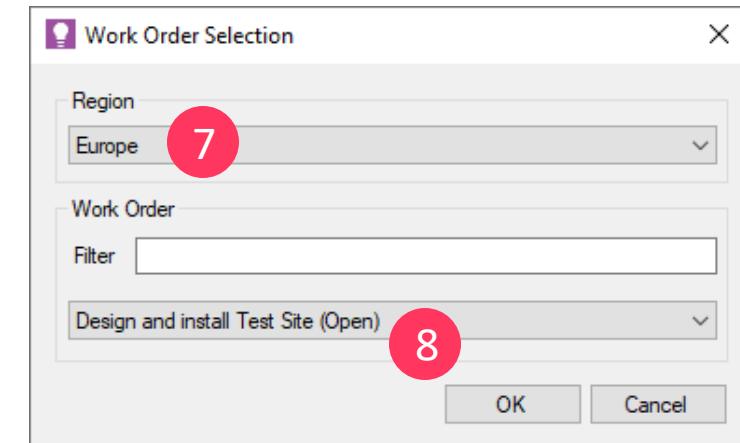
The **user account** must be registered in **Microsoft Azure Active Directory** before you can login to the **Retail Account**.

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.



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**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.



PHILIPS  
dynalite

## 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

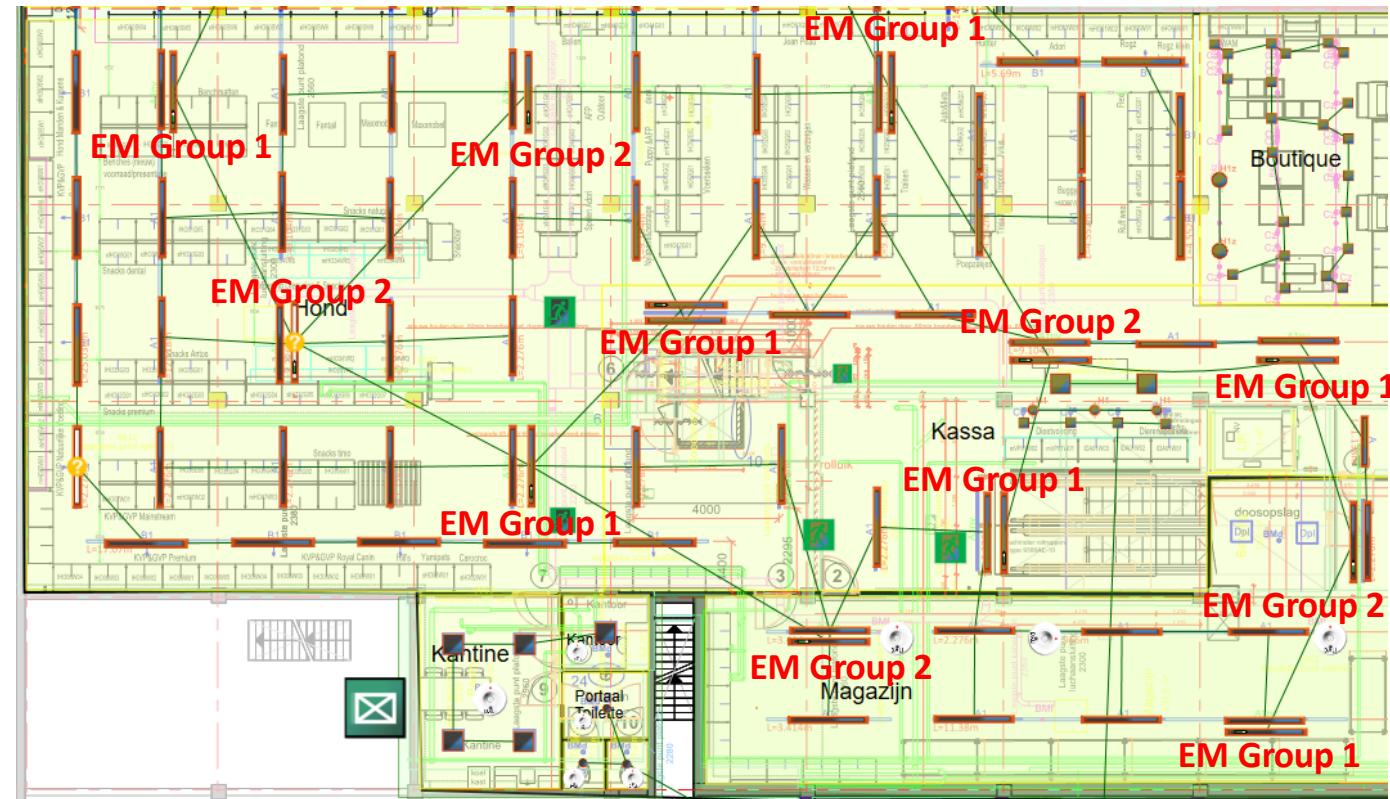


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## System Builder – configurations

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

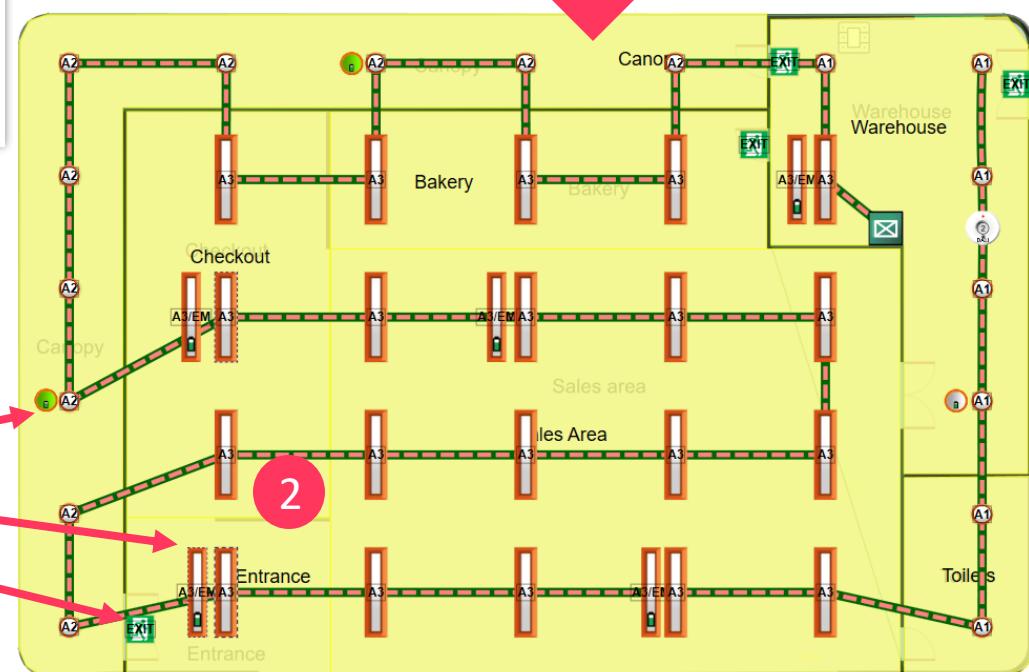
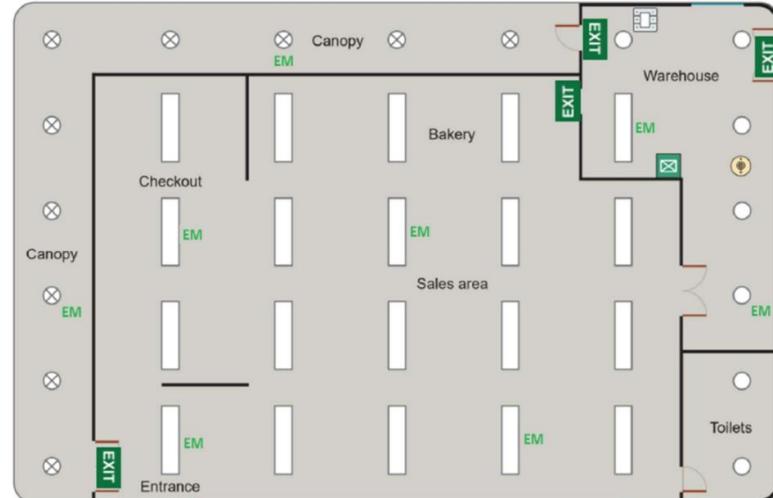


## Connected emergency lighting testing

## In system Designer mode:

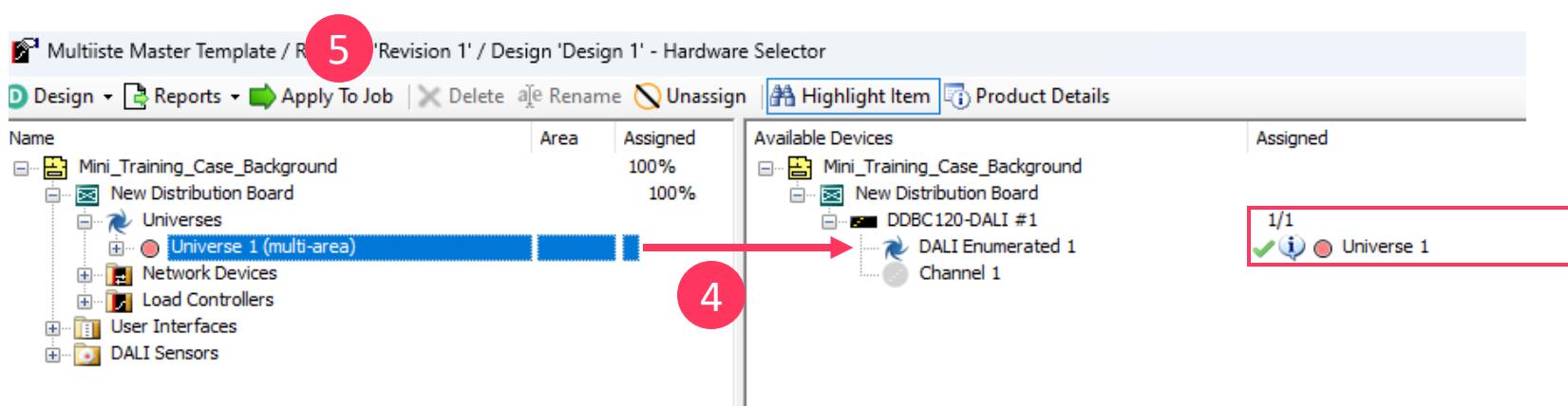
1. Create additional emergency fixtures → **8. Set up Fixtures**
  - Configure Load = 0W for EM profile and luminaire with integrated EM system
  - Configure nominal load for EM profiles with maintained operation mode (usually EXIT signs, anti-panic)
2. Place Emergency fixtures on the drawing
  - In 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	<input type="checkbox"/>	10	Watts	1	20000		
A2	LED Downlight (IP44)	Standard	DALI	<input type="checkbox"/>	20	Watts	1	20000		
A3	Flat Panel LED	Standard	DALI	<input type="checkbox"/>	20	Watts	1	20000		
A1/EM	LED Downlight EM	Standard	DALI	<input type="checkbox"/>	0	Watts	1	20000		
A2/EM	IP44 EM	Standard	DALI	<input type="checkbox"/>	0	Watts	1	20000		
A3/EM	Flat Panel LED EM	Standard	DALI	<input type="checkbox"/>	0	Watts	1	20000		
EXIT	EXIT	Standard	DALI	<input type="checkbox"/>	8	Watts	1	20000		



## 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



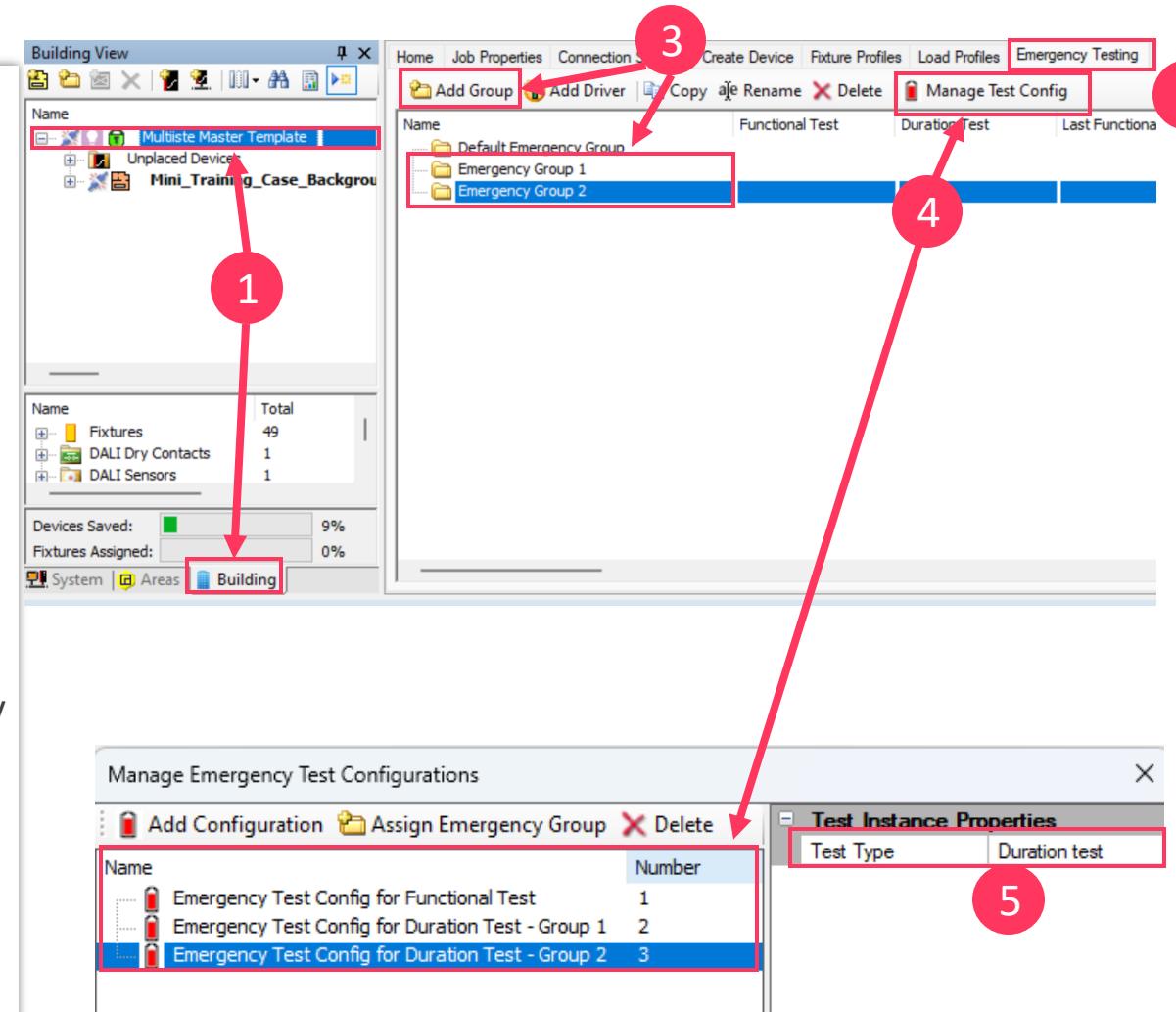
## Connected emergency lighting testing

### 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
  - o The rule of thumb is to assign emergency ballasts that are located next to each other in separate groups.
  - o 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

**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](mailto: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

- .
- .
- .

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

**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

Metered Energy configurations

Modbus RS485 (RTU)

or

Modbus IP (TCP)

**B1**

- **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

B2

interact

interact

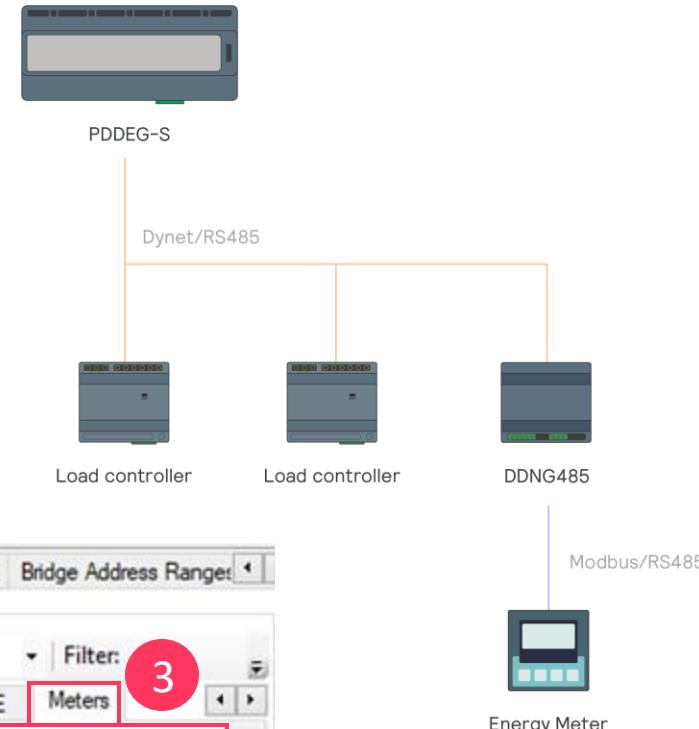
# Configure Modbus RS485 metering with DDNG485

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**



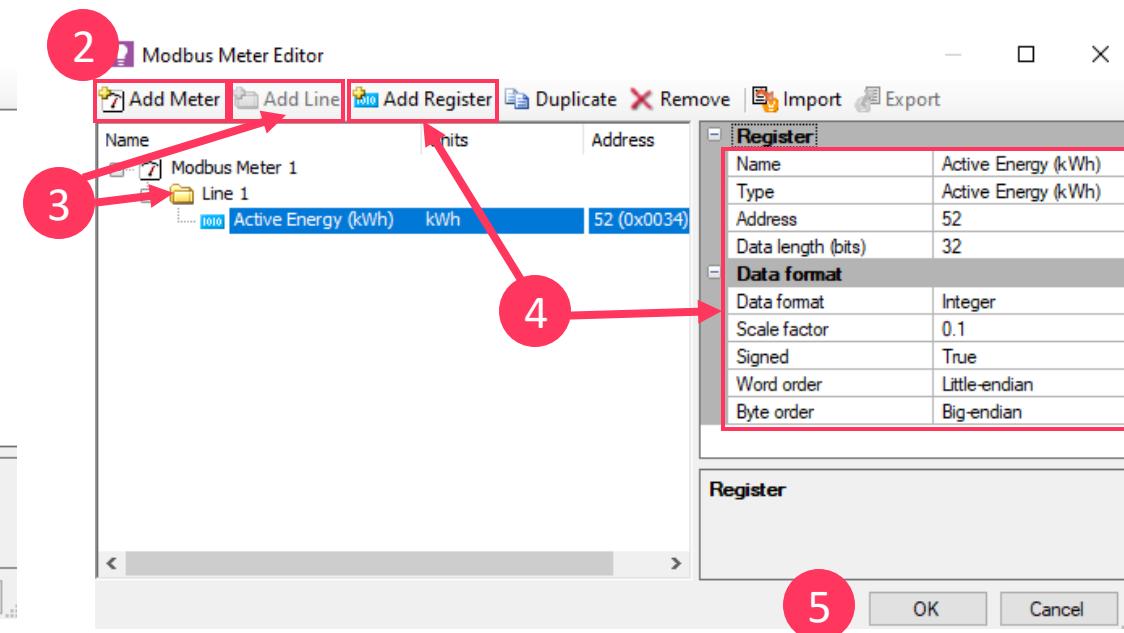
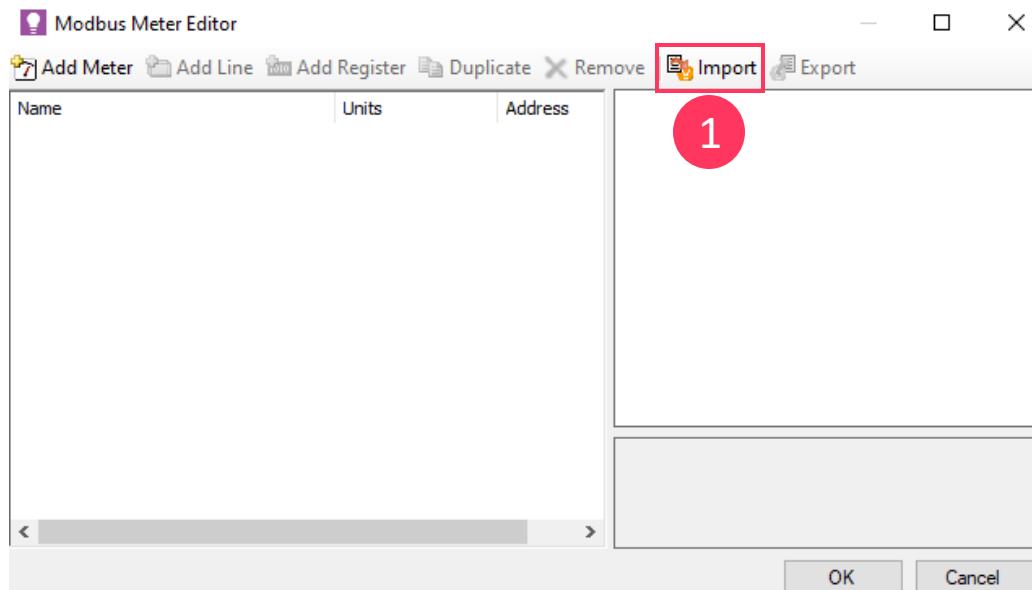
The screenshot shows the software interface for device configuration. The left pane is the 'System View' showing a tree structure of network devices, including 'Multisite', 'Network Devices' (with 'PDDEG-S' and 'DDNG485' selected), 'Load Controllers', and various 'User Interfaces' and 'Sensors'. A red circle labeled '1' is on the 'DDNG485' node. The right pane is the 'Create Device' tab, which is the active tab (highlighted in red). The 'Available Products' section has a 'Meters' tab selected (red circle labeled '3'). A red box highlights the 'Modbus Meter' section, which lists several meter models: ABB - A41-A42, ABB - A43-A44, Circutor - CVM-1D, Circutor - CVM-C10, Circutor - CVM-NET, Electro Industries - DMMS300+, ELNet - LT/GR, Legrand - Ecometer, Schneider - BCPMSCA, Socomec - I-30, and Socomec - I-60. A red arrow labeled '4' points from the 'Manage Custom Meters' button at the bottom of the 'Create Device' tab to the 'Modbus Meter' list.

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
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

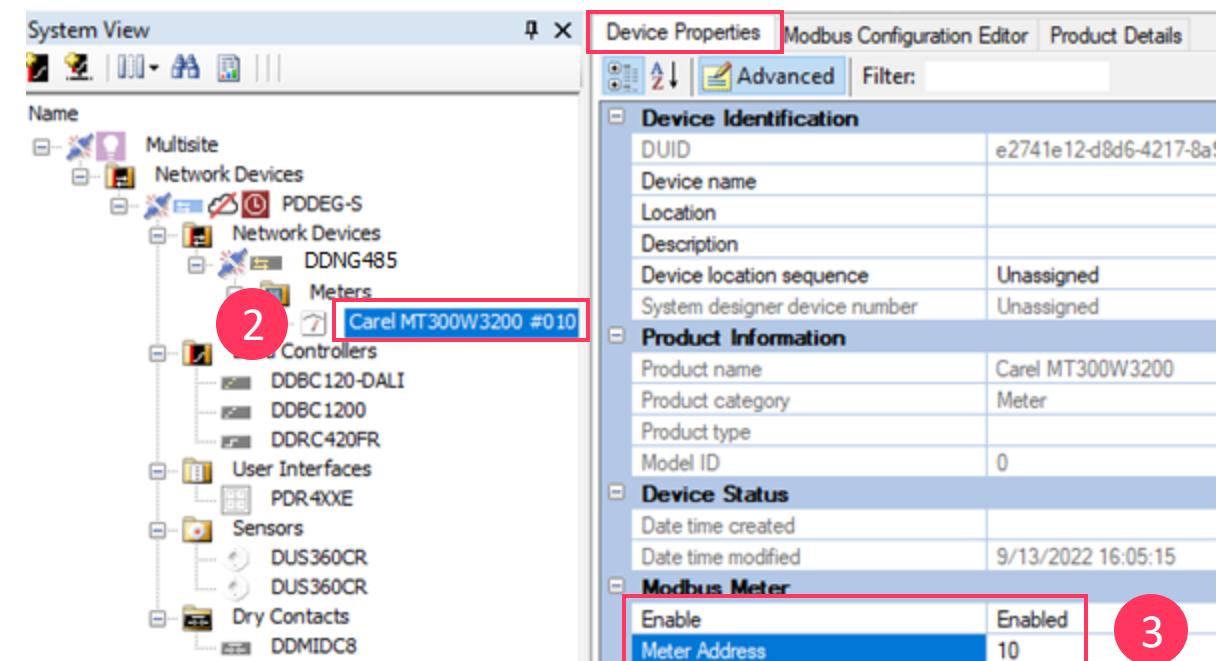
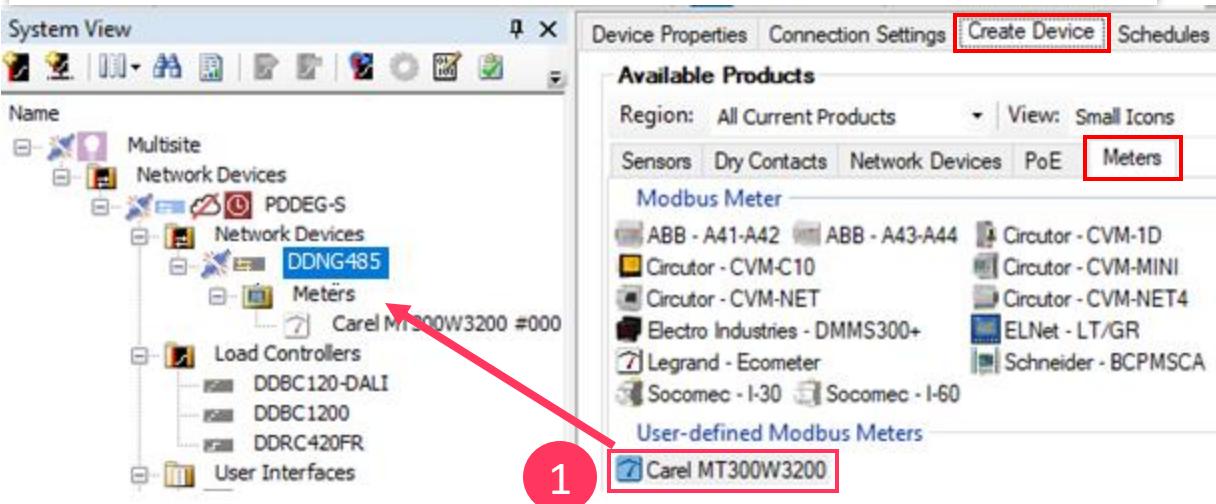
Custom meter will appear on **Meters** list (DDNG485 --> *Create Device* tab)

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

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

### 2. Click on the Modbus Meter.

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



## 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.

Device Properties Modbus Configuration Editor Product Details

Modbus Device Channel Assignment

1

Name	Enabled	Value	Units	Address	Power Zone
1010 Phase L1-N (V)	<input type="checkbox"/>	V	0 (0x0000)		
1010 Phase L2-N (V)	<input type="checkbox"/>	V	2 (0x0002)		
1010 Phase L3-N (V)	<input type="checkbox"/>	V	4 (0x0004)		
1010 average phase-neutral S...	<input type="checkbox"/>	V	36 (0x0024)		
Assigned Circuits					
Voltage:					
1010 Phase L1-L2 (V)	<input type="checkbox"/>	V	6 (0x0006)		
1010 Phase L2-L3 (V)	<input type="checkbox"/>	V	8 (0x0008)		
1010 Phase L3-L1 (V)	<input type="checkbox"/>	V	10 (0x000A)		
1010 average phase-phase S...	<input type="checkbox"/>	V	38 (0x0026)		
Assigned Circuits					
Power factor:					
1010 phase L1	<input type="checkbox"/>	PF	46 (0x002E)		
1010 phase L2	<input type="checkbox"/>	PF	47 (0x002F)		
1010 phase L3	<input type="checkbox"/>	PF	48 (0x0030)		
1010 SE	<input type="checkbox"/>	PF	49 (0x0031)		
Assigned Circuits					
SE:					
1010 phase sequence	<input type="checkbox"/>	Other	50 (0x0032)		
1010 frequency (Hz)	<input type="checkbox"/>	Hz	51 (0x0033)		
1010 Active energy SE (kWh)	<input checked="" type="checkbox"/>	kWh	52 (0x0034)		
Assigned Circuits					
Apparent power:					
Reactiv inductive energy					
Reactiv capacitive energy					

2

Device Properties Modbus Configuration Editor Product Details

Modbus Device Channel Assignment

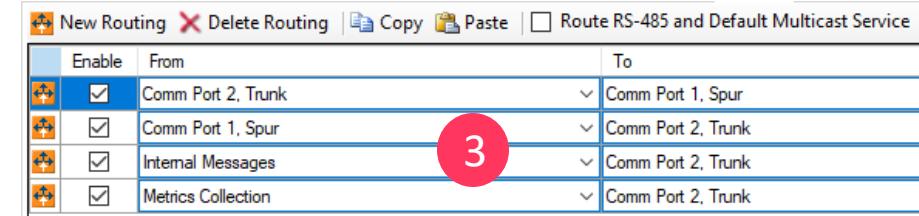
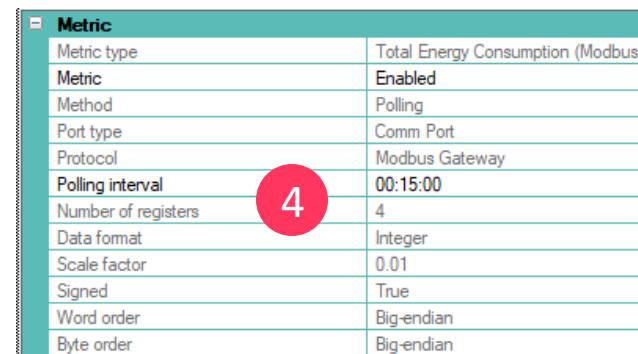
Name	Enabled	Value	Units	Address	Power Zone
THD:					
Current:					
Voltage:					
Voltage:					
Power factor:					
SE:					
1010 phase sequence	<input type="checkbox"/>	Other	50 (0x0032)		
1010 frequency (Hz)	<input type="checkbox"/>	Hz	51 (0x0033)		
1010 Active energy SE (kWh)	<input checked="" type="checkbox"/>	kWh	52 (0x0034)		
Assigned Circuits					
HVAC					
Lighting					
Clear					

3

## 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**.

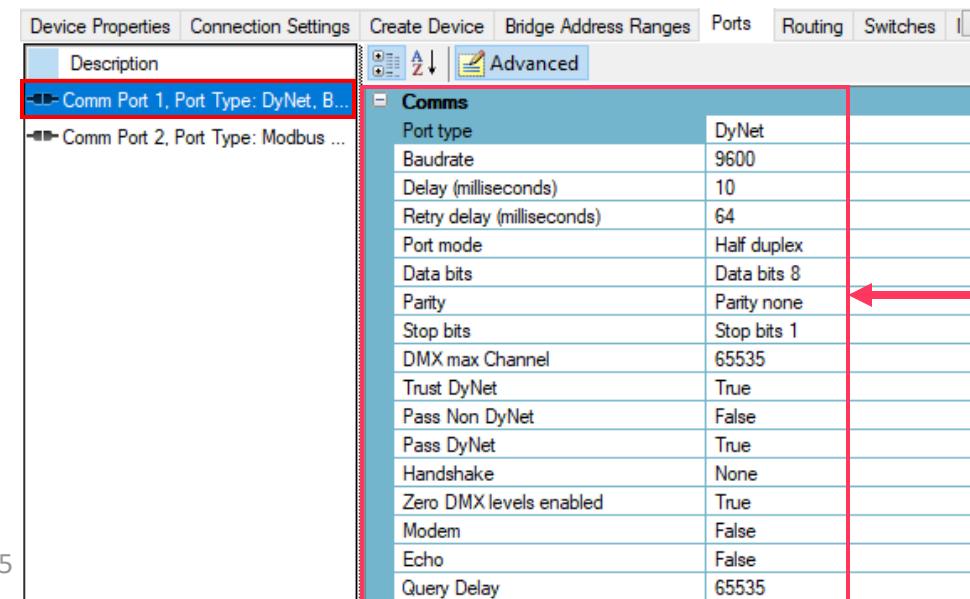



**New Routing** **Delete Routing** **Copy** **Paste** **Route RS-485 and Default Multicast Service**

Enable	From	To
<input checked="" type="checkbox"/>	Comm Port 2, Trunk	Comm Port 1, Spur
<input checked="" type="checkbox"/>	Comm Port 1, Spur	Comm Port 2, Trunk
<input checked="" type="checkbox"/>	Internal Messages	Comm Port 2, Trunk
<input checked="" type="checkbox"/>	Metrics Collection	Comm Port 2, Trunk

Metric	
Metric type	Total Energy Consumption (Modbus)
Metric	Enabled
Method	Polling
Port type	Comm Port
Protocol	Modbus Gateway
Polling interval	00:15:00
Number of registers	4
Data format	Integer
Scale factor	0.01
Signed	True
Word order	Big-endian
Byte order	Big-endian

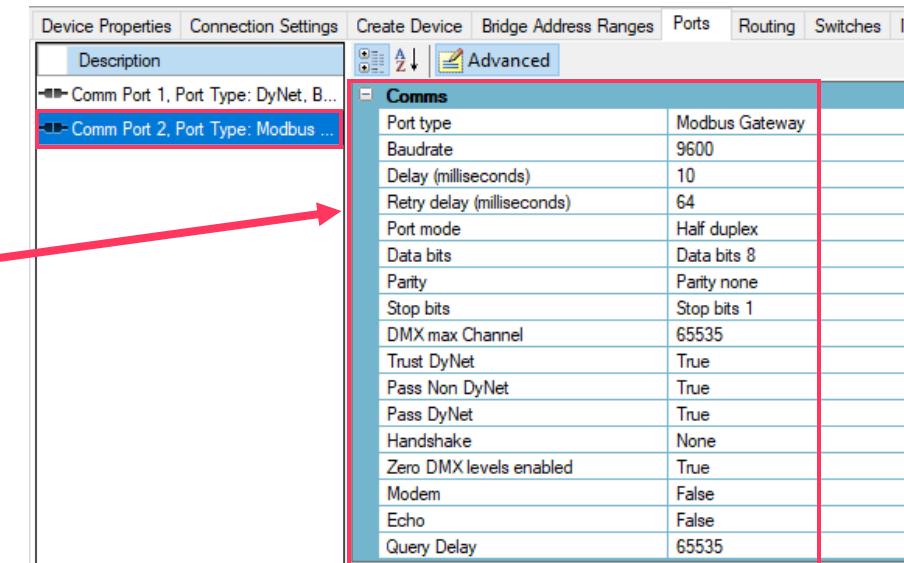


**Device Properties** **Connection Settings** **Create Device** **Bridge Address Ranges** **Ports** **Routing** **Switches**

**Description**

**Comms**

Port type	DyNet
Baudrate	9600
Delay (milliseconds)	10
Retry delay (milliseconds)	64
Port mode	Half duplex
Data bits	Data bits 8
Parity	Parity none
Stop bits	Stop bits 1
DMX max Channel	65535
Trust DyNet	True
Pass Non DyNet	False
Pass DyNet	True
Handshake	None
Zero DMX levels enabled	True
Modem	False
Echo	False
Query Delay	65535



**Device Properties** **Connection Settings** **Create Device** **Bridge Address Ranges** **Ports** **Routing** **Switches**

**Description**

**Comms**

Port type	Modbus Gateway
Baudrate	9600
Delay (milliseconds)	10
Retry delay (milliseconds)	64
Port mode	Half duplex
Data bits	Data bits 8
Parity	Parity none
Stop bits	Stop bits 1
DMX max Channel	65535
Trust DyNet	True
Pass Non DyNet	True
Pass DyNet	True
Handshake	None
Zero DMX levels enabled	True
Modem	False
Echo	False
Query Delay	65535

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 Custom Meters**

System View

Name

- Multisite
  - Network Devices
    - PDDEG-S

Status Address

Device Properties Connection Settings **Create Device** Schedules Bridge Address Ranges Ports Routing Hue

Available Products

Region: All Current Products View: Small Filter:

Favorites Filtered Load Controllers User Interfaces Sensors Dry Contacts Network Devices PoE **Meters**

Modbus Meter

- ABB - A41-A42
- ABB - A43-A44
- Circutor - CVM-1D
- Circutor - CVM-NET
- Electro Industries - DMMS300+
- Schneider - BCPMSCA
- Circutor - CVM-C10
- Circutor - CVM-NET4
- ELNet - LT/GR
- Legrand - Ecometer
- Socomec - I-30
- Socomec - I-60

User-defined Modbus Meters

- Carel MT300W3200

Device Properties

Device Details

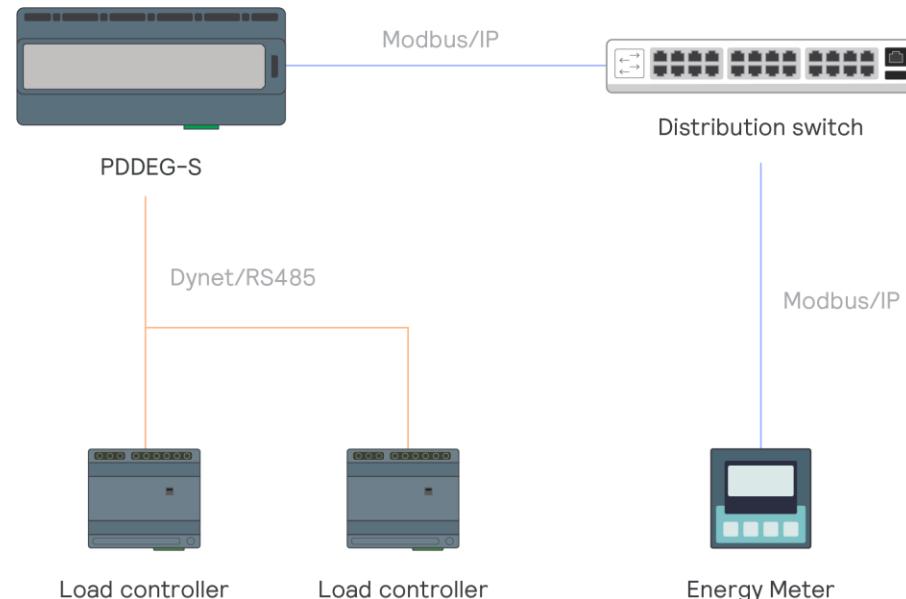
- Device name
- Device location
- Device description

Device Properties

- Meter Address
- Serial number (stored in job only)

Product Specification

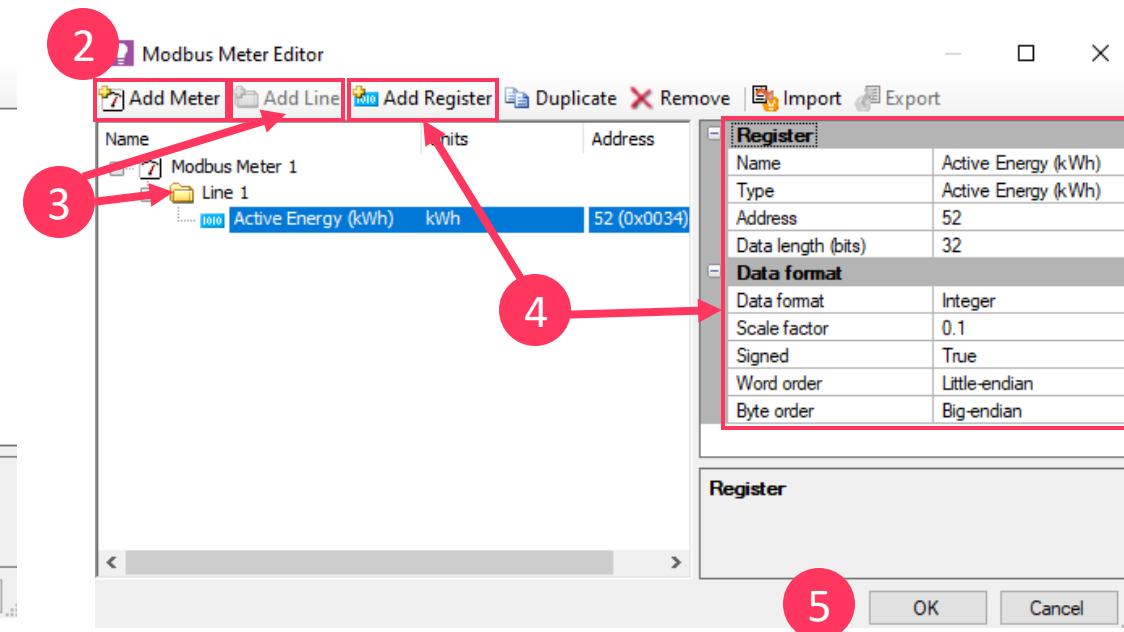
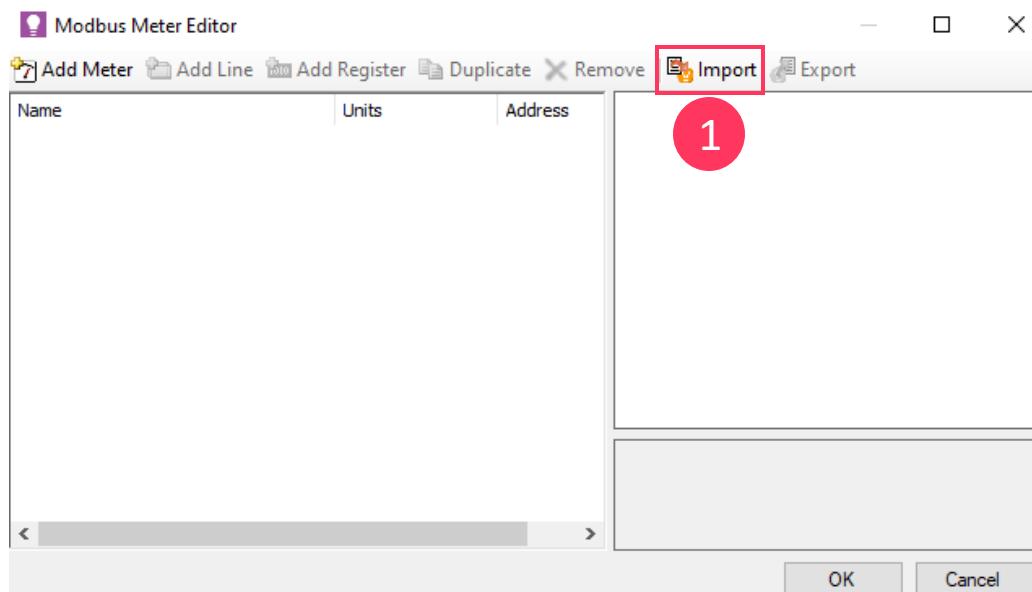
Create Device **Manage Custom Meters**



## Metered energy - Modbus IP | Add and configure Modbus Meters

When selected **Manage Custom Meters** :

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

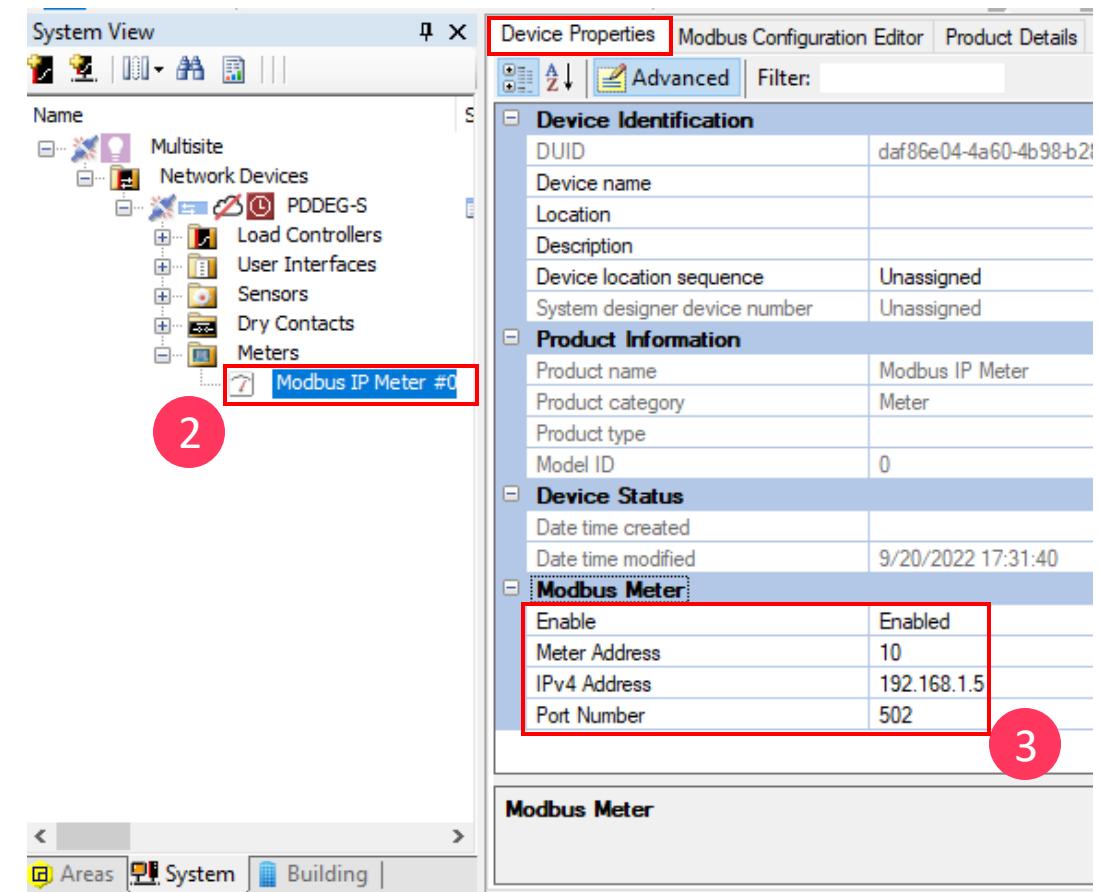
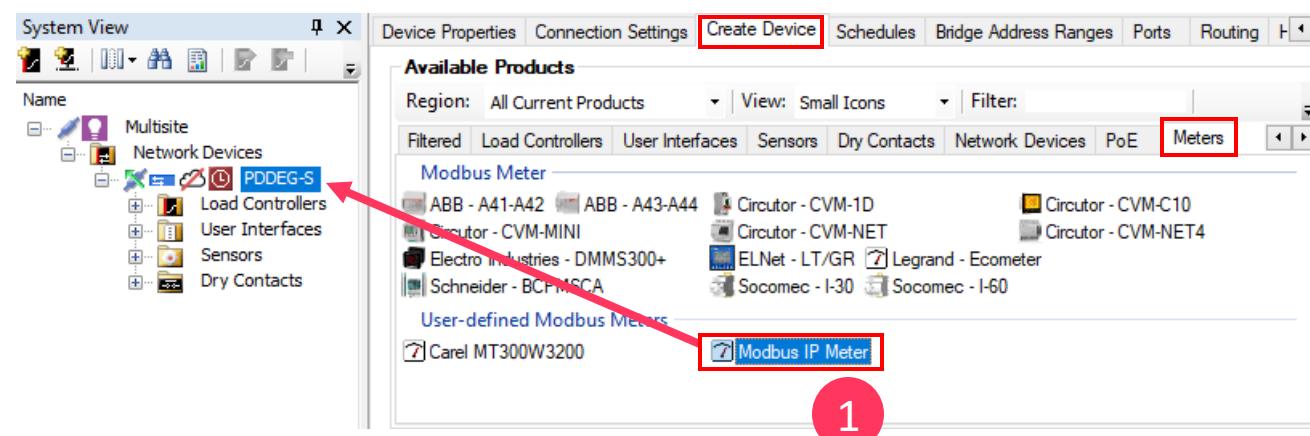


interact

## 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**.



## 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.

Device Properties Modbus Configuration Editor **Product Details**

Modbus Device Channel Assignment

1

Name	Enabled	Value	Units	Address	Power Zone
1010 Phase L1-N (V)	<input type="checkbox"/>		V	0 (0x0000)	
1010 Phase L2-N (V)	<input type="checkbox"/>		V	2 (0x0002)	
1010 Phase L3-N (V)	<input type="checkbox"/>		V	4 (0x0004)	
1010 average phase-neutral S...	<input type="checkbox"/>		V	36 (0x0024)	
Assigned Circuits					
Voltage:					
1010 Phase L1-L2 (V)	<input type="checkbox"/>		V	6 (0x0006)	
1010 Phase L2-L3 (V)	<input type="checkbox"/>		V	8 (0x0008)	
1010 Phase L3-L1 (V)	<input type="checkbox"/>		V	10 (0x000A)	
1010 average phase-phase S...	<input type="checkbox"/>		V	38 (0x0026)	
Assigned Circuits					
Power factor:					
1010 phase L1	<input type="checkbox"/>		PF	46 (0x002E)	
1010 phase L2	<input type="checkbox"/>		PF	47 (0x002F)	
1010 phase L3	<input type="checkbox"/>		PF	48 (0x0030)	
1010 SE	<input type="checkbox"/>		PF	49 (0x0031)	
Assigned Circuits					
SE:					
1010 phase sequence	<input type="checkbox"/>		Other	50 (0x0032)	
1010 frequency (Hz)	<input type="checkbox"/>		Hz	51 (0x0033)	
1010 Active energy SE (kWh)	<input checked="" type="checkbox"/>		kWh	52 (0x0034)	
Assigned Circuits					
Apparent power:					
Reactiv inductive energy					
Reactiv capacitive energy					

Device Properties Modbus Configuration Editor Product Details

Modbus Device Channel Assignment

Name	Enabled	Value	Units	Address	Power Zone
THD:					
Current:					
Voltage:					
Voltage:					
Power factor:					
SE:					
1010 phase sequence	<input type="checkbox"/>		Other	50 (0x0032)	
1010 frequency (Hz)	<input type="checkbox"/>		Hz	51 (0x0033)	
1010 Active energy SE (kWh)	<input checked="" type="checkbox"/>		kWh	52 (0x0034)	
Assigned Circuits					
HVAC					
Lighting					
Clear					

## 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

# **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

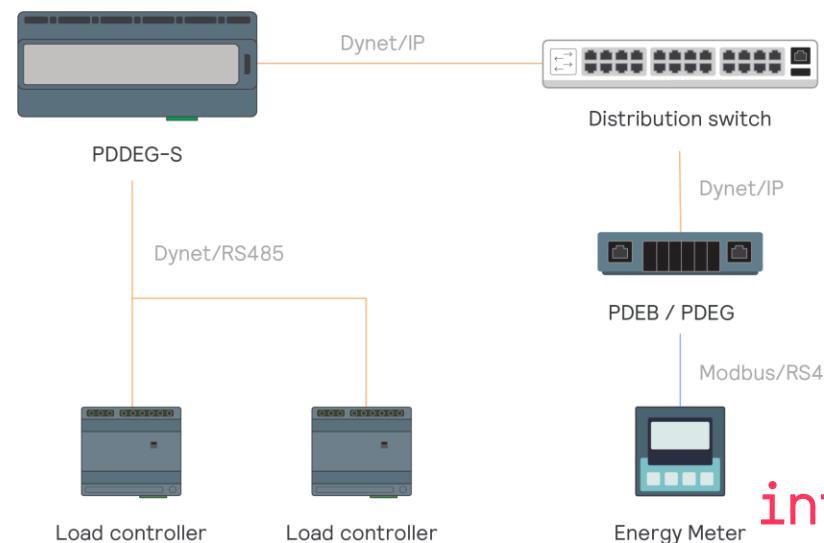
Port	Type, Index	Connection	Description
Comm Port 1	1, 1	Spur	Baudrate: 9600
IPv4 Port 1	2, 1	Spur	TCP Server, Port: 50000
Web Socket 1 / ...	5, 1	Trunk	

4

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

New Routing			
Enable	From	To	Filters
<input checked="" type="checkbox"/>	IPv4 Port 1, Spur, TCP Server, Port: 50000	Web Socket Port 1 / Cloud Connection , Trunk	No filter
<input checked="" type="checkbox"/>	Web Socket Port 1 / Cloud Connection , Trunk	IPv4 Port 1, Spur, TCP Server, Port: 50000	No filter
<input checked="" type="checkbox"/>	Internal Messages	Web Socket Port 1 / Cloud Connection , Trunk	No filter
<input checked="" type="checkbox"/>	Internal Messages	IPv4 Port 1, Spur, TCP Server, Port: 50000	No filter
<input checked="" type="checkbox"/>	IPv4 Port 1, Spur, TCP Server, Port: 50000	IPv4 Port 1, Spur, TCP Server, Port: 50000	No filter
<input checked="" type="checkbox"/>	Metrics Collection	Web Socket Port 1 / Cloud Connection , Trunk	No filter
<input checked="" type="checkbox"/>	Internal Messages	Comm Port 1, Spur	No filter
<input checked="" type="checkbox"/>	Comm Port 1, Spur	Web Socket Port 1 / Cloud Connection , Trunk	No filter
<input checked="" type="checkbox"/>	Web Socket Port 1 / Cloud Connection , Trunk	Comm Port 1, Spur	No filter
<input checked="" type="checkbox"/>	Metrics Collection	IPv4 Port 1, Spur, TCP Server, Port: 50000	No filter
<input checked="" type="checkbox"/>	Metrics Collection	Comm Port 1, Spur	No filter

5

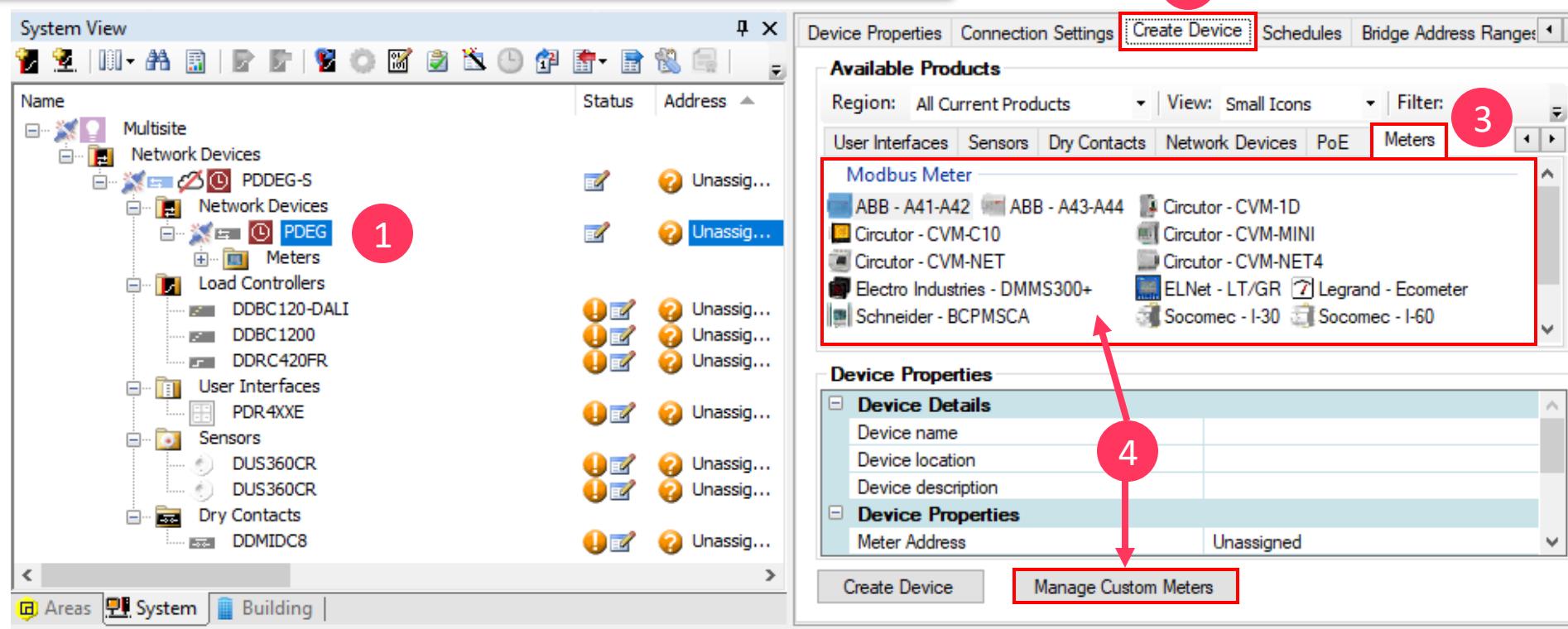


interact

## Metered energy - Modbus RS485 | Add and configure Modbus meters

To add Modbus meters:

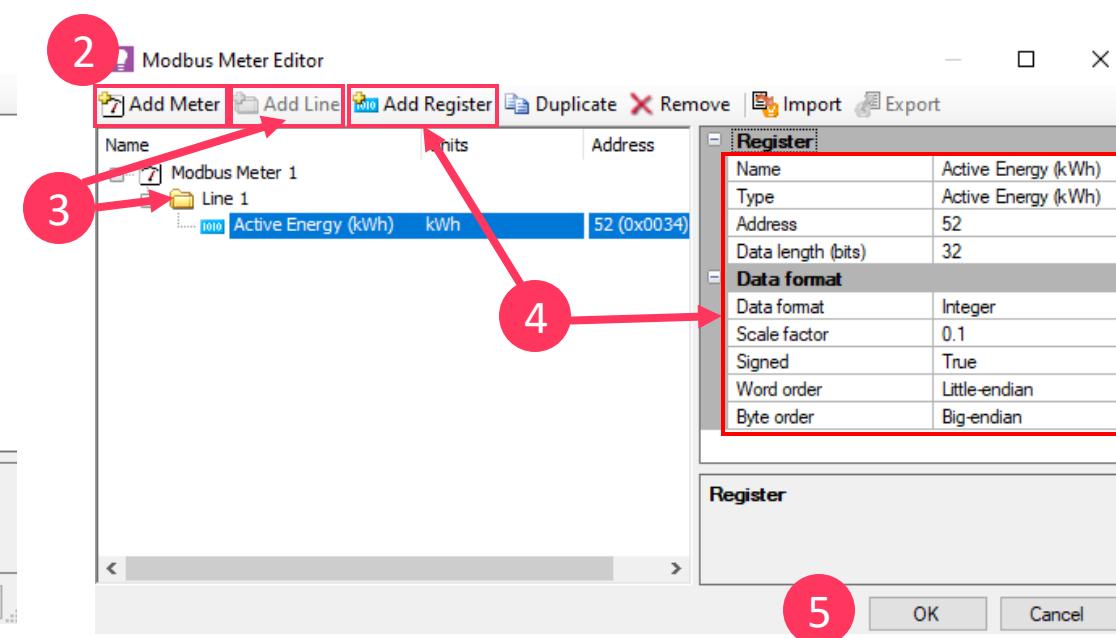
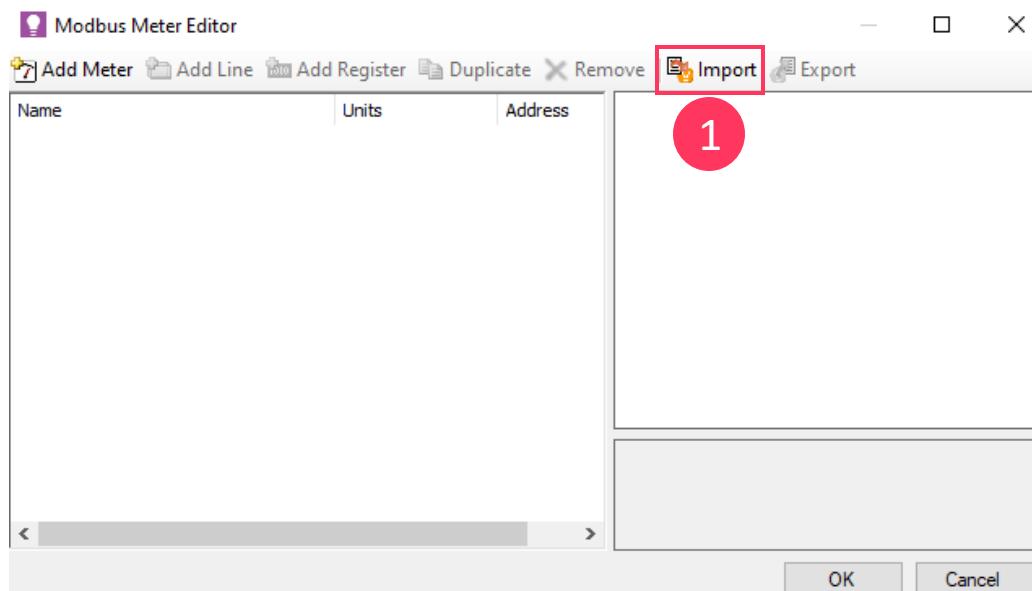
1. In the **System** view, add **PDEG/PDEB** device under **PDDEG-S**, and click on it.
2. Go to the **Create Device** tab.
3. Select **Meters** tab.
4. Choose **Modbus Meter** from the existing list or click **Manage Custom Meters**



## 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

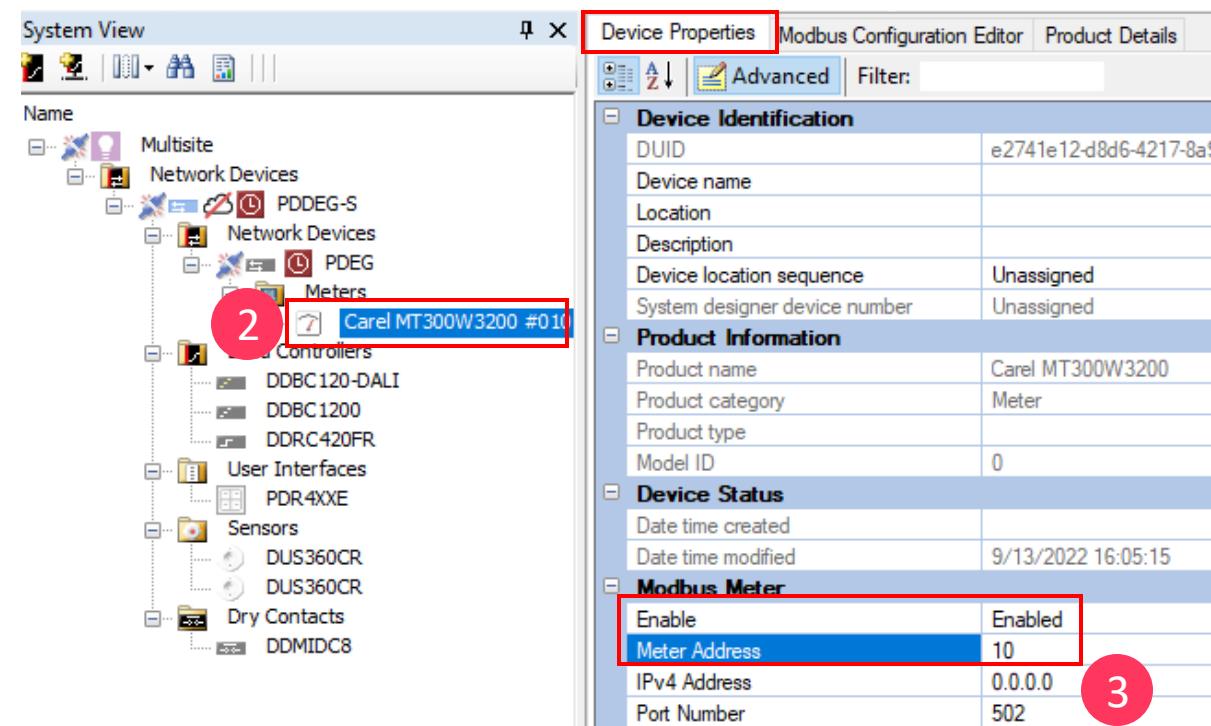
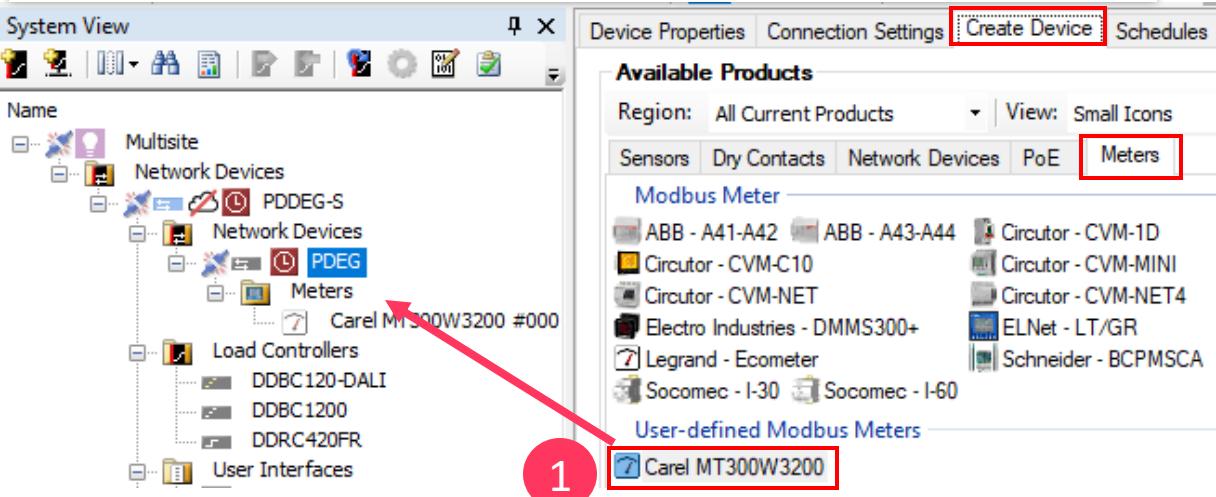
Custom meter will appear on **Meters** list (PDEG --> *Create Device* tab)

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

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

### 2. Click on the Modbus Meter.

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



## 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.

Device Properties Modbus Configuration Editor **Product Details**

Modbus Device Channel Assignment

1

Name	Enabled	Value	Units	Address	Power Zone
1010 Phase L1-N (V)	<input type="checkbox"/>		V	0 (0x0000)	
1010 Phase L2-N (V)	<input type="checkbox"/>		V	2 (0x0002)	
1010 Phase L3-N (V)	<input type="checkbox"/>		V	4 (0x0004)	
1010 average phase-neutral S...	<input type="checkbox"/>		V	36 (0x0024)	
Assigned Circuits					
Voltage:					
1010 Phase L1-L2 (V)	<input type="checkbox"/>		V	6 (0x0006)	
1010 Phase L2-L3 (V)	<input type="checkbox"/>		V	8 (0x0008)	
1010 Phase L3-L1 (V)	<input type="checkbox"/>		V	10 (0x000A)	
1010 average phase-phase S...	<input type="checkbox"/>		V	38 (0x0026)	
Assigned Circuits					
Power factor:					
1010 phase L1	<input type="checkbox"/>		PF	46 (0x002E)	
1010 phase L2	<input type="checkbox"/>		PF	47 (0x002F)	
1010 phase L3	<input type="checkbox"/>		PF	48 (0x0030)	
1010 SE	<input type="checkbox"/>		PF	49 (0x0031)	
Assigned Circuits					
SE:					
1010 phase sequence	<input type="checkbox"/>		Other	50 (0x0032)	
1010 frequency (Hz)	<input type="checkbox"/>		Hz	51 (0x0033)	
1010 Active energy SE (kWh)	<input checked="" type="checkbox"/>		kWh	52 (0x0034)	
Assigned Circuits					
Apparent power:					
Reactiv inductive energy					
Reactiv capacitive energy					

2

Device Properties Modbus Configuration Editor Product Details

Modbus Device Channel Assignment

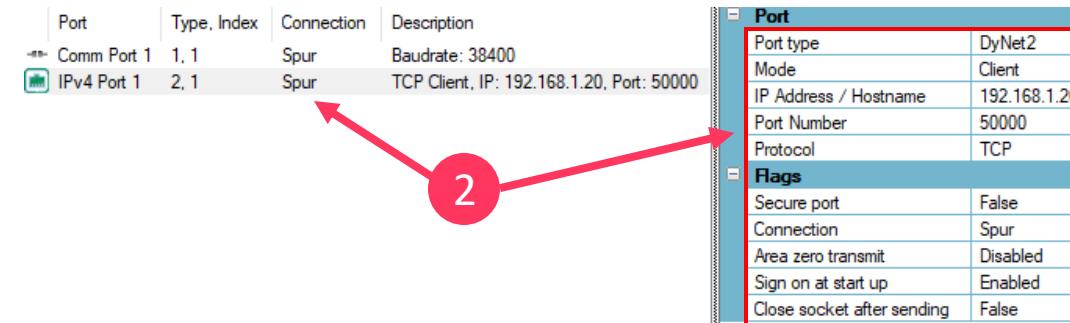
Name	Enabled	Value	Units	Address	Power Zone
THD:					
Current:					
Voltage:					
Voltage:					
Power factor:					
SE:					
1010 phase sequence	<input type="checkbox"/>		Other	50 (0x0032)	
1010 frequency (Hz)	<input type="checkbox"/>		Hz	51 (0x0033)	
1010 Active energy SE (kWh)	<input checked="" type="checkbox"/>		kWh	52 (0x0034)	
Assigned Circuits					
HVAC					
Lighting					
Clear					

3

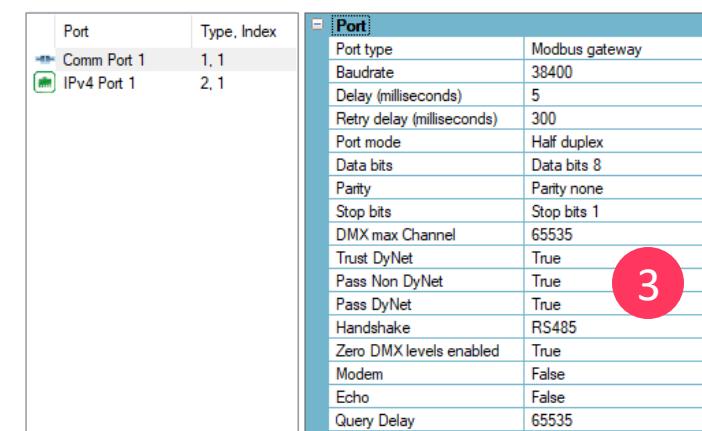
## Metered energy - Modbus RS485 | Add and configure PDEG/PDEB

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**.

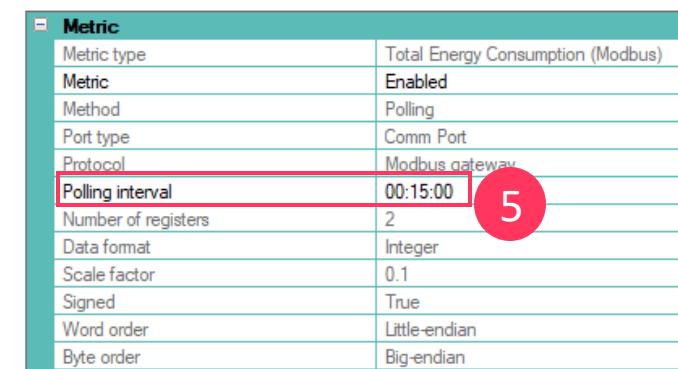


Port	Type, Index	Connection	Description
Comm Port 1	1, 1	Spur	Baudrate: 38400
IPv4 Port 1	2, 1	Spur	TCP Client, IP: 192.168.1.20, Port: 50000

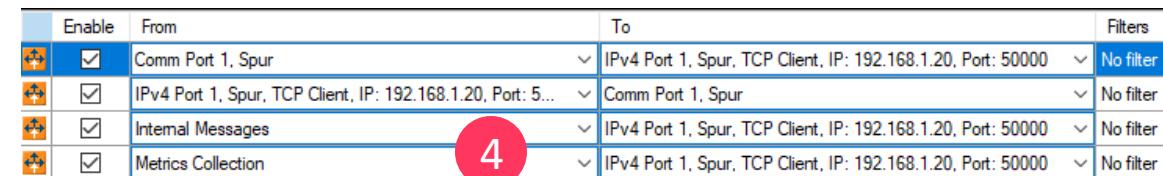


Port	Type, Index
Comm Port 1	1, 1
IPv4 Port 1	2, 1

Port	Modbus gateway
Baudrate	38400
Delay (milliseconds)	5
Retry delay (milliseconds)	300
Port mode	Half duplex
Data bits	Data bits 8
Parity	Parity none
Stop bits	Stop bits 1
DMX max Channel	65535
Trust DyNet	True
Pass Non DyNet	True
Pass DyNet	True
Handshake	RS485
Zero DMX levels enabled	True
Modem	False
Echo	False
Query Delay	65535



Metric	
Metric type	Total Energy Consumption (Modbus)
Metric	Enabled
Method	Polling
Port type	Comm Port
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



Enable	From	To	Filters
<input checked="" type="checkbox"/>	Comm Port 1, Spur	IPv4 Port 1, Spur, TCP Client, IP: 192.168.1.20, Port: 50000	No filter
<input checked="" type="checkbox"/>	IPv4 Port 1, Spur, TCP Client, IP: 192.168.1.20, Port: 50000	Comm Port 1, Spur	No filter
<input checked="" type="checkbox"/>	Internal Messages	IPv4 Port 1, Spur, TCP Client, IP: 192.168.1.20, Port: 50000	No filter
<input checked="" type="checkbox"/>	Metrics Collection	IPv4 Port 1, Spur, TCP Client, IP: 192.168.1.20, Port: 50000	No filter

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## Plan installation and commissioning

Architecture FLX - Multisite

## Plan commissioning | Preparation

### Request work order for Site Engineer

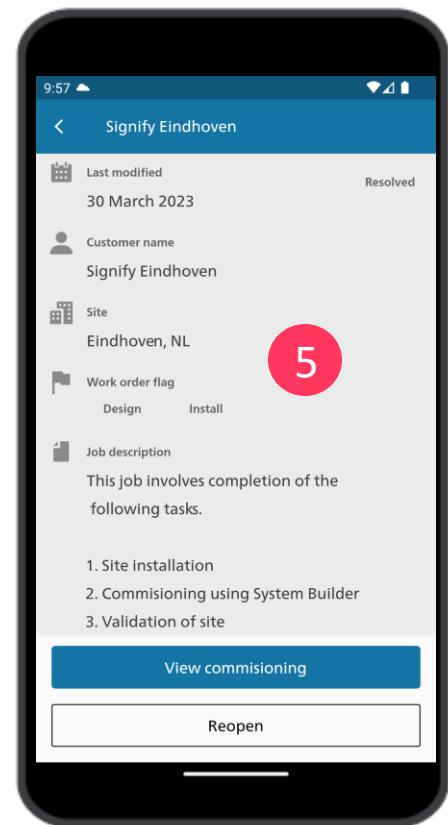
Before onsite activities, a work order for Site Engineer must be requested and proceeded by Global Software Operations team. The installer receives an email when the work order is assigned.

### 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.



## 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

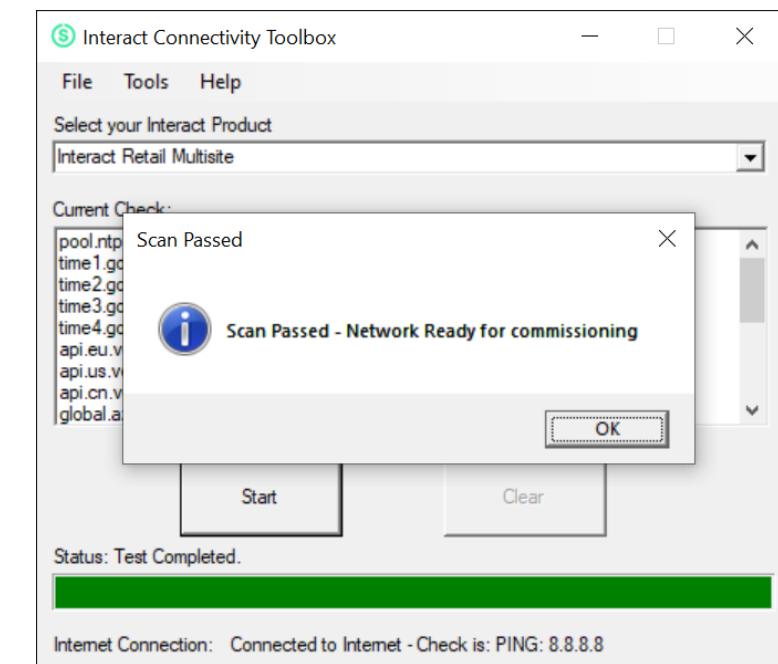
IT department of customer should be informed about number of endpoints which must be accessible from the internal network in order to provide gateway connectivity to Interact Cloud.

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**



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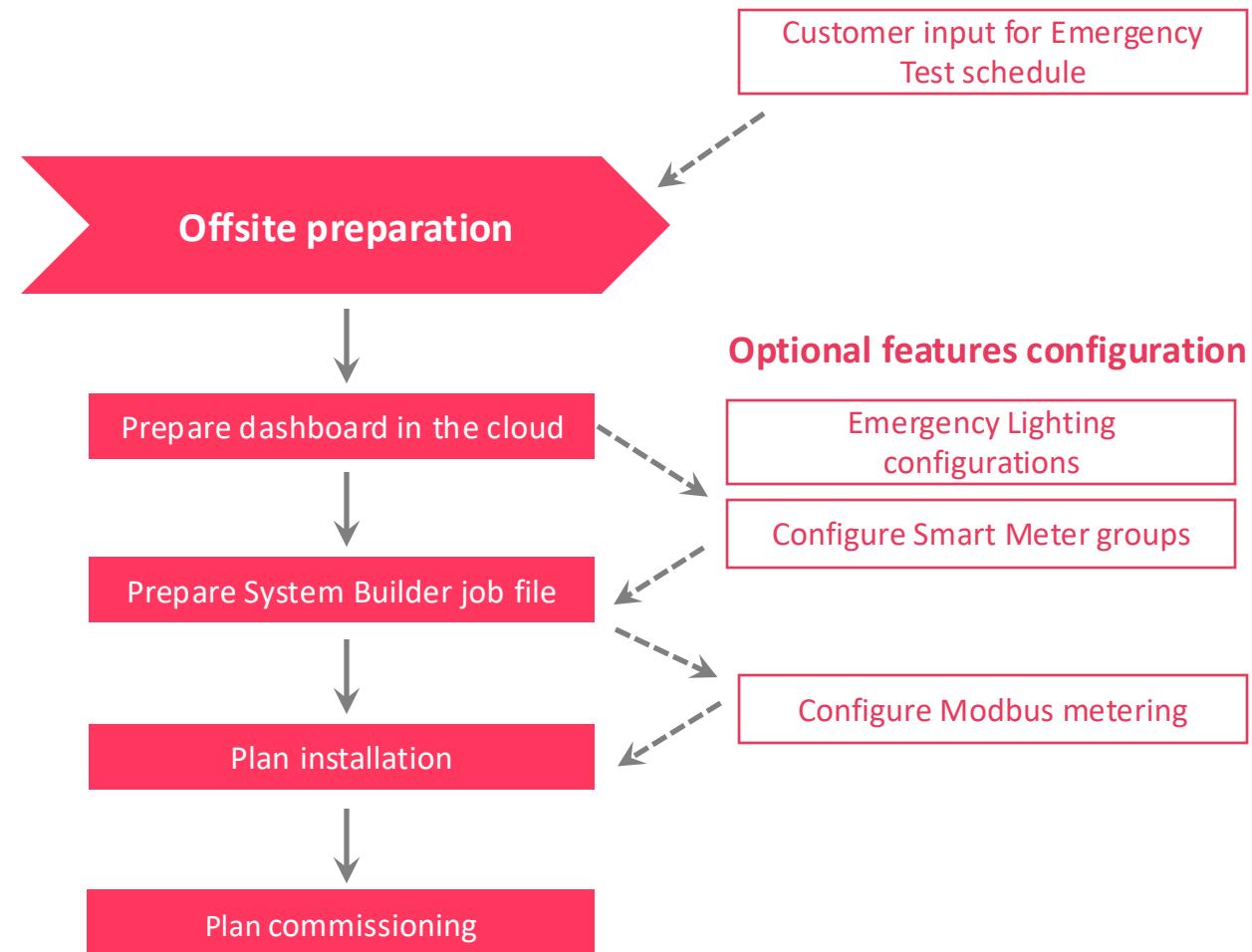
**Lesson review**

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.



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