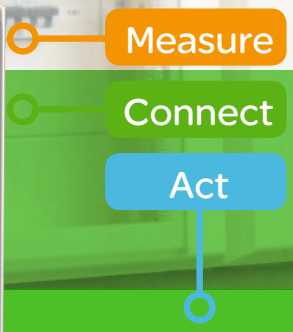
EcoStruxure™ Power

For Commercial & Industrial Buildings

Commissioning Guide
For Connected Panels and
EcoStruxure™ Facility Expert Software



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Important instructions

Read these instructions carefully and look at the equipment to become familiar with the device before trying to install, operate, service or maintain it.

The following special messages may appear throughout this bulletin or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.

The addition of either symbol to a "Danger" or "Warning" safety label indicates that an electrical hazard exists, which will result in personal injury if the instructions are not followed.

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠ DANGER

DANGER indicates a hazardous situation which, if not avoided, **will result in** death or serious injury.
Failure to follow these instructions will result in death, serious injury, equipment damage, or permanent loss of data.

⚠ WARNING

WARNING indicates a hazardous situation which, if not avoided, **can result in** death or serious injury.
Failure to follow these instructions can result in death, serious injury, equipment damage, or permanent loss of data.

⚠ CAUTION

CAUTION indicates a hazardous situation which, if not avoided, **can result in** minor or moderate injury.
Failure to follow these instructions can result in injury or equipment damage.

NOTICE

NOTICE is used to address practices not related to physical injury. The safety alert symbol shall not be used with this signal word.

Please note

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction, operation and installation of electrical equipment, and has received safety training to recognize and avoid the hazards involved.

Before you begin

Electrical monitoring and control equipment and related software are used in a variety of the buildings. The type or model of electrical monitoring and control equipment suitable for each application will vary depending on factors such as the system dependability level, unusual conditions and government regulations etc.

Only the user can be aware of all the conditions and factors present during setup, operation and maintenance of the solution. Therefore, only the user can determine the electrical monitoring and control equipment and the related safeties and interlocks which can be properly used. When selecting electrical monitoring and control equipment and related software for a particular application, the user should refer to the applicable local and national standards and regulations. The National Safety Council's Accident Prevention Manual also provides much useful information.

Ensure that appropriate safeties and mechanical/electrical interlocks protection have been installed and are operational before placing the equipment into service. All mechanical/electrical interlocks and safeties protection must be coordinated with the related equipment and software programming.

Start up and test

Before using electrical control and automation equipment for regular operation after installation, the system should be given a start-up test by qualified personnel to verify correct operation of the equipment. It is important that arrangements for such a check be made and that enough time is allowed to perform complete and satisfactory testing.

Follow all start-up tests recommended in the equipment documentation. Store all equipment documentation for future references.

Software testing must be done in both simulated and real environments.

Verify that the completed system is free from all short circuits and grounds, except those grounds installed according to local regulations (according to the National Electrical Code in the U.S.A., for instance). If high-potential voltage testing is necessary, follow recommendations in equipment documentation to prevent accidental equipment damage.

Before energizing equipment:

- Remove tools, meters, and debris from equipment.
- Close the equipment enclosure door.
- Perform all start-up tests recommended by the manufacturer.

Operation and adjustments

The following precautions are from the NEMA Standards Publication ICS 7.1-195 (English version prevails):

- Regardless of the care exercised in the design and manufacture of equipment or in the selection and ratings of components, there are hazards that can be encountered if such equipment is improperly operated.
- It is sometimes possible to misadjust the equipment and thus produce unsatisfactory or unsafe operation. Always use the manufacturer's instructions as a guide for functional adjustments. Personnel who have access to these adjustments should be familiar with the equipment manufacturer's instructions and the machinery used with the electrical equipment.
- Only those operational adjustments actually required by the operator should be accessible to the operator. Access to other controls should be restricted to prevent unauthorized changes in operating characteristics.

Safety precautions

The following safety messages apply to installation, configuration and operation of the Gateway Long Range, the products **PowerLogic** HeatTag and **PowerLogic** PowerTag and mobile applications EcoStruxureTM Power Commission and EcoStruxureTM Facility Expert

⚠ WARNING

UNINTENDED EQUIPMENT OPERATION

- Do not use the software to control time-critical functions because communication delays can occur between the time a control is initiated and when that action is applied.
- Do not use the software to control remote equipment without securing it with an authorized access level, and without including a status object to provide feedback about the status of the control operation.

Failure to follow these instructions can result in death or serious injury.

⚠ WARNING

INACCURATE DATA RESULTS

- Do not incorrectly configure the software, as this can lead to inaccurate reports and/or data results.
- Do not base your maintenance or service actions solely on messages and information displayed by the software.
- Do not rely solely on software messages and reports to determine if the system is functioning correctly or meeting all applicable standards and requirements.
- Consider the implications of unanticipated transmission delays or failures of communications links.

Failure to follow these instructions can result in death, serious injury, equipment damage, or permanent loss of data.

NOTICE

LOSS OF DATA

- Be sure to activate product and component licenses prior to the expiry of the trial license.
- Ensure that you activate sufficient licenses for the servers and devices in your system.
- Backup or archive any SQL Server database data before adjusting any database memory options.
- Only personnel with advanced knowledge of SQL Server databases should make database parameter changes.

Failure to follow these instructions can result in loss of data.

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, BURN OR EXPLOSION

- Only qualified personnel familiar with low and medium voltage equipment are to perform work described in this set of instructions. Workers should understand the hazards involved in working with or near low and medium voltage circuits.
- Perform such work only after reading and understanding all of the instructions contained in this bulletin.
- Turn off all power before working on or inside equipment.
- Use a properly rated voltage sensing device to confirm that the power is off.
- Before performing visual inspections, tests, or maintenance on the equipment, disconnect all sources of electric power. Assume that all circuits are live until they have been completely de-energized, tested, grounded, and tagged. Pay particular attention to the design of the power system. Consider all sources of power, including the possibility of back feeding.
- Handle this equipment carefully and install, operate, and maintain it correctly in order for it to function properly. Neglecting fundamental installation and maintenance requirements may lead to personal injury, as well as damage to electrical equipment or other property.
- Beware of potential hazards, wear personal protective equipment and take adequate safety precautions.
- Do not make any modifications to the equipment or operate the system with the interlocks removed. Contact your local field sales representative for additional instruction if the equipment does not function as described in this manual.
- Carefully inspect your work area and remove any tools and objects left inside the equipment.
- Replace all devices, doors and covers before turning on power to this equipment.
- All instructions in this manual are written with the assumption that the customer has taken these measures before performing maintenance or testing.

Failure to follow these instructions will result in death or serious injury.

NOTICE

UNAUTHORIZED OR UNINTENDED ACCESS TO CUSTOMER DATA

- Personnel setting up third-party authentication of the software must be aware that links to data are not secure.
- Do not setup access links to sensitive or secure data.

Failure to follow these instructions can result in unauthorized or unintended access to sensitive or secure customer data.

NOTICE

NETWORK INOPERABILITY

Do not make unauthorized changes in the network configuration.

Failure to follow these instructions can result in an unstable or unusable network.

This document is intended to describe how to select and configure the Smart panels system.

Asset and Energy management have never been simpler

Smart Panels connect you to energy savings in three steps.

0 Digitize

> Easily collaborate and share switchboard documents

> Attach preventative maintenance plans

1 Measure

> Embedded and stand-alone metering

> Control capabilities

2 Connect

> Integrated communication interfaces

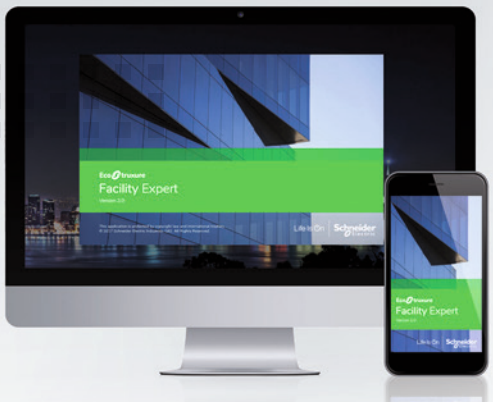
> Ready to connect to EcoStruxure™ Facility Expert

3 Act

> Data-driven energy efficiency actions

> Real time monitoring and control

> Access to energy and asset management through online services



Tested, Validated, Documented Smart Panels architecture

Smart Panels have been certified via Schneider Electric's "guide" quality process

Tested in performance labs by experts, in the most common configuration
Validated full functional compatibility of devices
Documented, with user guide, predefined CAD panel designs & wiring diagrams

Smart Panels overview

Smart Panels are key components of energy and asset in buildings.

You can only manage what you measure and see. Schneider Electric Smart Panels form the basis of a simple solution for understanding how a building functions in terms of maintenance, energy consumption and technical performance.

Smart Panels are the first step in creating an energy or asset management strategy. Combined with Schneider Electric Services, they form a complete solution for real energy savings and uptime.

Smart Panels are based on the Ethernet network. Ethernet is widely used in domestic and industrial applications, allowing easy, transparent access to electrical devices from any location.

Purpose

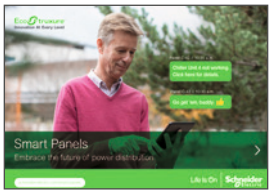
The purpose of this guide is to provide methodology and how to configure Smart Panels - electrical distribution switchboards featuring full digital connectivity. This is achieved through one main reference switchboard architectures which have been fully tested, validated and documented (guide) in Schneider Electric laboratories.

This guide supplements the other EcoStruxure Power documents supporting you to design, construct and operate Smart panels.

Connected products catalogue

Smart Panels Assembly Guide

Design and Selection guide



Smart Panels e-brochure

EcoStruxure Facility Expert User guide

Prerequisites

Familiarity with LV electrical distribution components is required to understand and benefit from this guide.

Scope of Smart Panels

The first release of this guide deals with LV switchboards for non-critical, small and medium buildings:

- School
- Gymnasium
- Small Hotel
- Bank
- Office
- Hotel
- Supermarket
- Retail...

Only new buildings are covered by this document. For revamping projects, verify the compatibility of existing devices with the new Enerlin'X system using the EcoStruxure Power Commission configuration tool, or with the help of your local Schneider Electric support.

Smart Panels: power management has never been simpler

0 Digitize: toss the papers and collaborate

With the Digital Logbook, EcoStruxure Power helps you simplify and improve asset management. From construction to operation, all project partners can share important documentation and manage maintenance using EcoStruxure Facility Expert and a simple QR code at the switchboard.

1 Measure

ComPact NSX

PowerLogic PowerTag NSX

Sepam S40

MasterPact MTZ

Energy meter

PowerLogic PowerTag

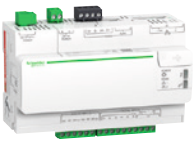
PowerLogic PowerTag

Power meter

TH110 sensor

CL110 sensor

2 Connect



Com'X

Smartlink SI B

PowerTag Link

IFM

IFE / IFE Gateway

3 Act On the panel > On local network > On cloud 24/7

FDM128

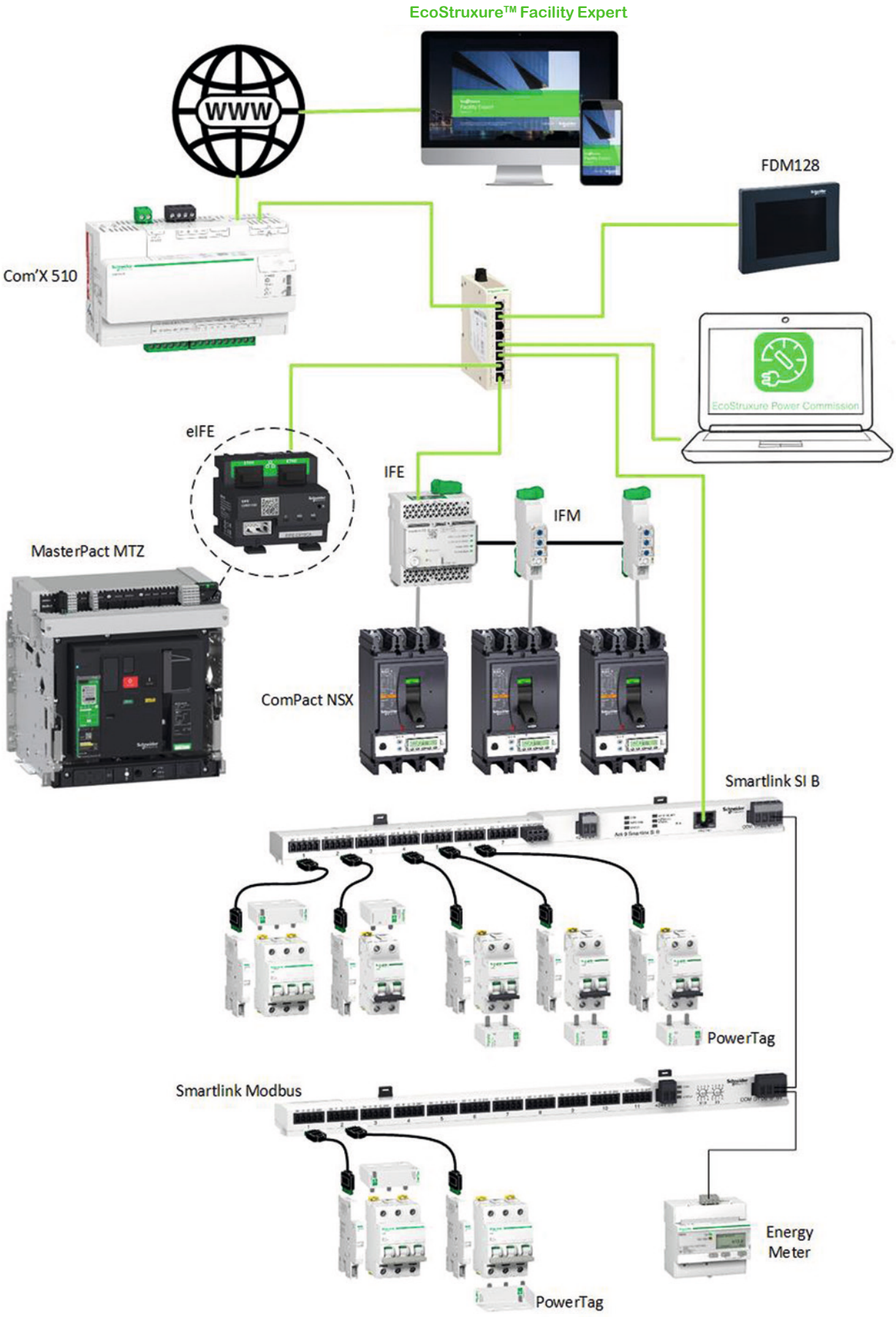
Devices web pages

EcoStruxure Facility Expert

EcoStruxure Power Commission

Network architecture case study

The selected communication architecture is detailed below:



Summary

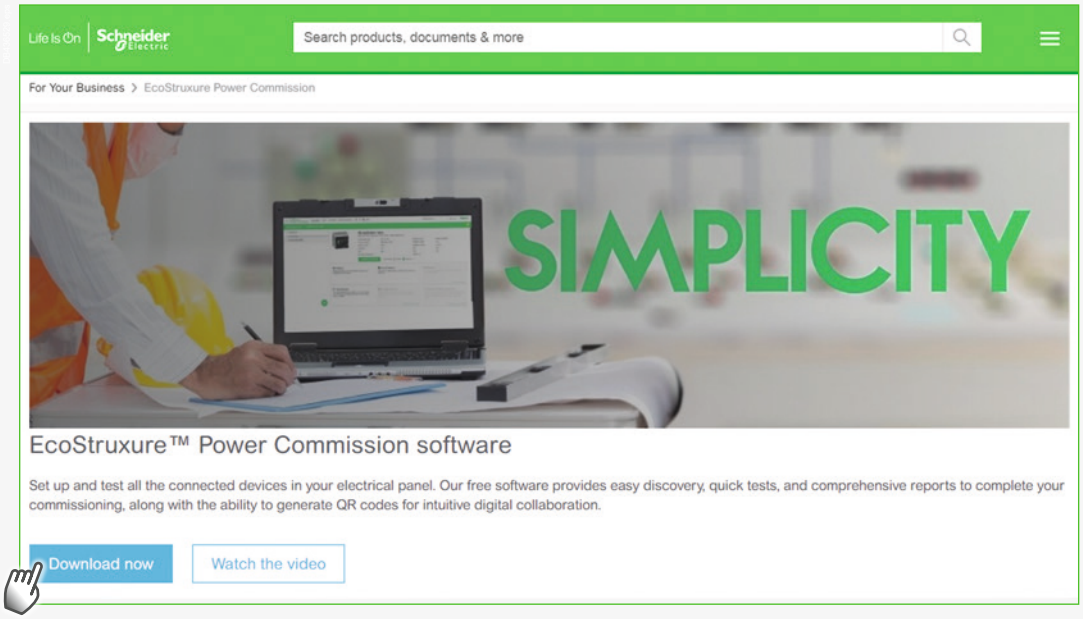
This guide contains clickable links for:
- page redirection towards table of contents or chapters,
- links to open web pages of the Schneider Electric site,
- links and QR codes to watch the videos on your mobile devices.

Follow very carefully the steps to avoid issues during installation.

I get prepared

1

1.1. How to get EcoStruxure™ Power Commission



Go to the Schneider Electric website or on your Schneider Electric country website and download the EcoStruxure Power Commission installer.

Download EcoStruxure Power Commission installation guide to get all details.

SUMMARY

1.2. How to get EcoStruxure™ Facility Expert

GoDigital is the Schneider Electric online market place that allows you to purchase a subscription to EcoStruxure™ Facility Expert.

1.2.1. Prerequisites

You should be an identified user with login credentials to purchase EcoStruxure™ Facility Expert on GoDigital.

If you don't have credentials, please self-register or contact your Schneider Electric representative or customer care center.

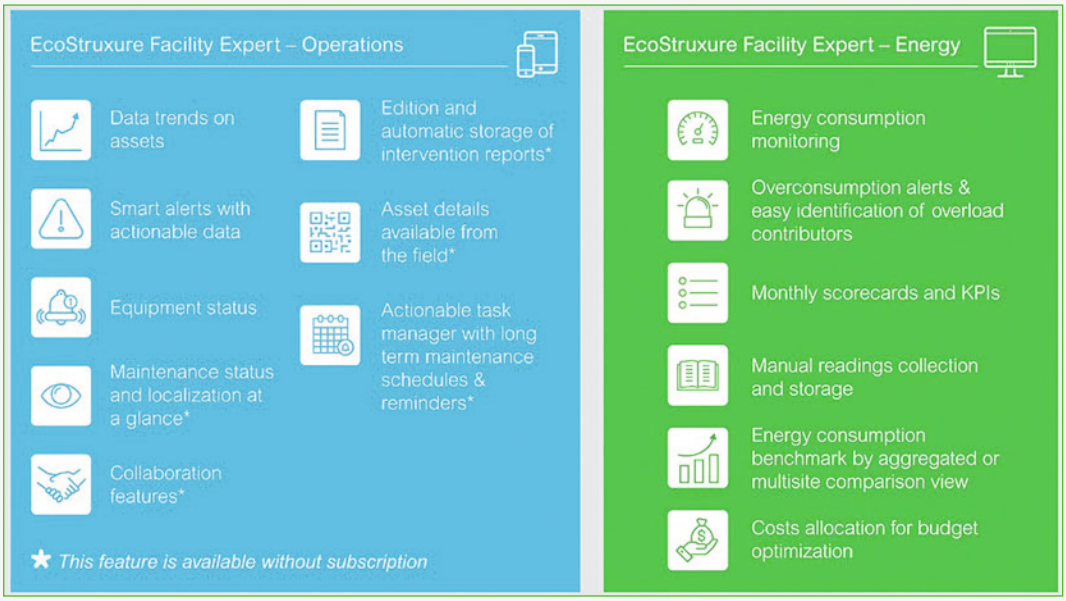
1.2.2. Purchasing an EcoStruxure™ Facility Expert subscription

Discover the App for free and leverage its digital logbook features to manage your electrical assets, or select one of the three available licenses that better adapts to your needs.

EcoStruxure Facility Expert subscriptions are all available with a 6 month trial license.

- EcoStruxure Facility Expert-Operations
- EcoStruxure Facility Expert-Energy
- EcoStruxure Facility Expert-Smart Power combining operations and energy features

Features overview per subscription



SUMMARY

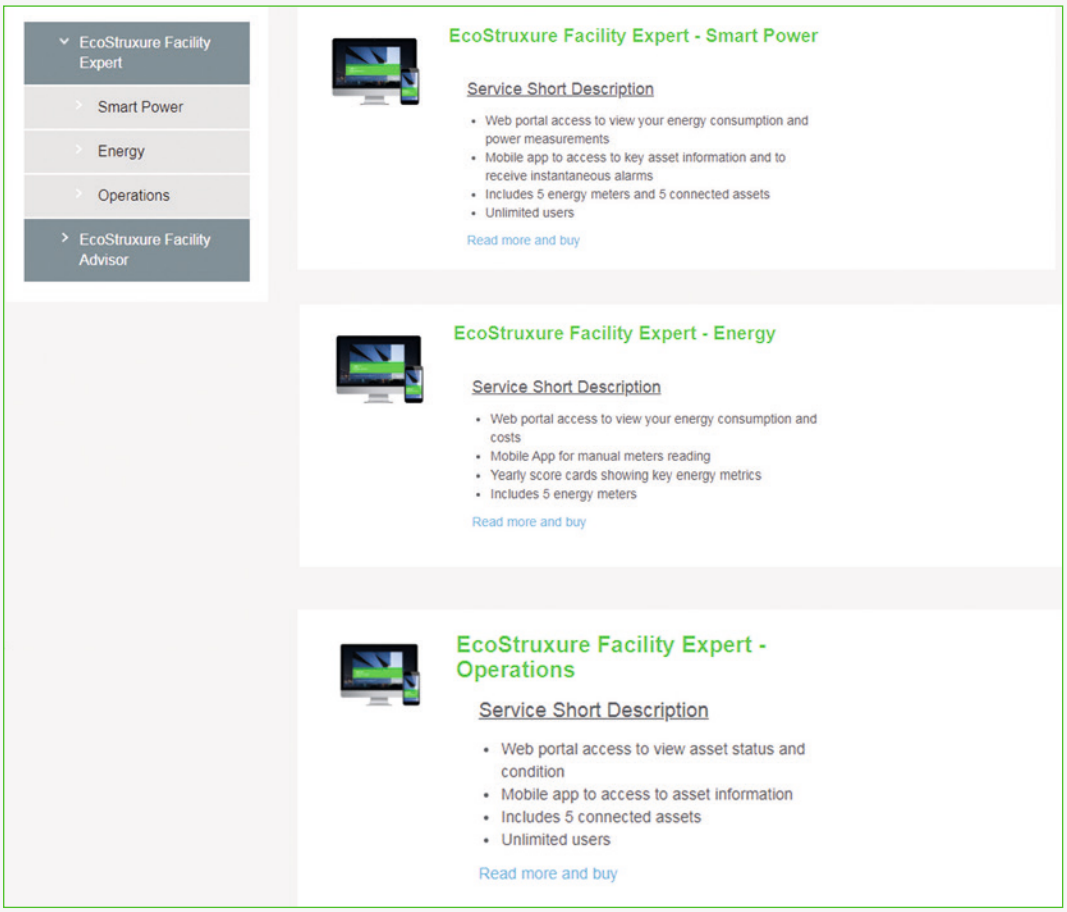
I get prepared

1

Click below and select your country:

Login at https://godigital.schneider-electric.com/smp/global/countrySelector.page with your credentials.

In the SOLUTIONS tab, select a subscription for EcoStruxure™ Facility Expert, add it to your cart and follow each step of the purchasing process.



You will receive an email with subscription confirmation.

The subscription will be then available for use, with an automatic provisioning between GoDigital and EcoStruxure™ Facility Expert.

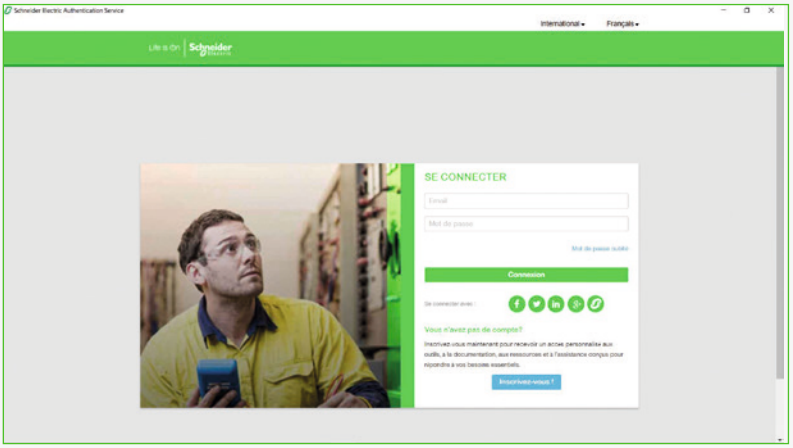
If one subscription license is not available in your country, contact your SE representative.

SUMMARY

EcoStruxure Power Commission introduction

EcoStruxure Power Commission software is the main system configuration tool for Smart Panels. EcoStruxure Power Commission assists different types of user throughout the life cycle of your electrical installation:

- Panel builders: for factory commissioning. EcoStruxure Power Commission provides communication reports and enables to check the correct cabling of the digital components.
- Installer: on site commissioning, electrical protection settings.
- Operator and maintenance team: monitoring, advanced diagnosis, firmware upgrade.



EcoStruxure Power Commission software

Introduction

Smart Panels' system configuration and monitoring tools include the following:

- EcoStruxure Power Commission software for LV circuit breakers setting and monitoring (IFE - IO module - Acti9 communication system - electrical protection settings, Com'X510...).
- FDM128 autodiscovery configuration feature.

Prerequisites

The Smart Panels electrical switchboards and the Enerlin'X devices should be powered on. The following sections detail the addressing of Modbus serial line devices, the project creation with EcoStruxure Power Commission software and the devices discovery. Then the configuration of LV breaker Digital system and Acti9 communication system is presented.

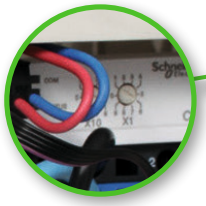
SUMMARY

Device Modbus addressing

In this section, the basic hardware settings are retained for each type of communication device included in the Smart Panels. These single settings should be applied before the system is configured.

Acti9 Smartlink system

First step is the installation of the Acti9 system, then depending on Acti9 Smartlink type, the hardware settings of communication are detailled bellow.



Rotary Switch Modbus adressing

Modbus version

Modbus slave addressing with rotary switch (Modbus address should be unique).

IFM

Modbus addresses:

Modbus addresses should be set with the two rotary switches (**X1** and **X10** symbols). The X10 symbol refers to the tens and the **X1** symbol to the units.

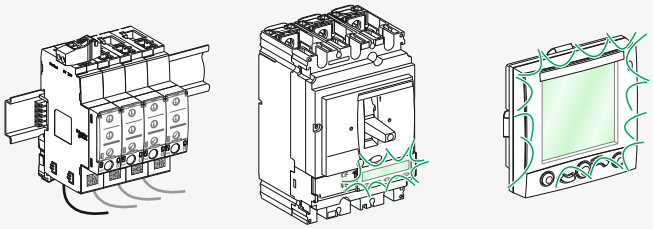
Example:

To set the Modbus address to 4, proceed as follows:

IFM rotary switch:

- Set the **X10** switch to 0.
- Set the **X1** switch to 4.
- Turn the padlock switch to the unlocked position.

Verify the connection between the Enerlin'X IFM and the circuit breaker: press the test button on the IFM and visually check that the associated Micrologic trip unit flashes simultaneously (ON: 1000 ms/OFF: 1000 ms):



Note: If an FDM121 is used, its screen also flashes.

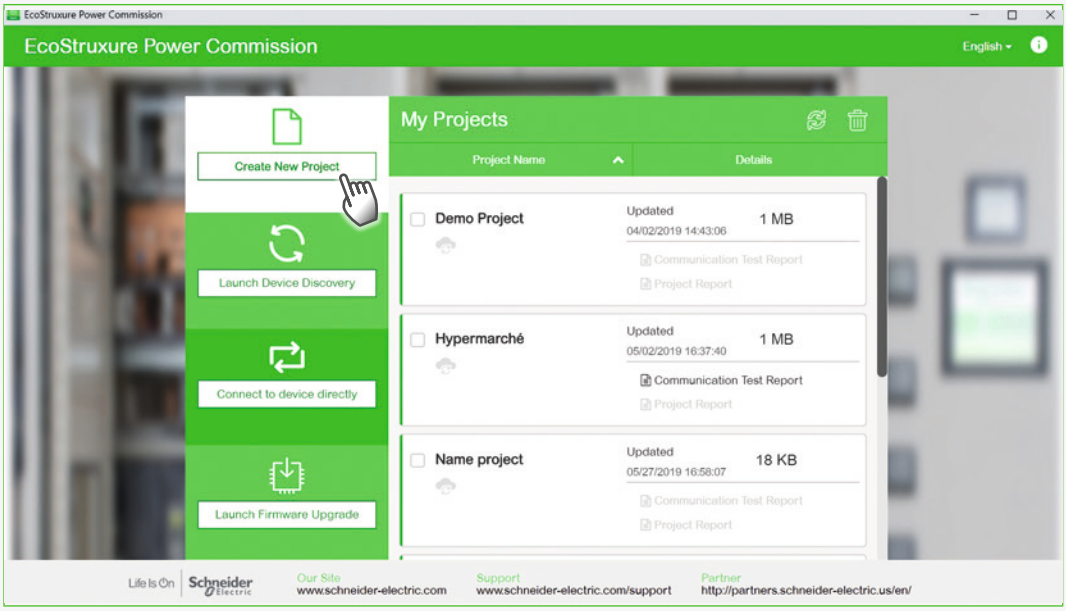
SUMMARY

2.1. Project creation

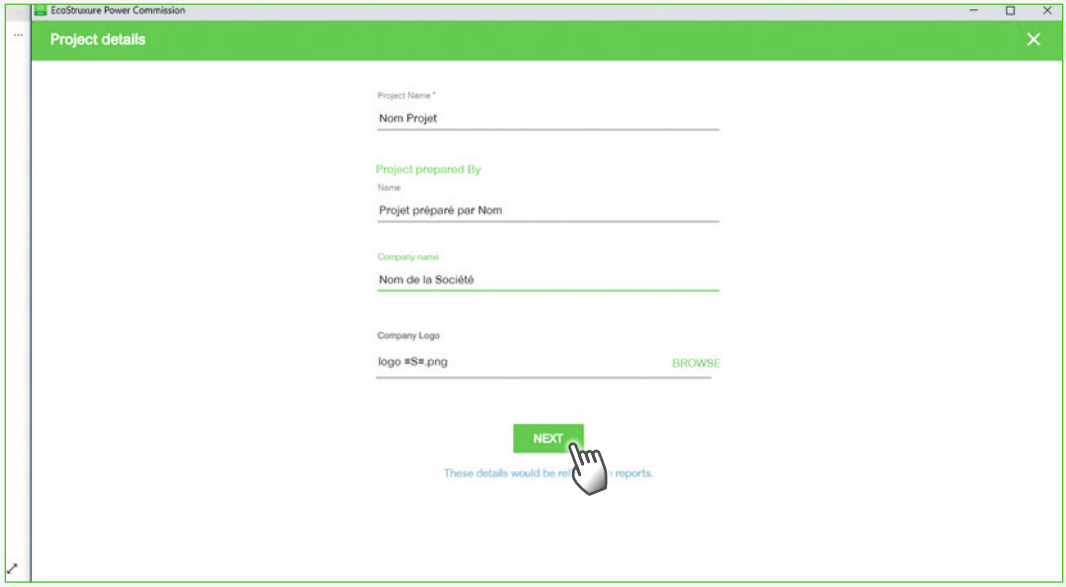
EcoStruxure Power Commission configuration software saves all electrical assets of the building with contextualization of loads. Users can sort electrical assets by electrical switchboard and locate them inside the building.

The following section details the EcoStruxure Power Commission features (project creation after device discovery, check operation of circuit breaker, firmware upgrade maintenance operation).

How to create a project with EcoStruxure Power Commission



> Click on **"Create new Project"**

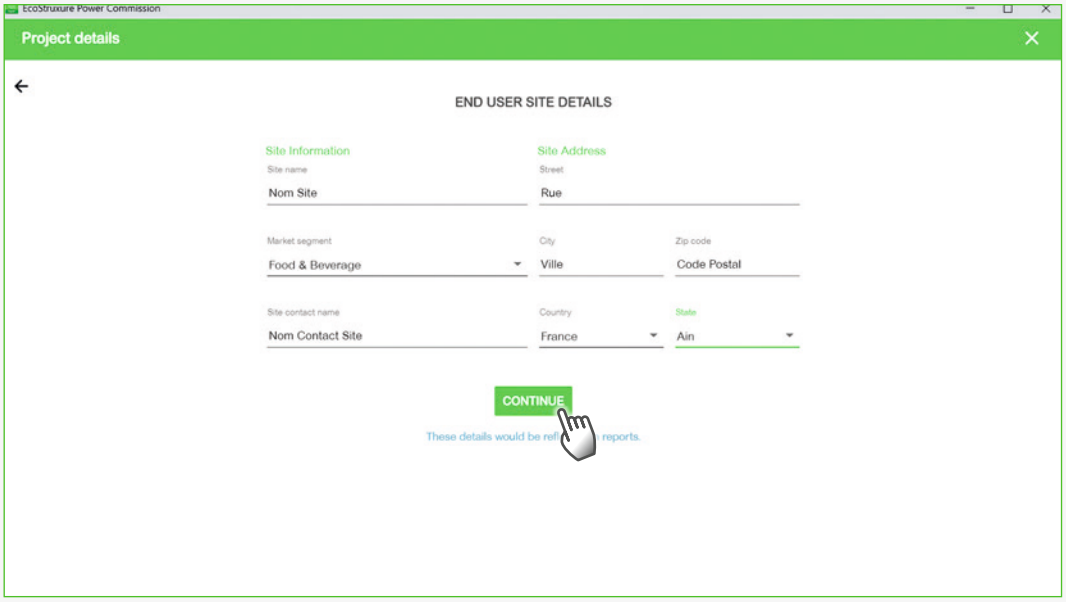


> Write all the information related to your project

> Then click on **"Next"**

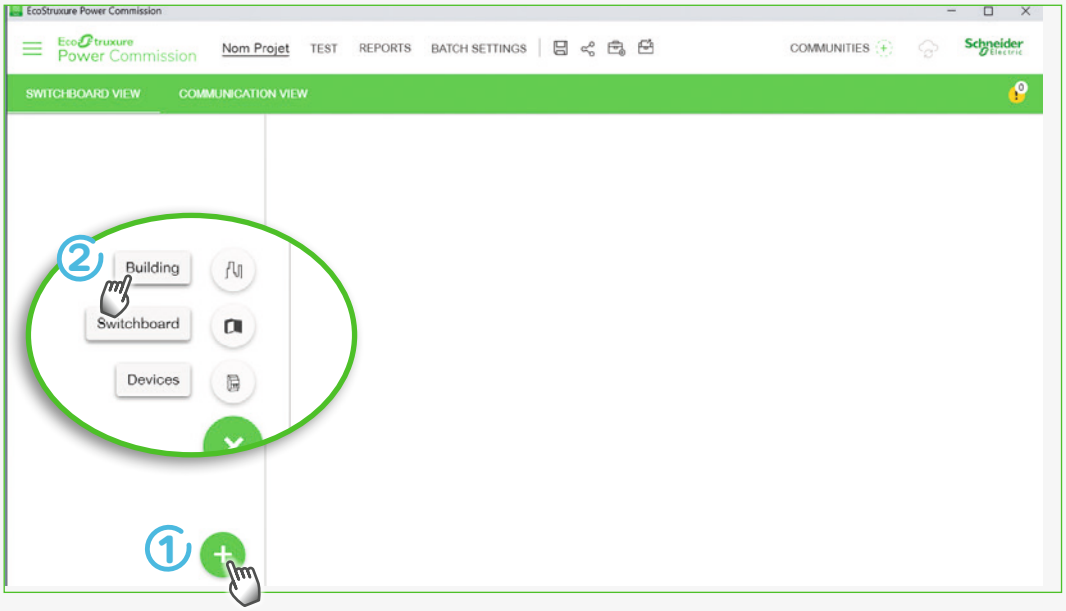
SUMMARY

I commission devices



> Write all information related about end user site details

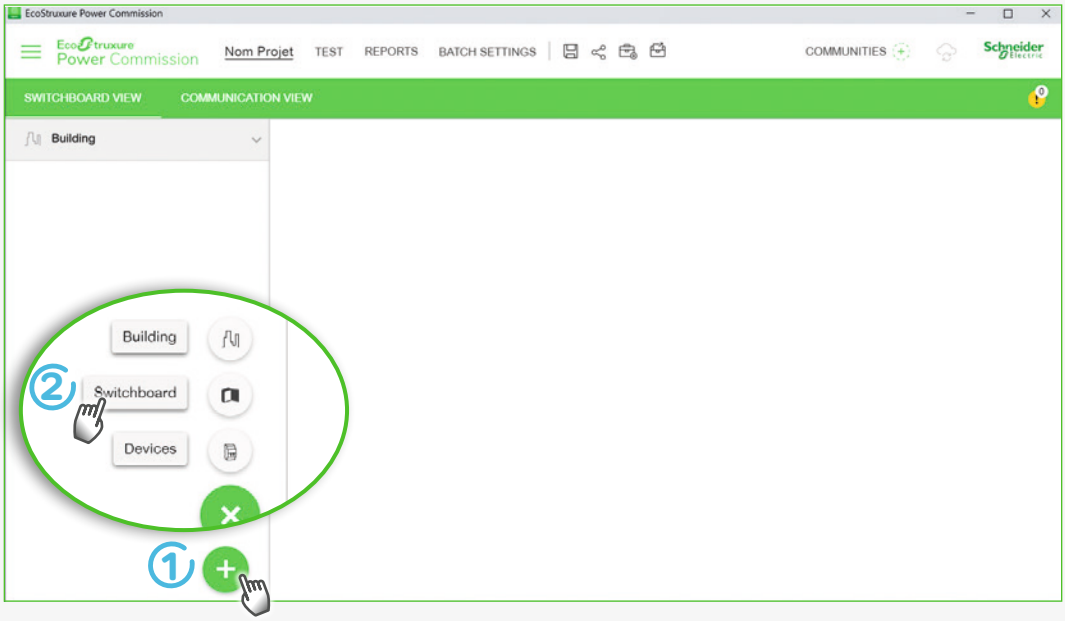
> Then click on **"Continue"**



> New windows appear

1. Click on +
2. Click on **"Building"**

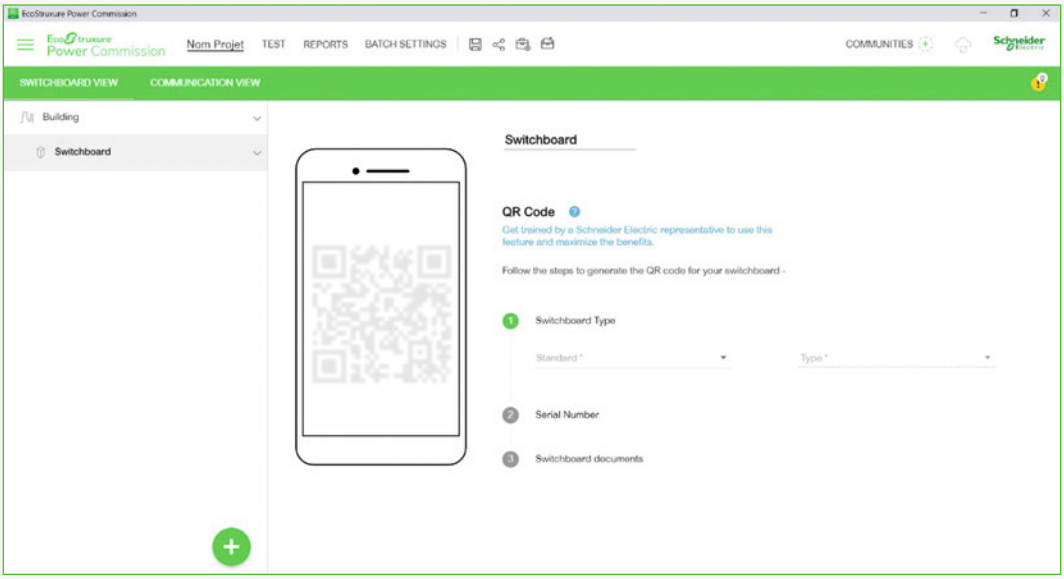
SUMMARY



> New windows appear

① Click on +

② Click on **"Switchboard"**



The creation of QR code is not mandatory and will not be covered in this guide.

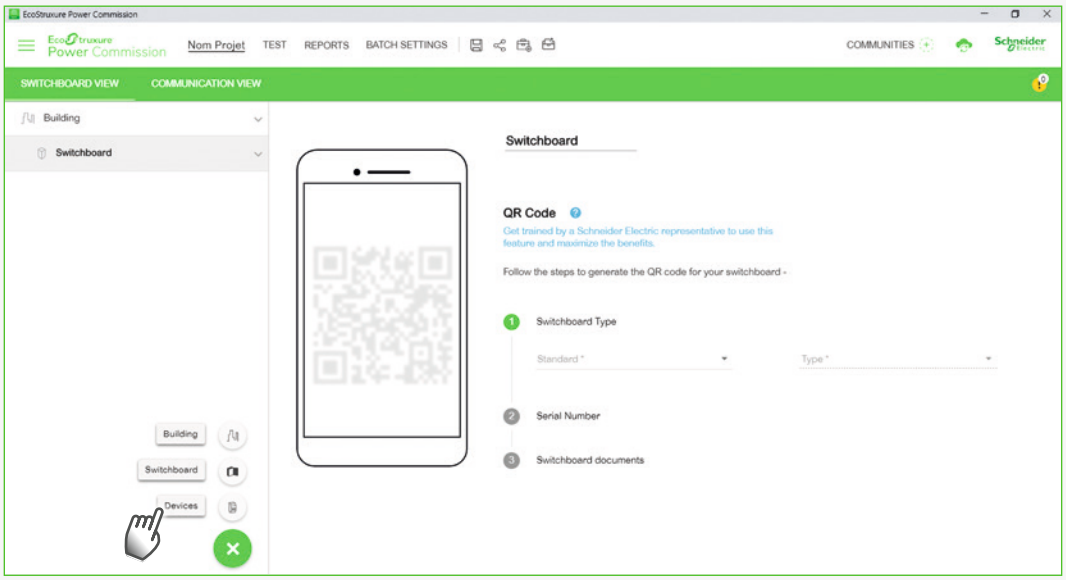
SUMMARY

2.2. Device discovery

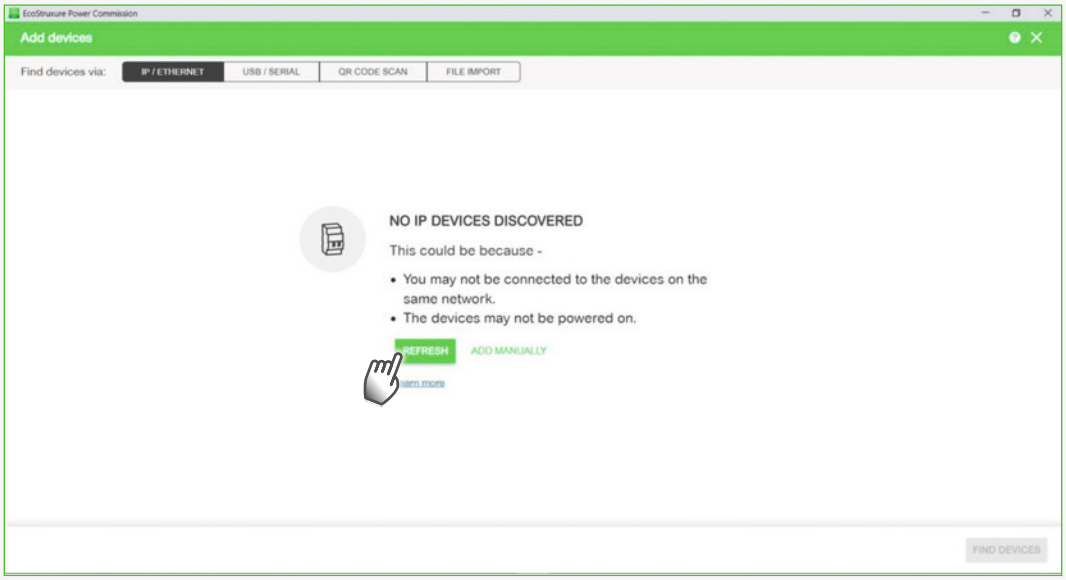
2.2.1. Advanced project creation

EcoStruxure Power Commission software allows you to create a project by device discovery. Device discovery enables you to discover the devices in the network. It also provides an option to generate and save the report for the devices discovered in the network in PDF format. Connect your laptop to the local Ethernet network of the Smart Panels and click the Discovery button.
It also allows you to identify uniquely your switchboard and share documentation linked to the switchboard with a community.

How to discover electrical devices with EcoStruxure Power Commission

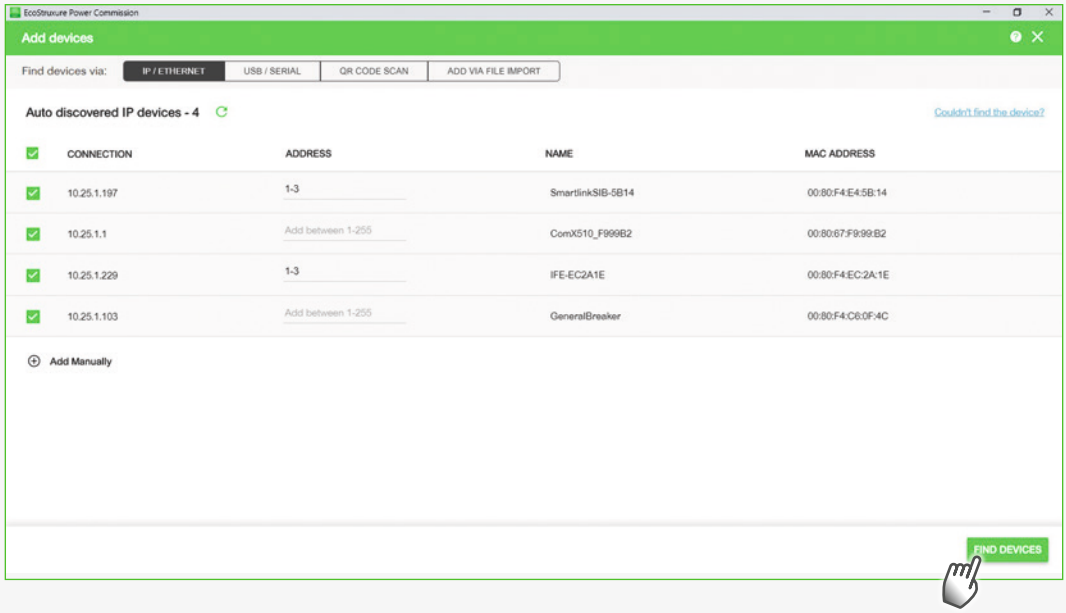


> On switchboard window, click on **"Devices"**



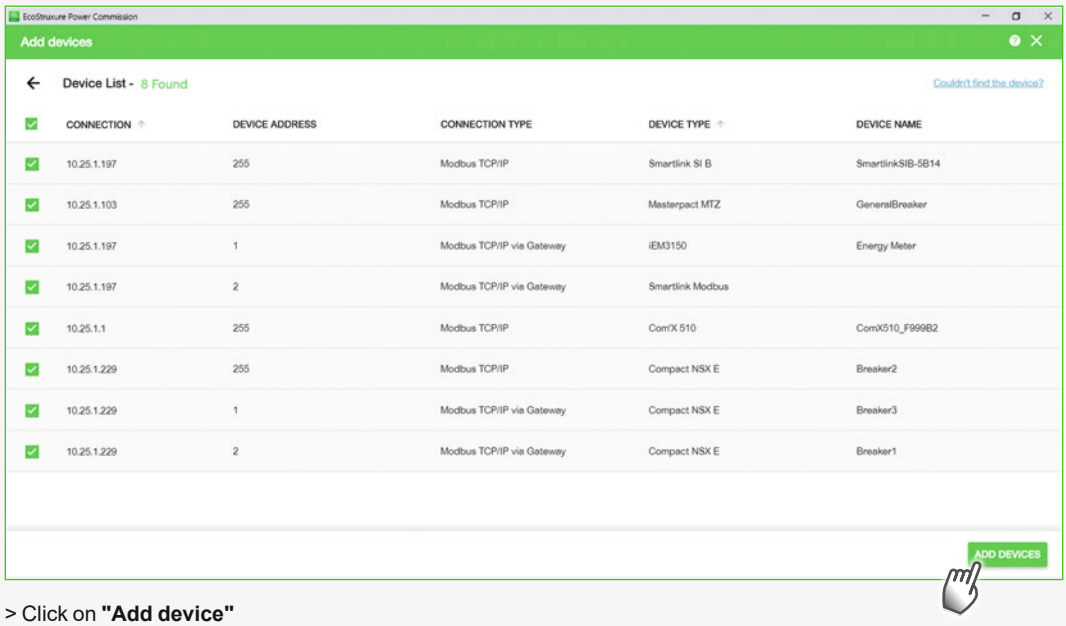
> Devices should appear at the end of the loading animation.
If you get the error message displayed above, check your connection and click on **"Refresh".**

SUMMARY



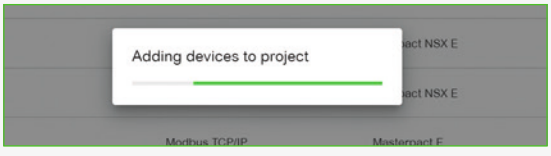
By default, all devices are selected.

> Add the Modbus address of the relevant devices and then click on "**Find Devices**".

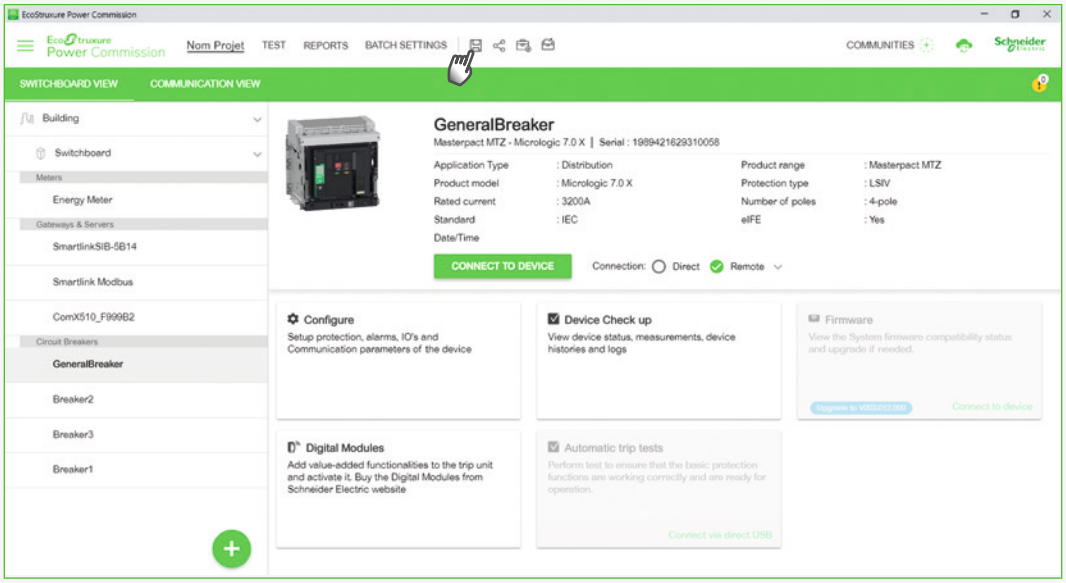


> Click on **"Add device"**

> Adding devices in progress



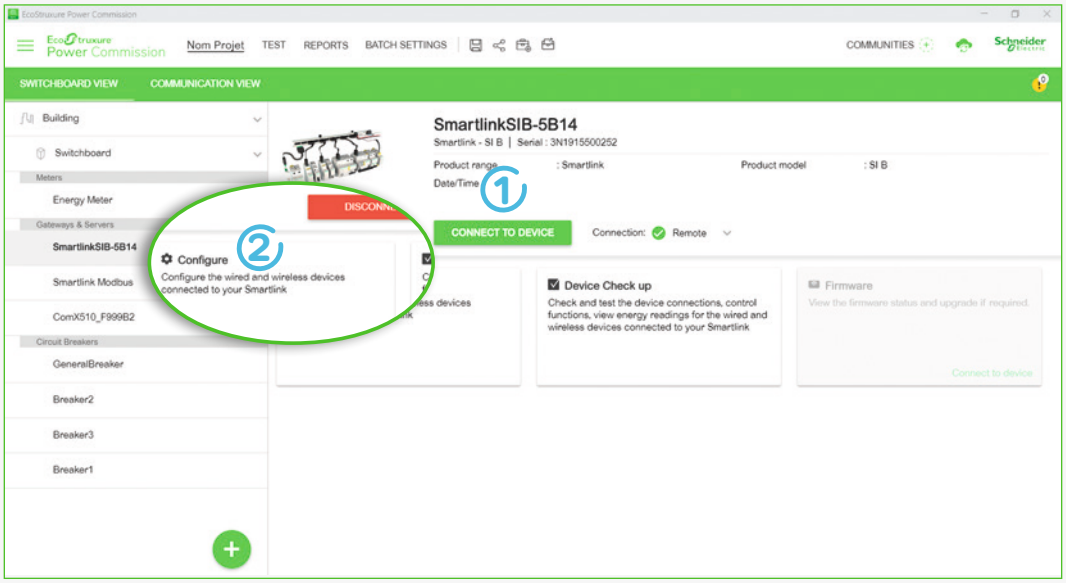
SUMMARY



> This window will then appear.

> Save the project 🖫

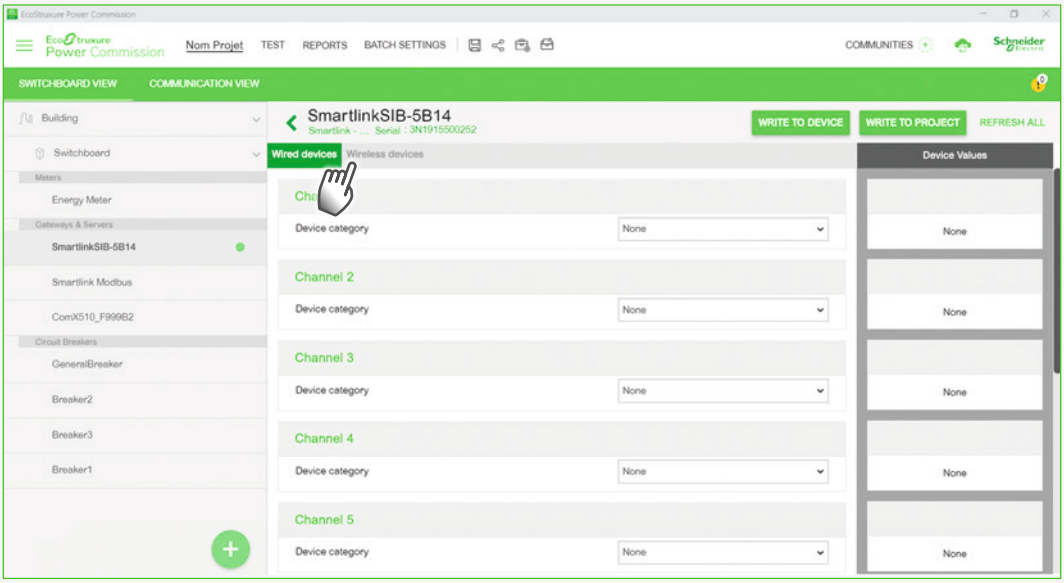
How to commission PowerTag with EcoStruxure Power Commission



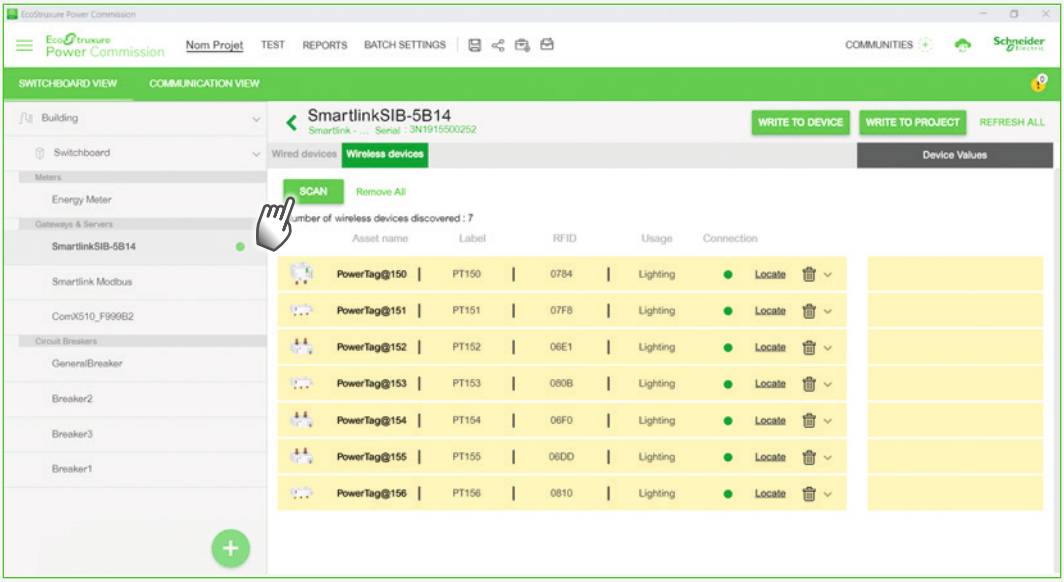
> On product window:

1. Click on "**Connect to Device**".
2. Click on "Configure".

SUMMARY



> Click on "**Wireless devices**".

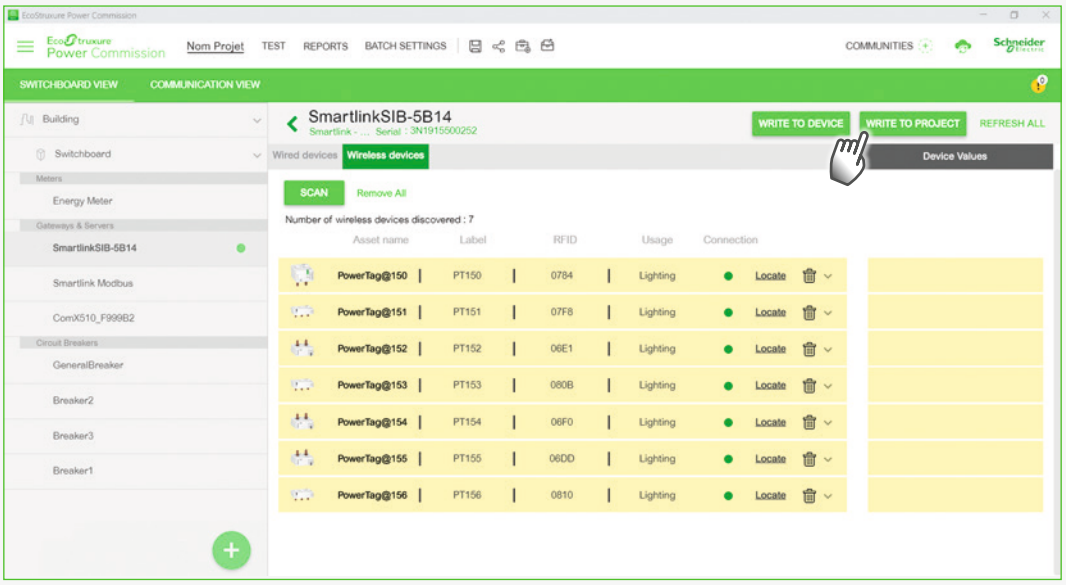


> This window should then appear.
If no PowerTag appears, click on "**Scan**".

> If you would like to physically locate your PowerTag in your switchboard, click on "Locate" to make it blink.
The above window will then appear and the PowerTag will start blinking.

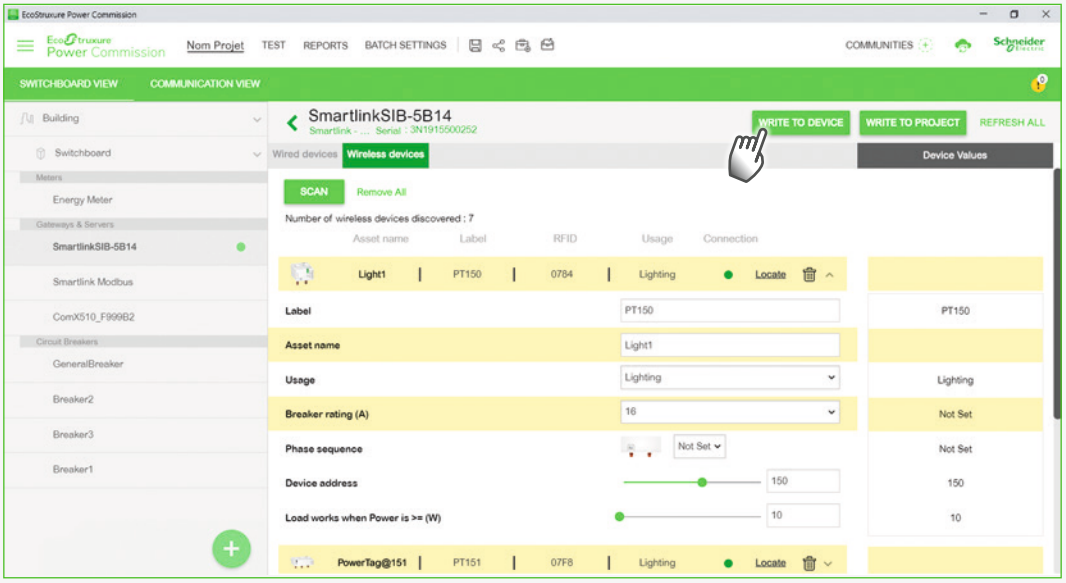
SUMMARY

I commission devices

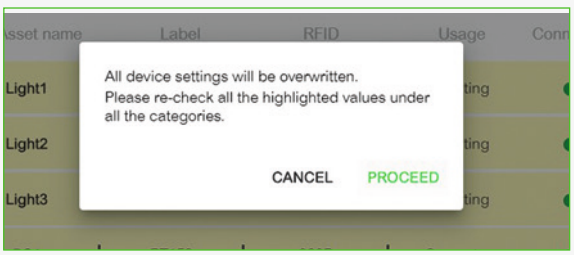


> If the "Device Values" column already contains values, then you can import these directly into your project by clicking on "**Write to Project**".

> If you wish to change the values relating to your PowerTag devices, click on the little arrow to edit the relevant fields.

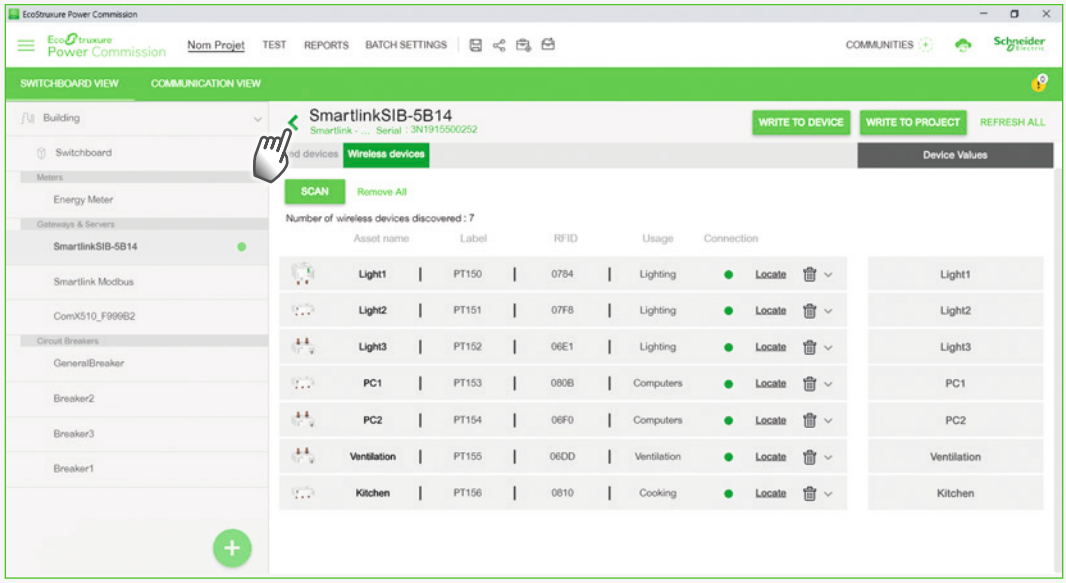


> Once you finished editing, click on "**Write to Device**".

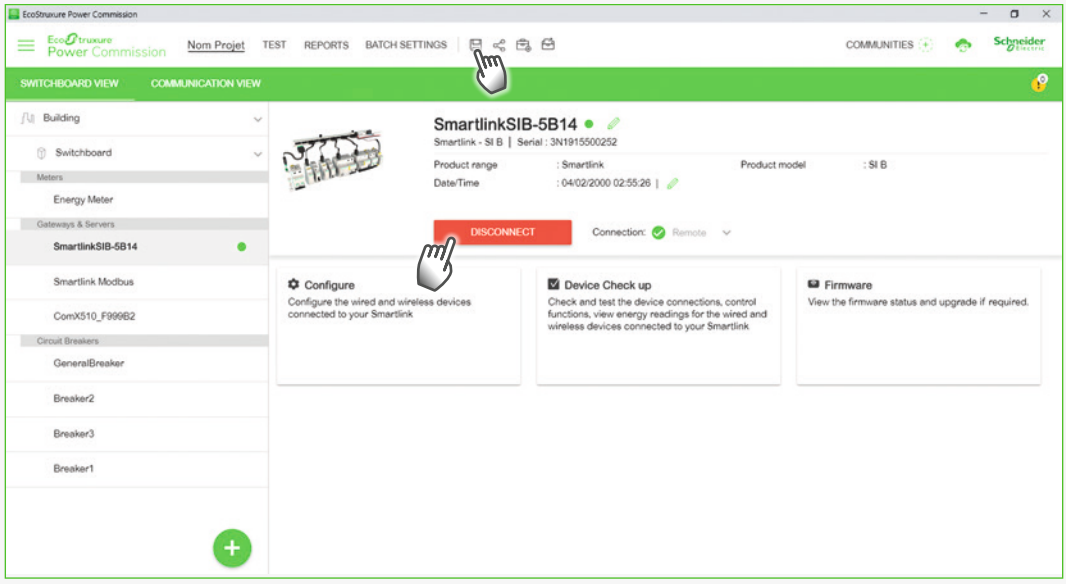


> Click on "**Proceed**".

SUMMARY



> Click on



> Click on **"Disconnect"**

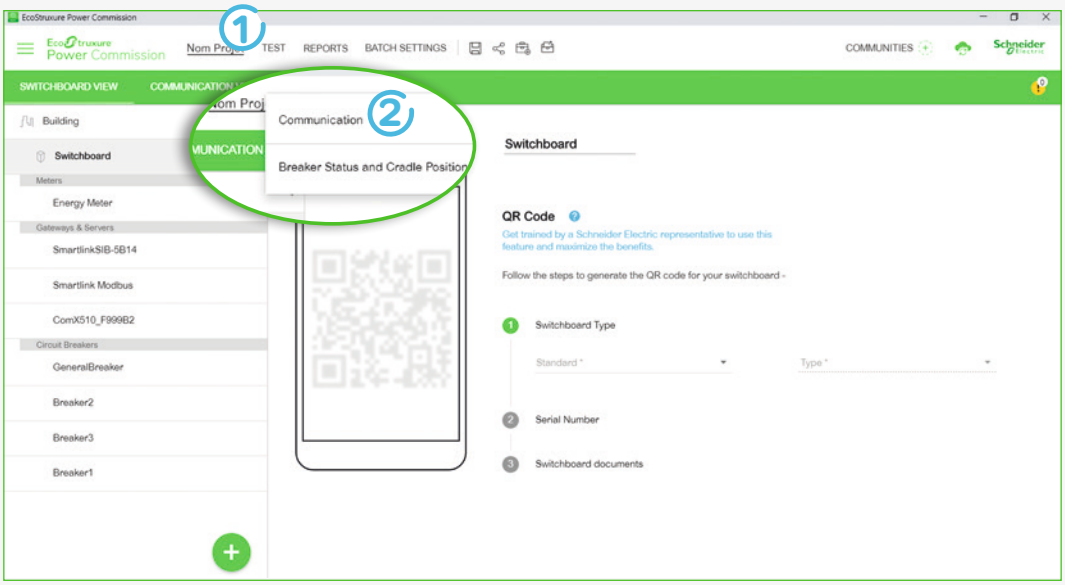
> And then 🖫 "Save"

SUMMARY

2.2.2. Communication test report

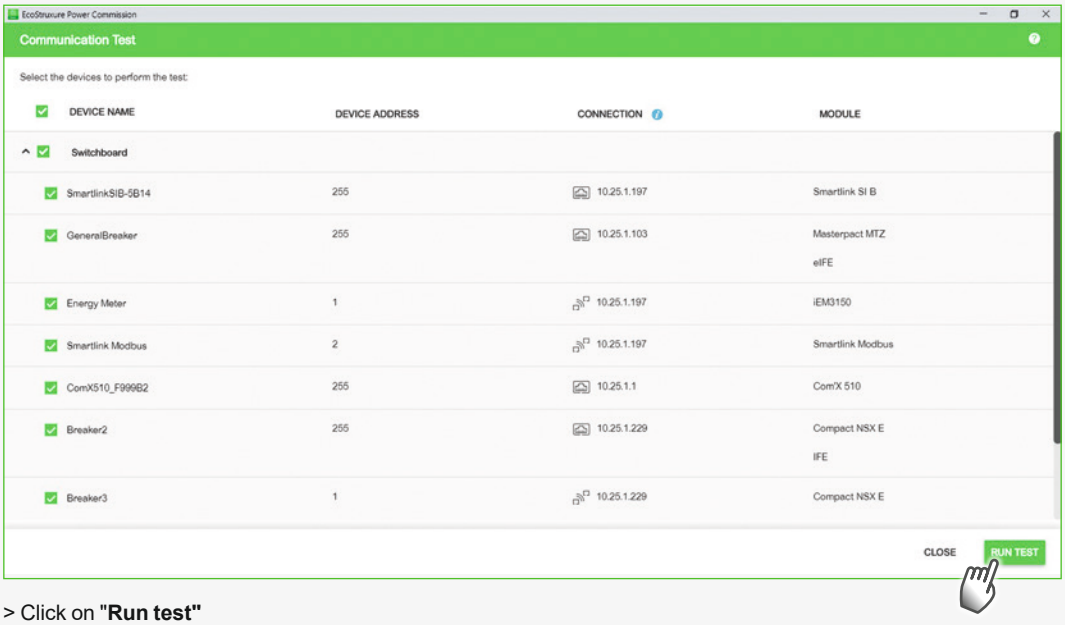
EcoStruxure Power Commission software provides an easily accessible communication test report to demonstrate that communication links, device hardware settings and cabling have been correctly installed. This can be used to confirm communication setting conformity in the inspection report on the building of the electrical panel.
This test report feature is available without an Internet connection.
From your project, click on "Create Report" and launch "Communication Test and Report".
Finally, run the test and if required generate the report to save it locally to your computer:

How to create a communication test report with EcoStruxure Power Commission



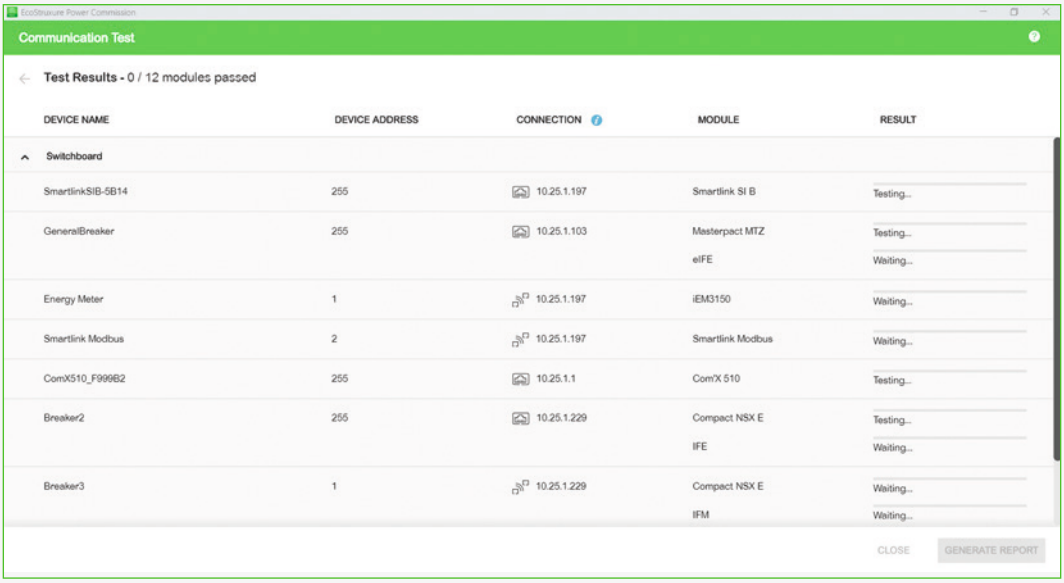
① Click on "**Test**"

② Click on "**Communication**"



> Click on "**Run test**"

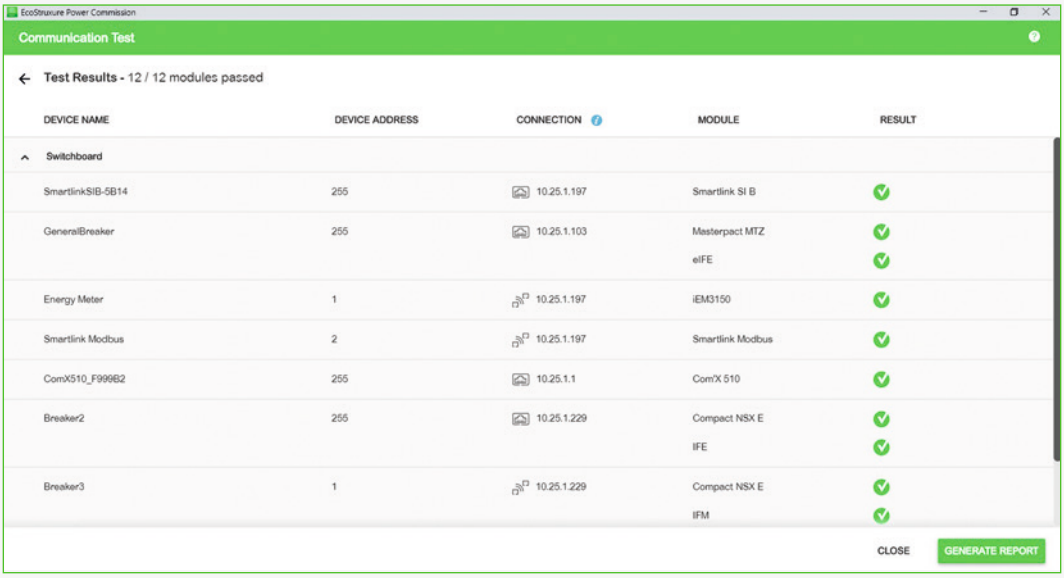
SUMMARY



> Wait until the end of the test

> There are then two possibilities:

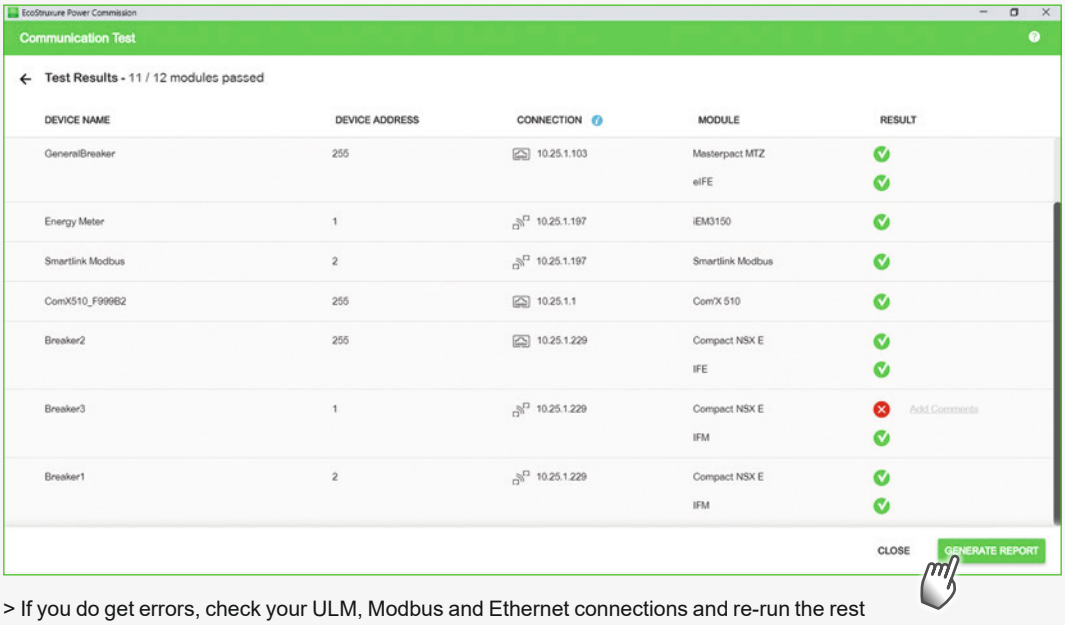
- Either you get no errors, as shown below



SUMMARY

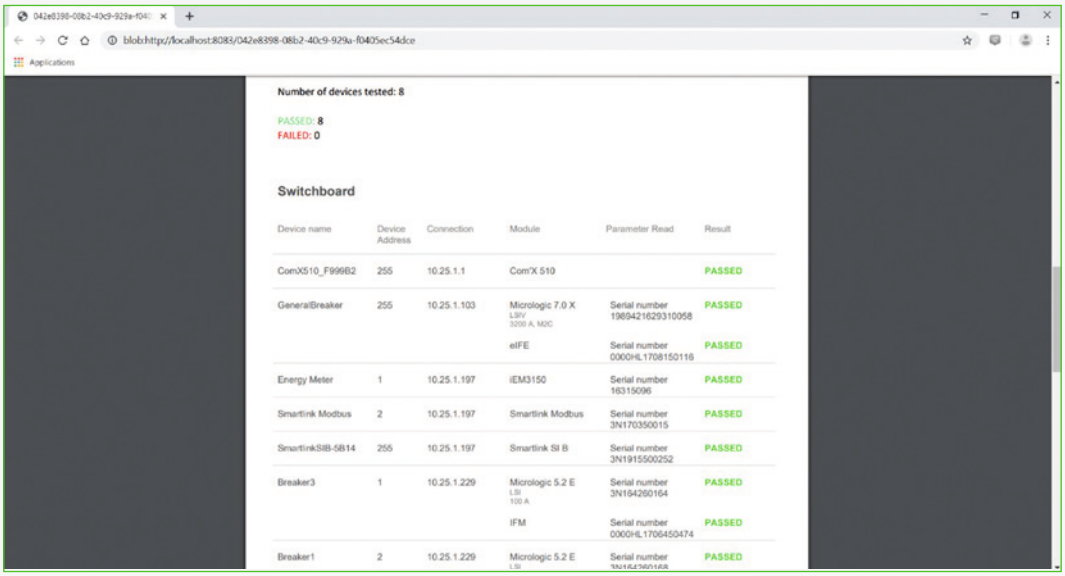
I commission devices

- Or you get some errors, as shown below



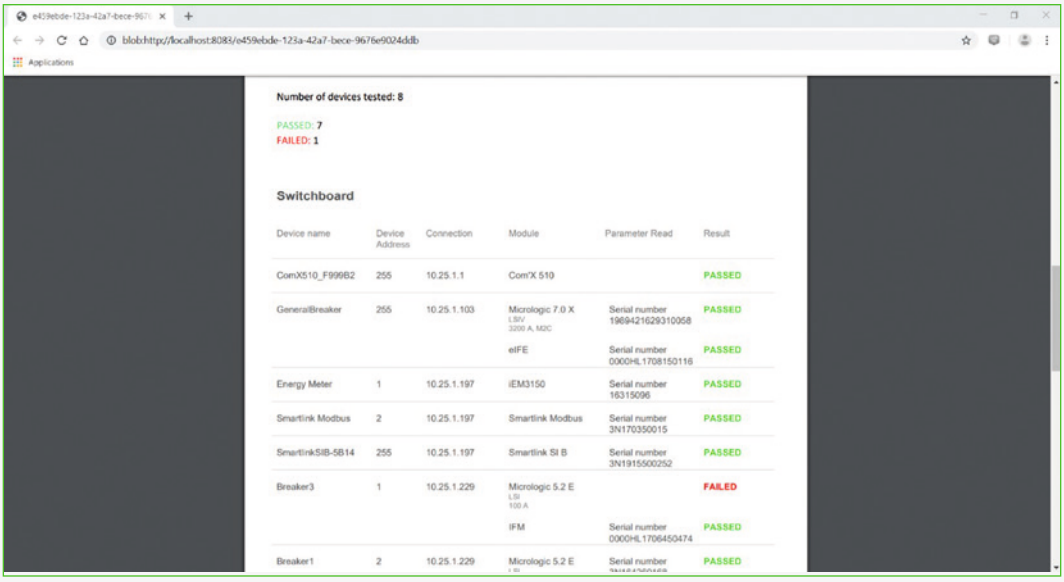
> If you do get errors, check your ULM, Modbus and Ethernet connections and re-run the rest

> Click on "**Generate Report**"



> A report with no errors.

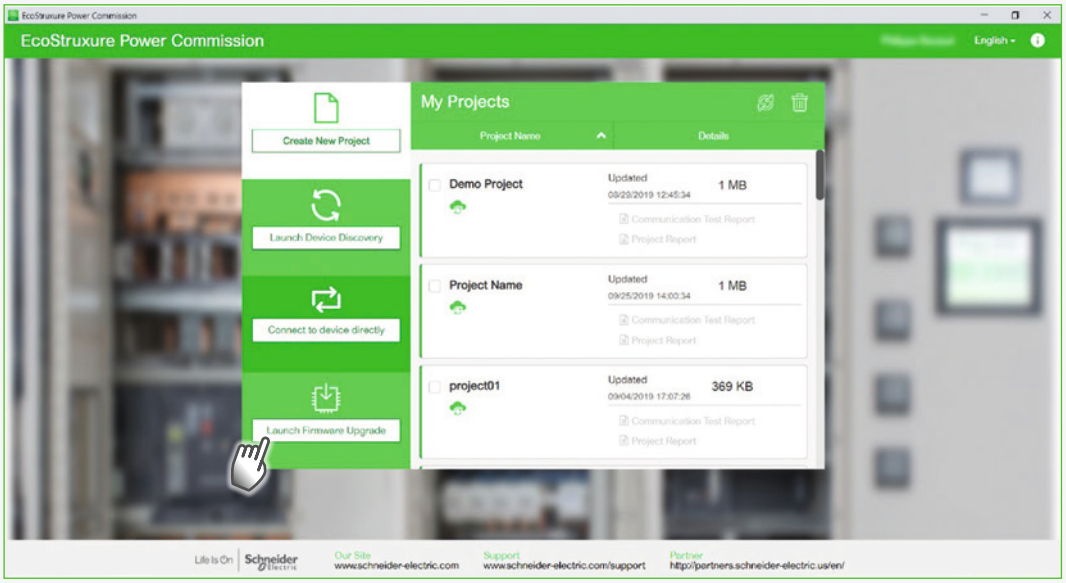
SUMMARY



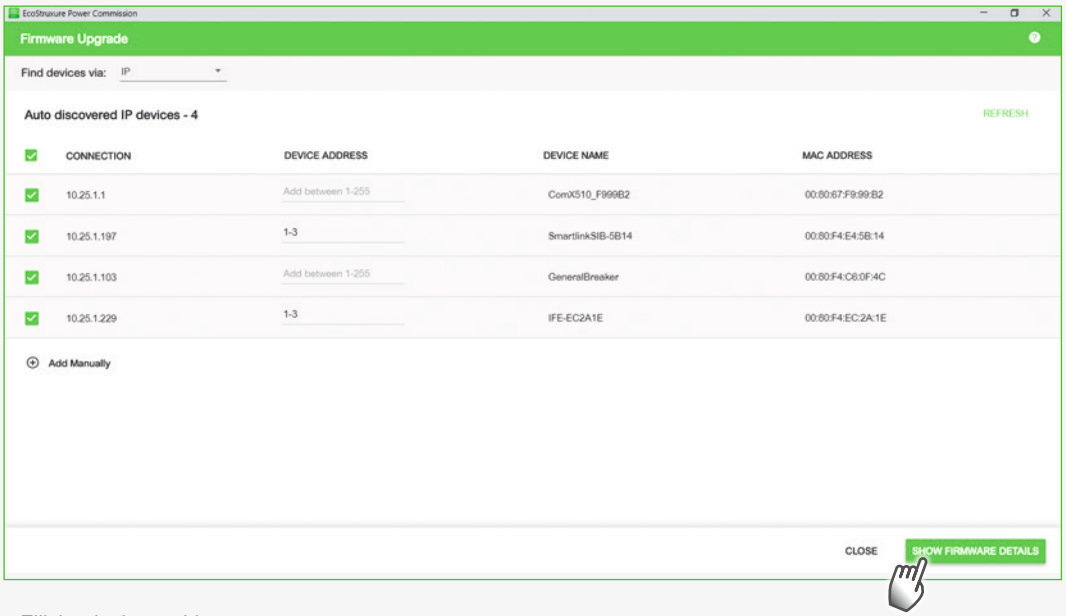
> A report with errors

SUMMARY

2.3. Mass firmware upgrade features



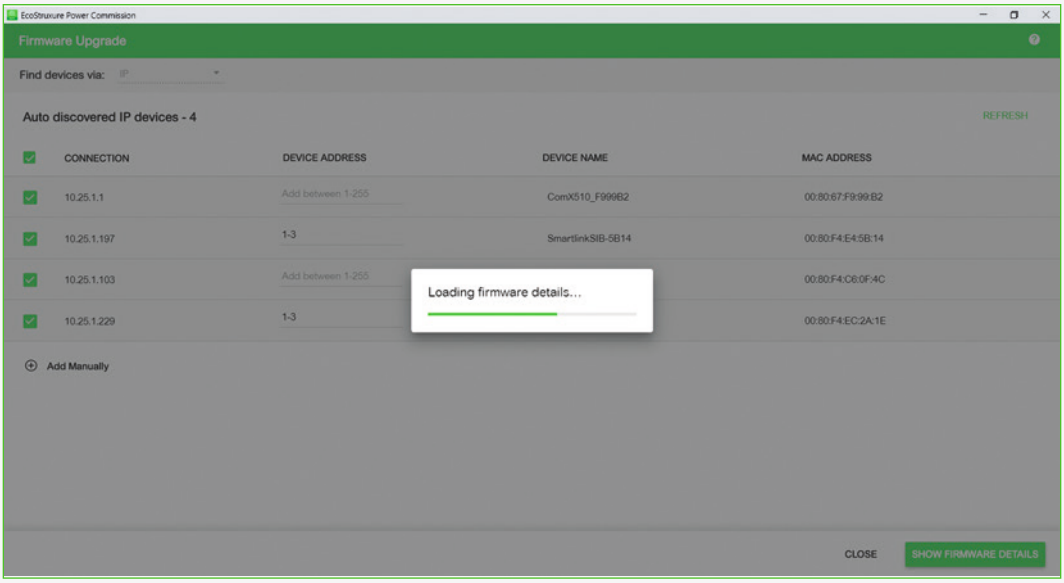
> Click on "**Launch Firmware Upgrade**"

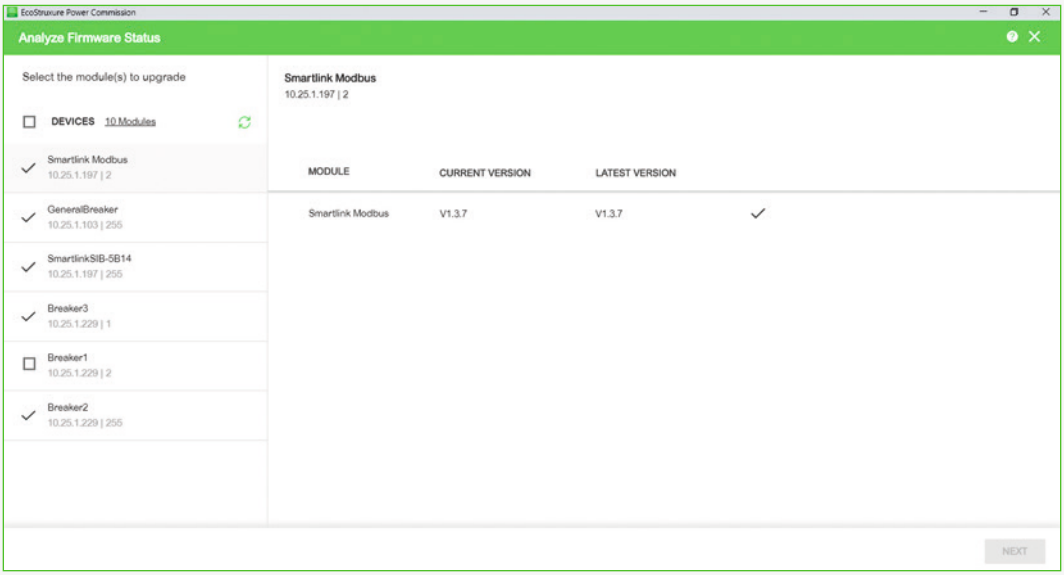


> Fill the devices address

> And click on "**Show Firmware Details**"

SUMMARY

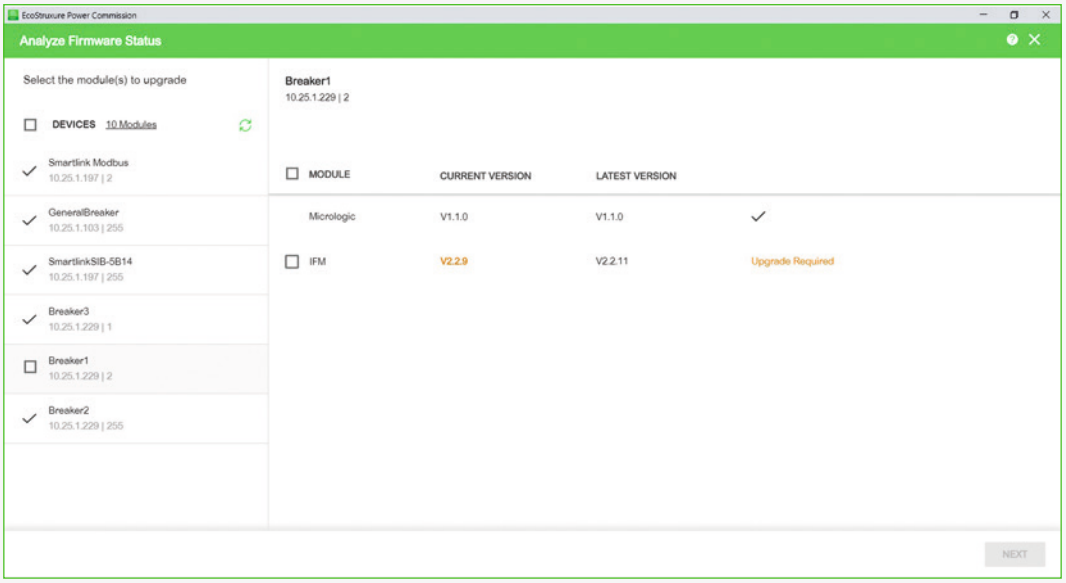




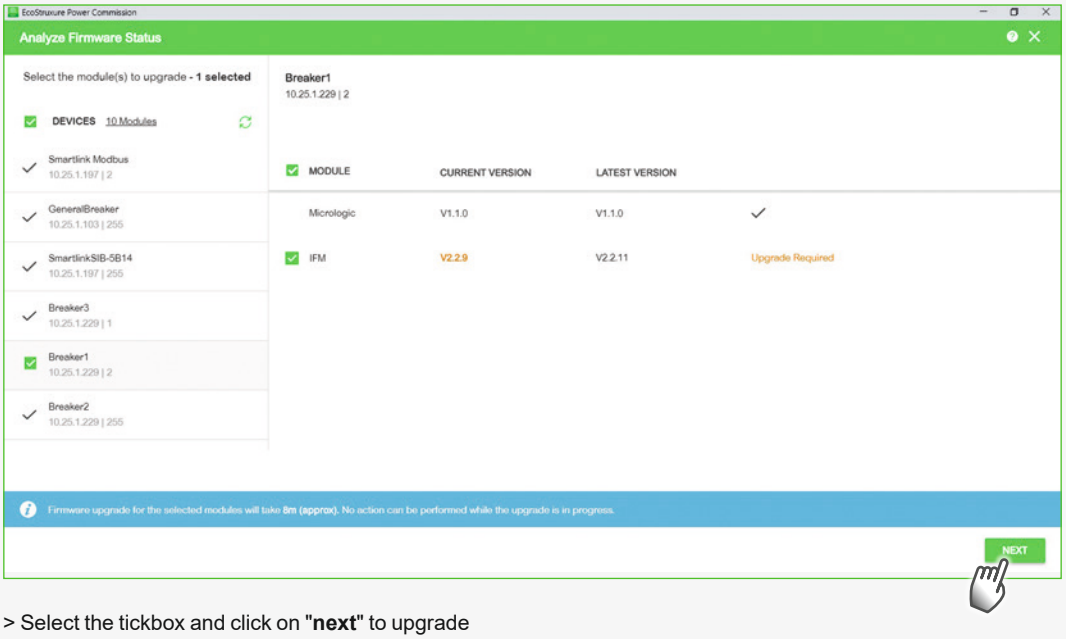
Example of a device without upgrade required

SUMMARY

I commission devices



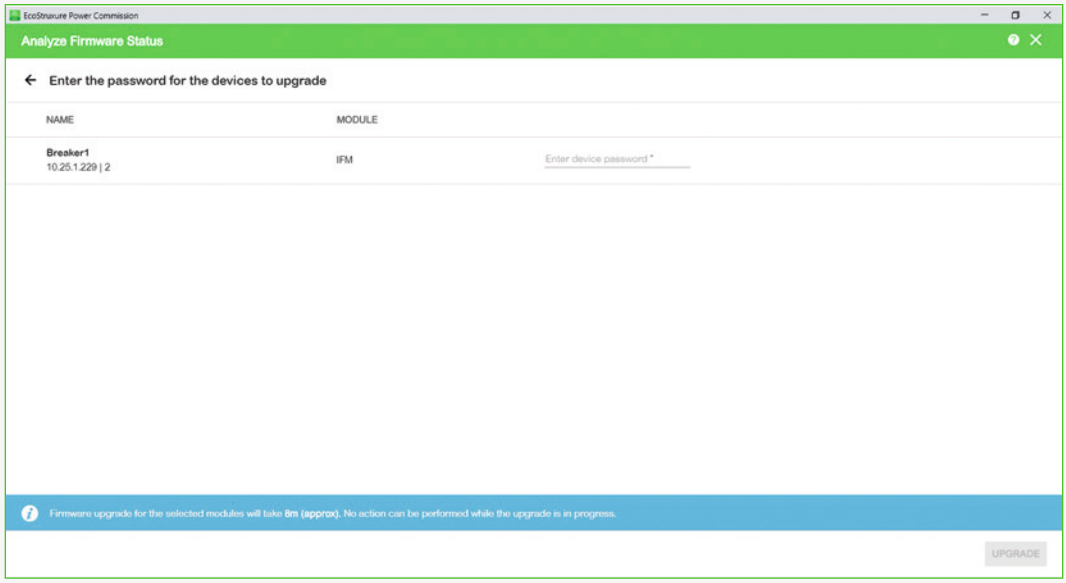
Example of a device with upgrade required



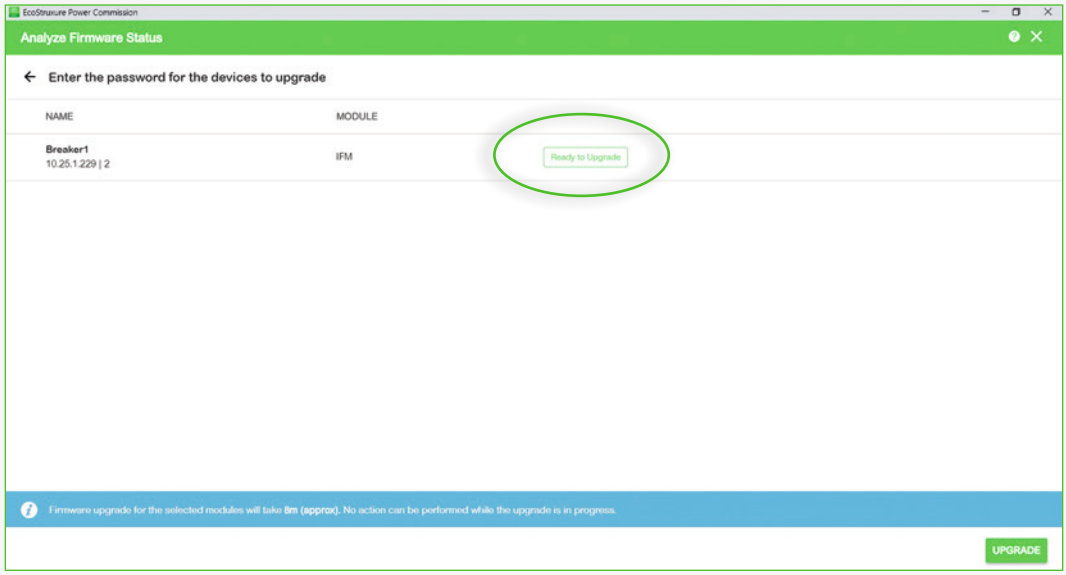
> Select the tickbox and click on "**next**" to upgrade

> You can select several devices if needed

SUMMARY

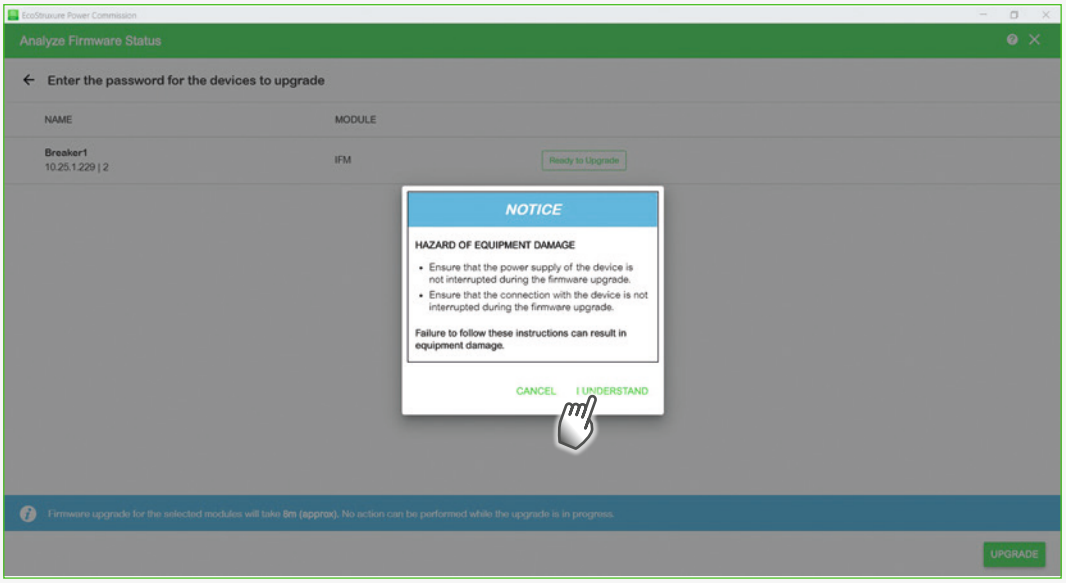


> Enter the device password (available in the device user manual)

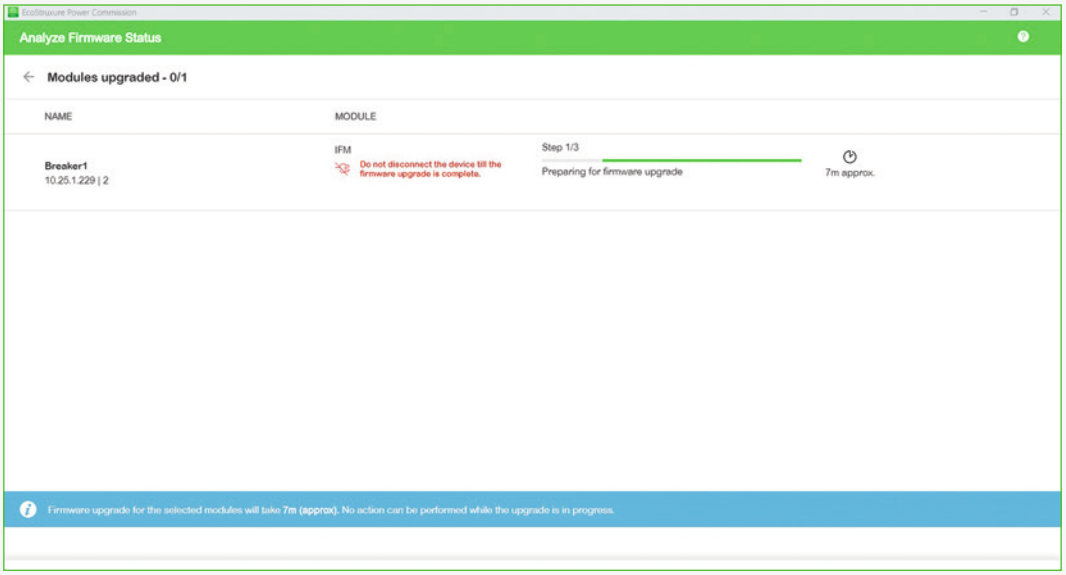


> Devices ready to upgrade

SUMMARY

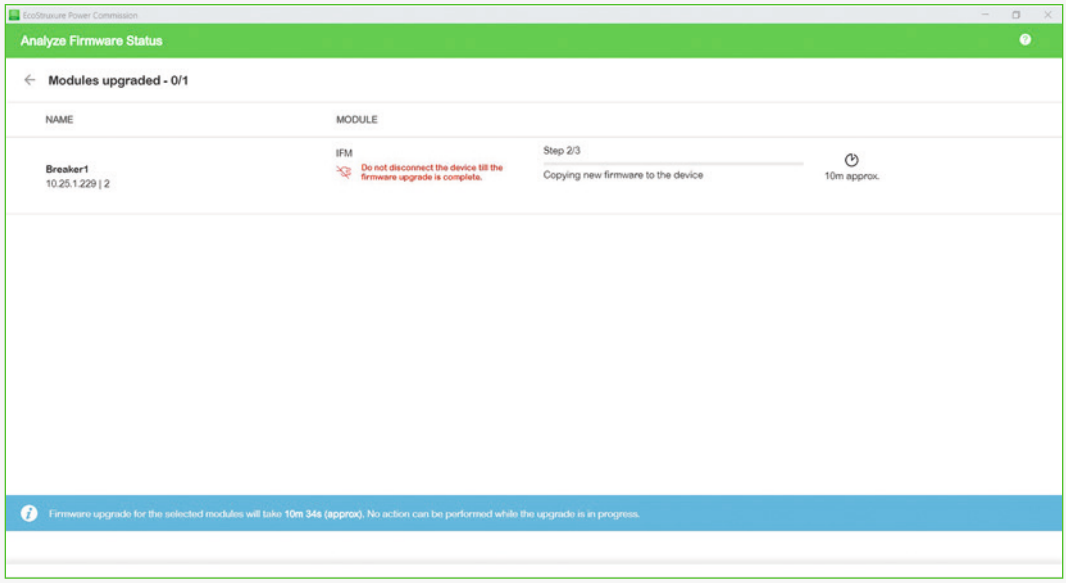


> Click on "**I understand**"

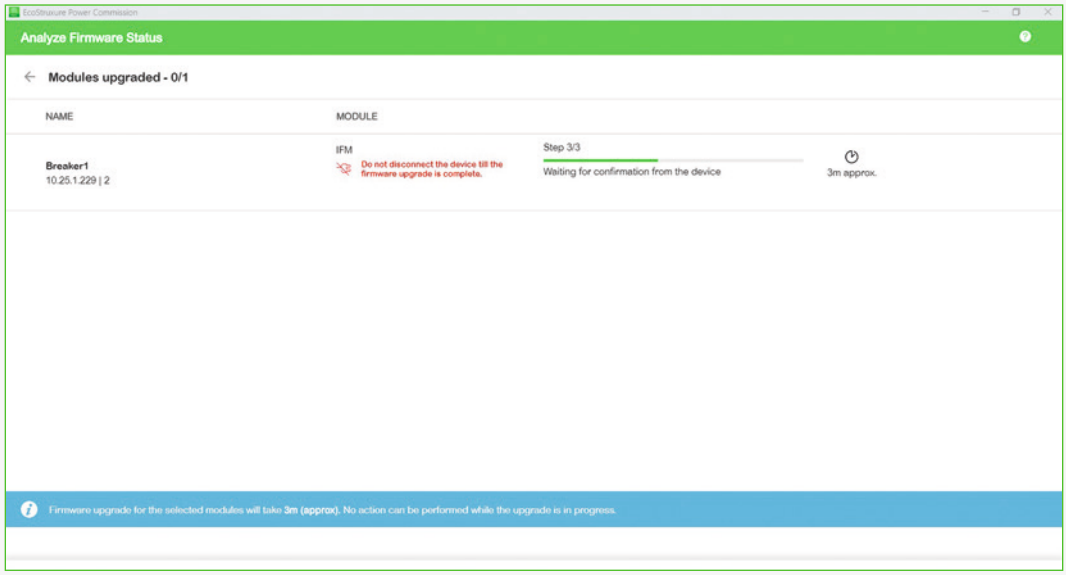


Upgrade in process: Step 1

SUMMARY



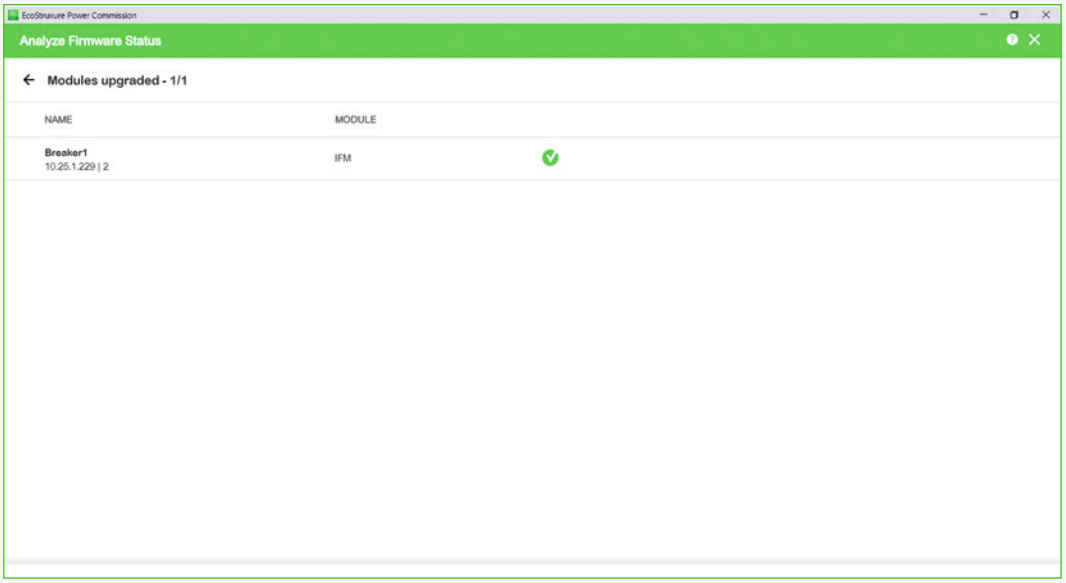
Upgrade in process: Step 2



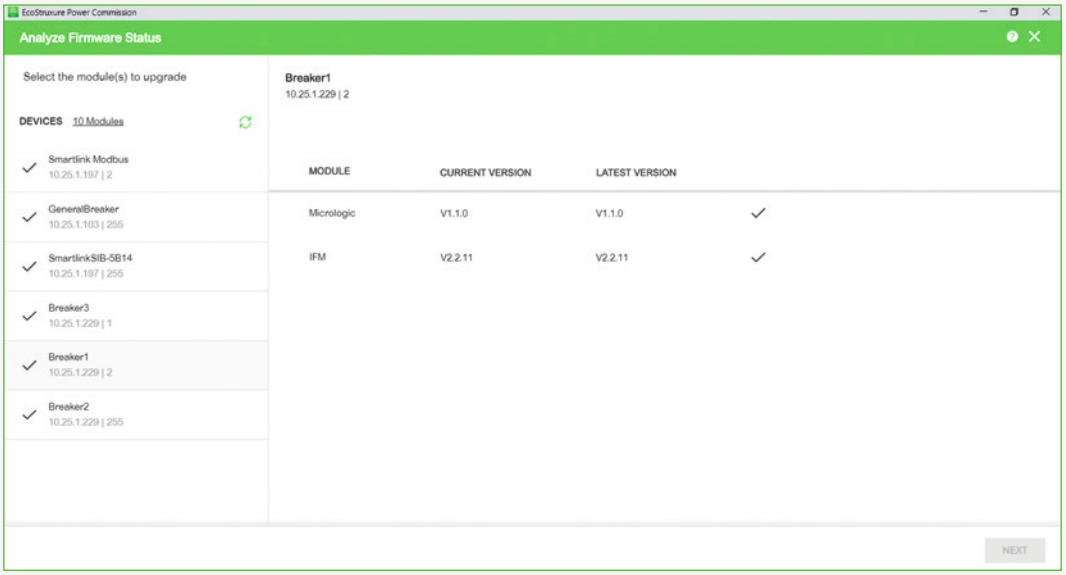
Upgrade in process: Step 3

SUMMARY

I commission devices



The device firmware is upgraded



SUMMARY

2.4. LV circuit breaker system

The IFE and IO Module can be configured and tested using EcoStruxure Power Commission or via webpages embedded in the IFE device. The IFE and IO Module devices should be connected with correct addressing to operate effectively. The following steps are for the configuration with EcoStruxure Power Commission for a MTZ circuit breaker.

2.4.1. MTZ configuration

From the EcoStruxure Power Commission project, connect to an IFE device:
> 1. Select the desired circuit breaker and the attached IFE component to connect to.
> 2. Click on "Connect to Device".

> see How to configure MasterPact MTZ with EcoStruxure Power Commission

2.4.2. Input Output assignment

The IO Module provides predefined applications (Cradle management, Breaker operation, Load Control, etc.) and allows the user to customize some inputs and/or outputs. To do this, the user should first assign the selected inputs/ outputs s/he wishes to use in EcoStruxure Power Commission.

> see How to assign Input of IO module application with EcoStruxure Power Commission

The IO module of the HVAC is used for the cradle application (predefined application 1). The digital input 4 is assigned to a piece of contact information showing the availability status of the MV/LV Power at the hypermarket transformer station. A temperature sensor which monitors the outside ambient air temperature is added to the Analog input of the IO module.

Note: A second IO module can be added to the circuit breaker communication system. In this case, predefined application 9 should be used to add user-defined applications (door contact information, fuse health, etc.).

2.5. Acti9 Smartlink system

The Acti9 Smartlink can be configured and tested using EcoStruxure Power Commission. Smartlink devices should be connected with correct addressing to operate effectively.

2.5.1. Wired configuration

The following steps show the configuration with EcoStruxure Power Commission.

> see How to configure Acti9 Smartlink OF/SD accessories with EcoStruxure Power Commission

2.5.2. Wireless configuration

PowerLogic PowerTag wireless sensors are configured with EcoStruxure Power Commission software.

> see How to pair **PowerLogic** PowerTag sensor with Acti9 Smartlink with EcoStruxure Power Commission

EcoStruxure Power Commission software provides a locating function: click the "Locate" button in front of the **PowerLogic** PowerTag to start the LED blinking and identify the correct **PowerLogic** PowerTag.

SUMMARY

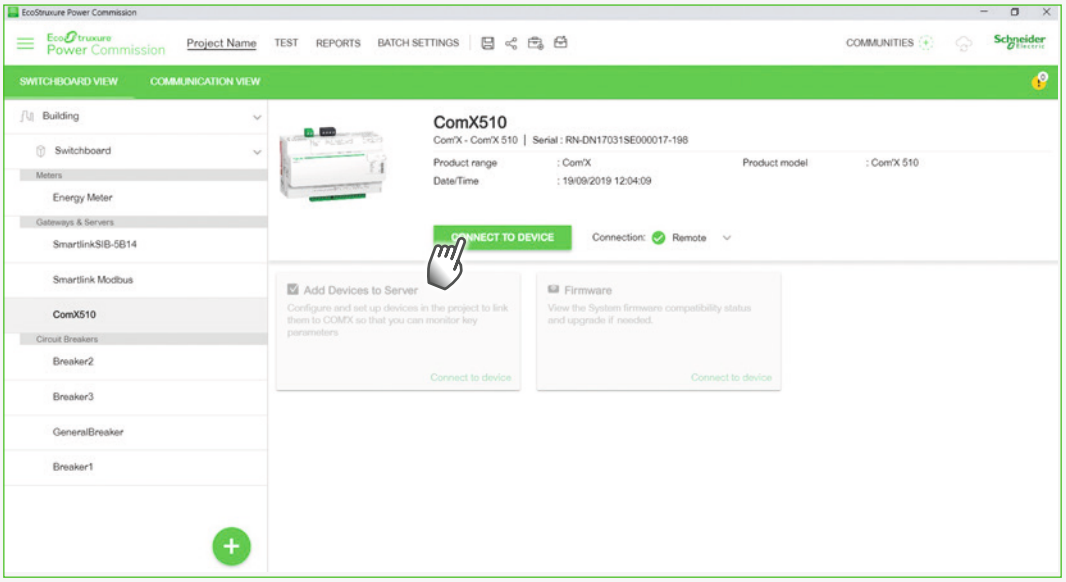
2.6. Com'X Configuration (EcoStruxure Power Commission and webpages)

There are two ways to commission a Com'X:

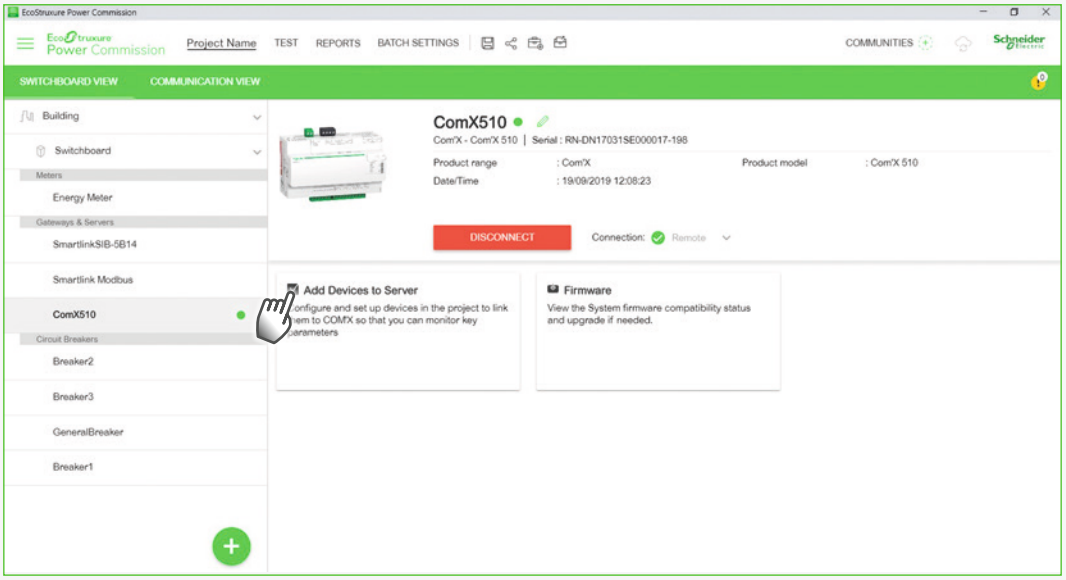
- By using the PC application "EcoStruxure Power Commission" + Web pages (as described in this part):
  - This works in the case of a new Com'X (non-configured).

Note: If you want to manage Modbus slaves on Com'X serial link, then it is necessary to first configure the Modbus TCP slaves before configuring the slaves in Modbus RTU (serial)

- By using the web pages of the Com'X (not described in this guide):
  - This method is to be privileged for advanced users and Com'X already configured.
  - This method works for all configurations including complex architecture with Zigbee devices directly connected to the Com'X.

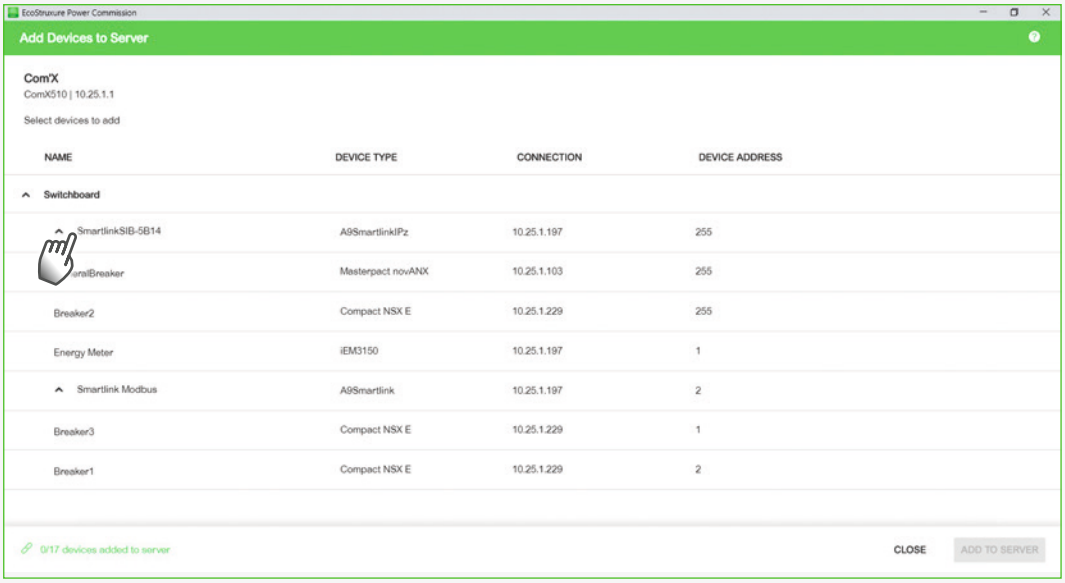


> Click on **"Connect to device"**

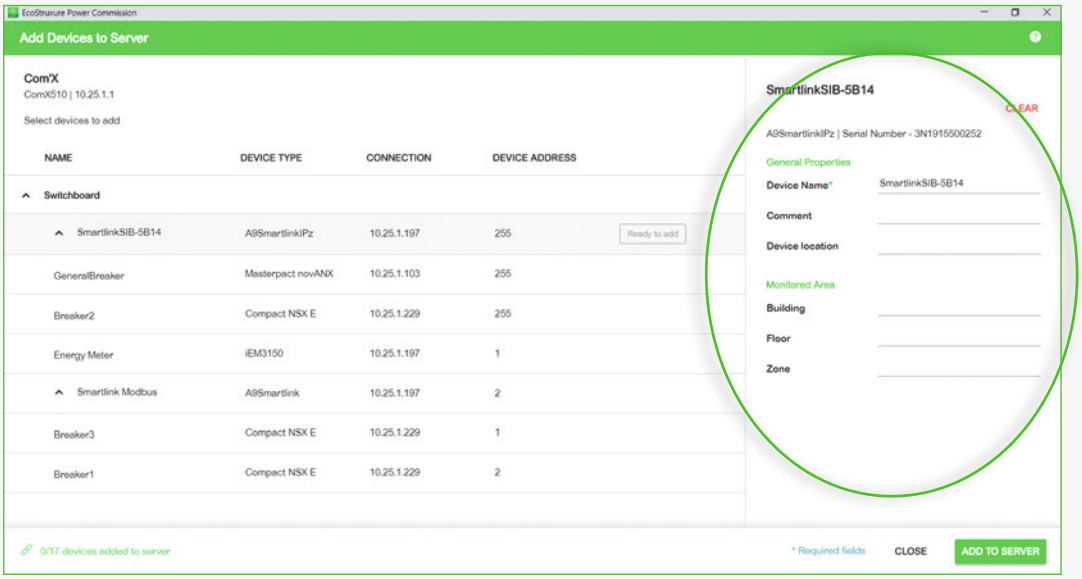


> Click on **"Add devices to server"**

SUMMARY



> Click on a device

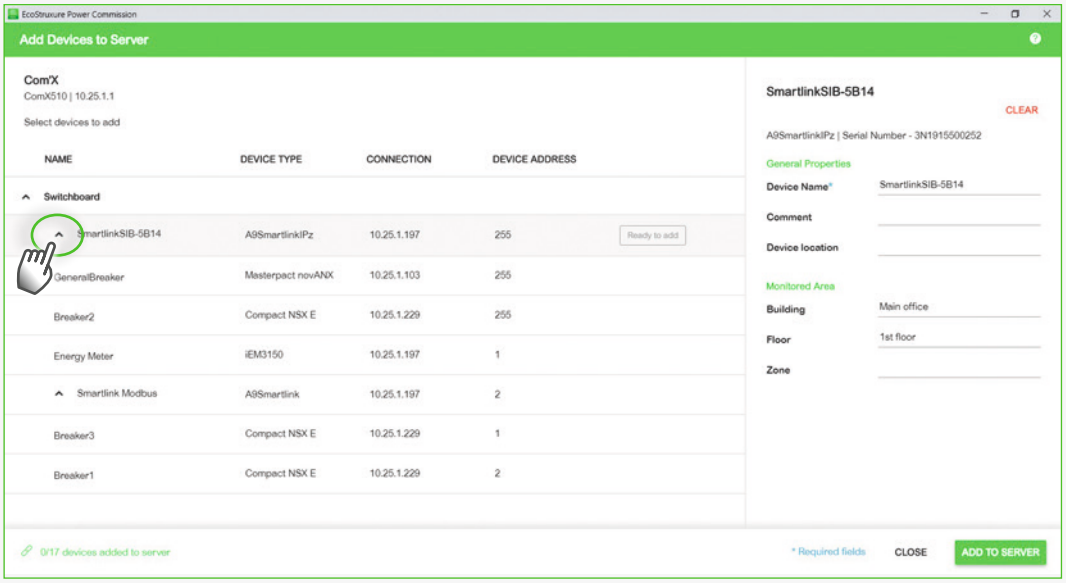


> Fill the information for the device

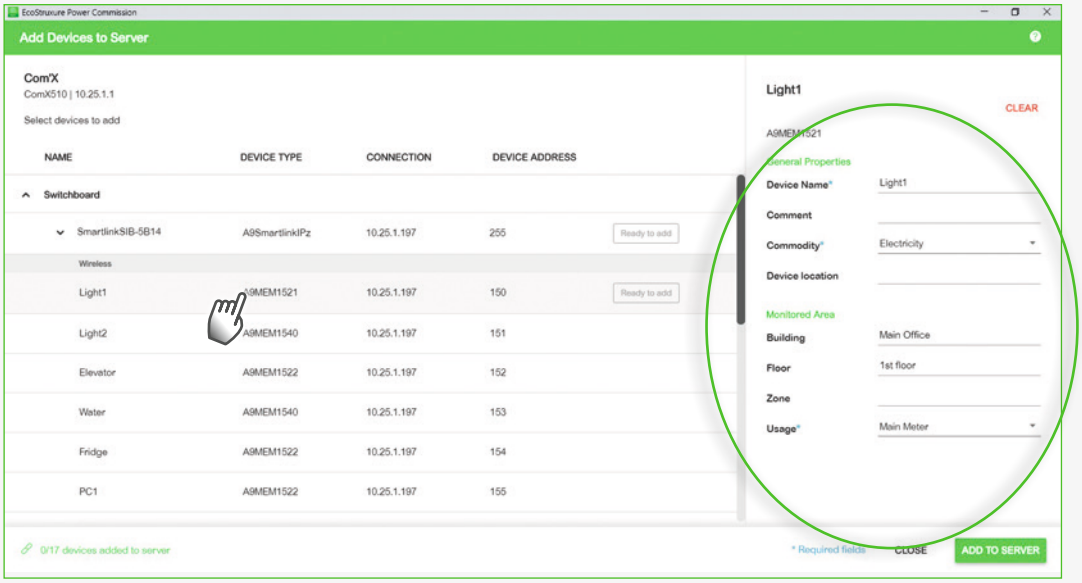
SUMMARY

I commission devices

2



> If an arrow is displayed near the device, click on it to display all devices

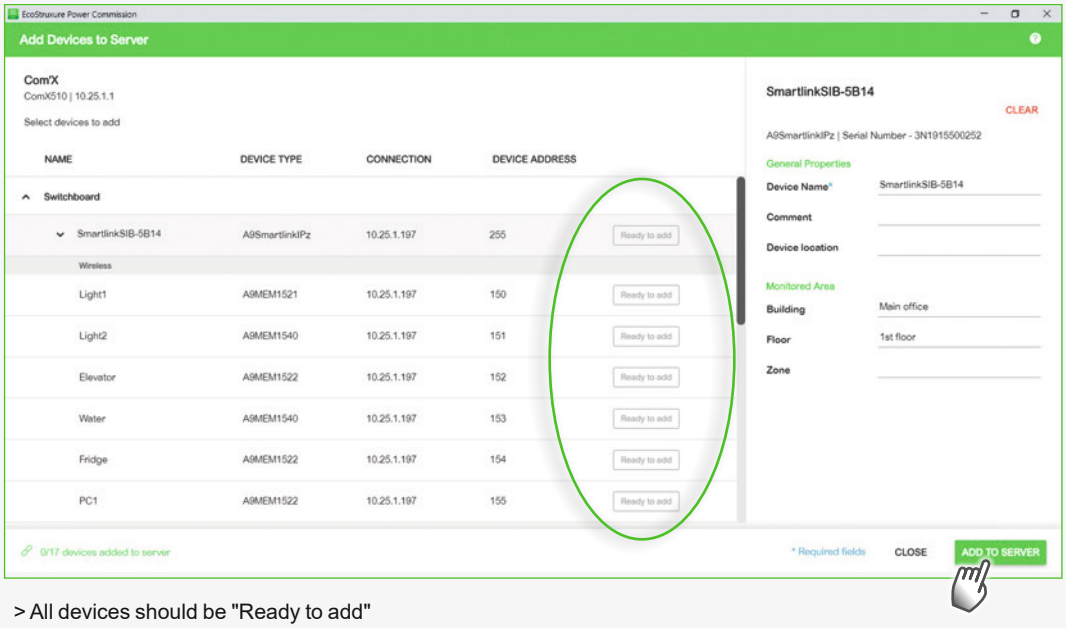


> Click on a device

> Fill the information for the device

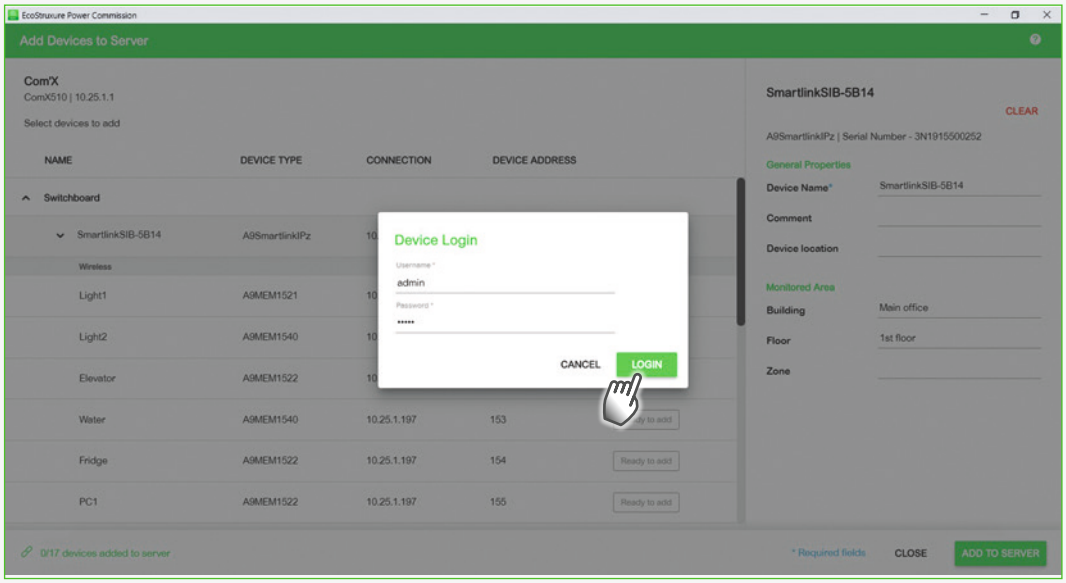
> Repeat these two actions for each device

SUMMARY



> All devices should be "Ready to add"

> Click on **"Add to server"**

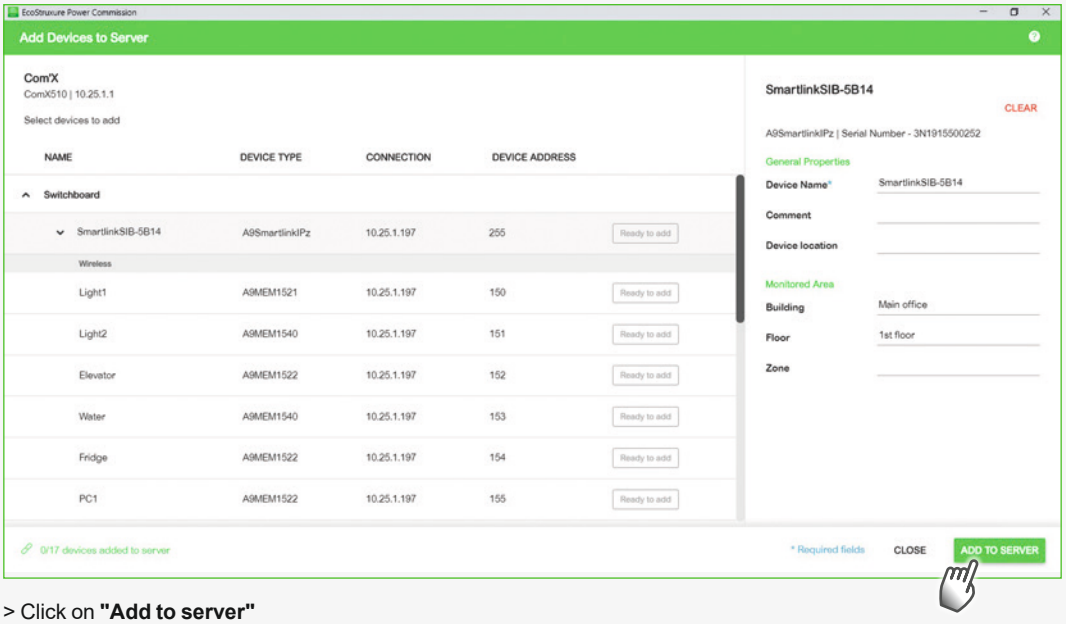


> Enter username and password of Com'X device. By default user name is "admin" and password is "admin"

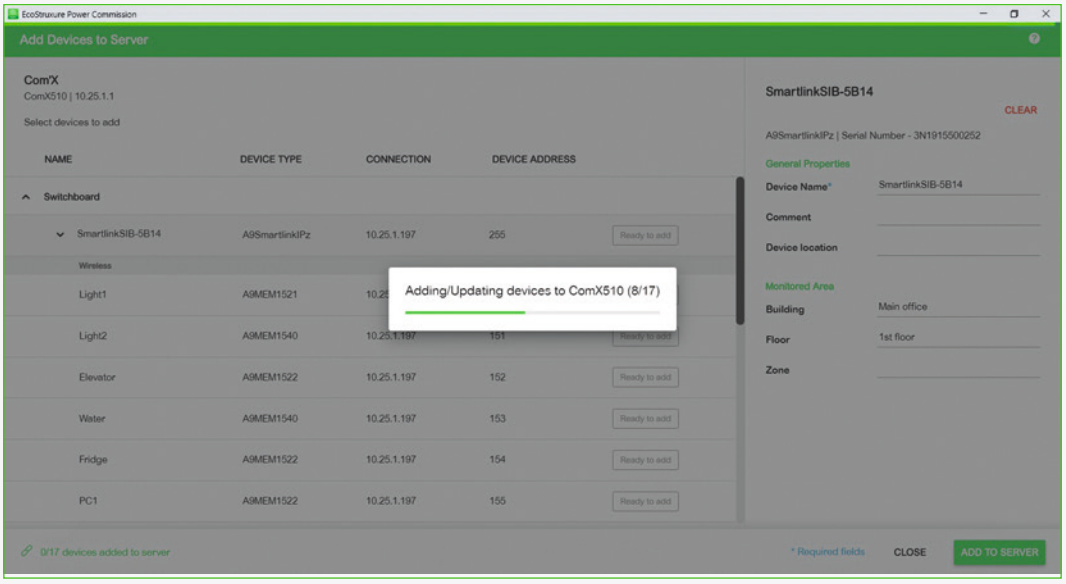
> Click on **"Login"**

SUMMARY

I commission devices

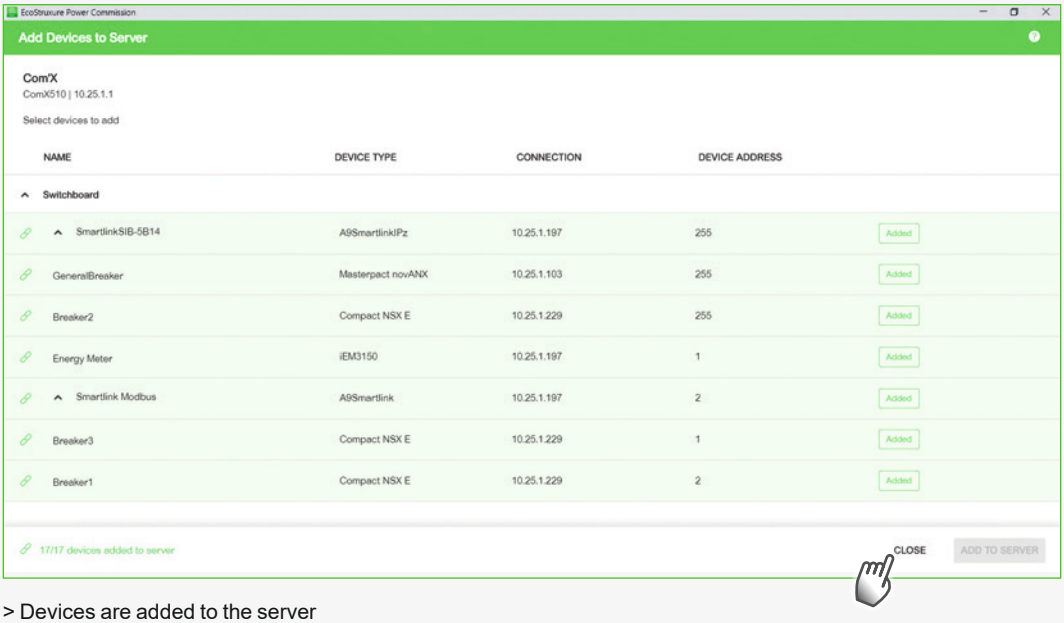


> Click on **"Add to server"**



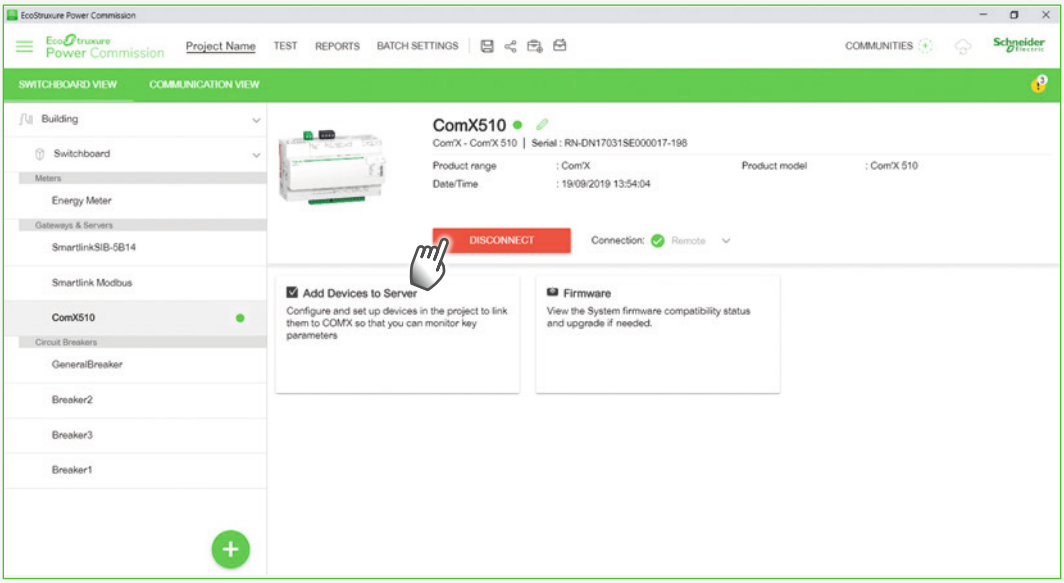
Adding devices to server

SUMMARY



> Devices are added to the server

> Click on **"Close"**

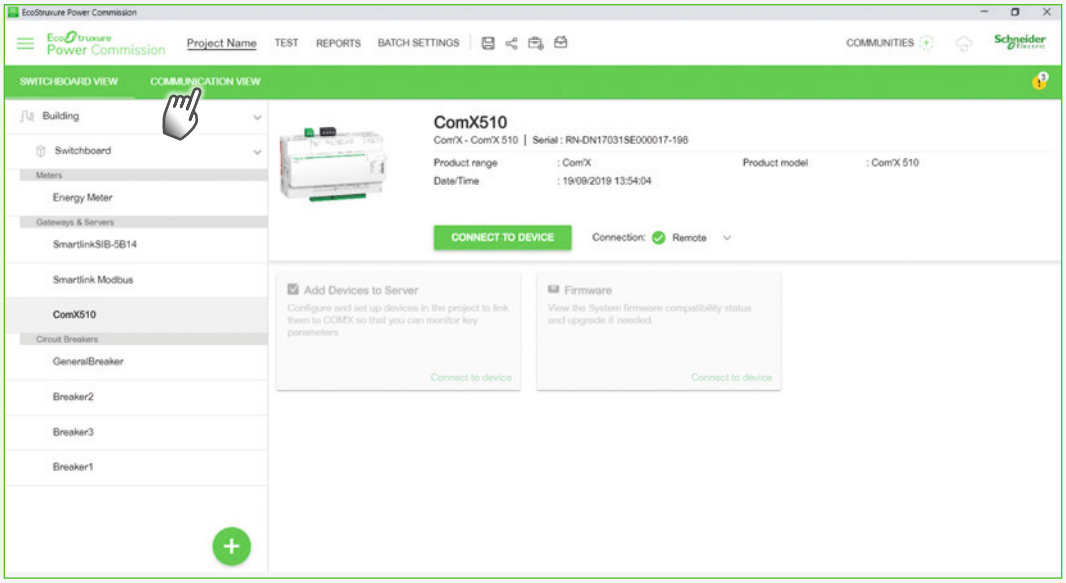


> Click on **"Disconnect"**

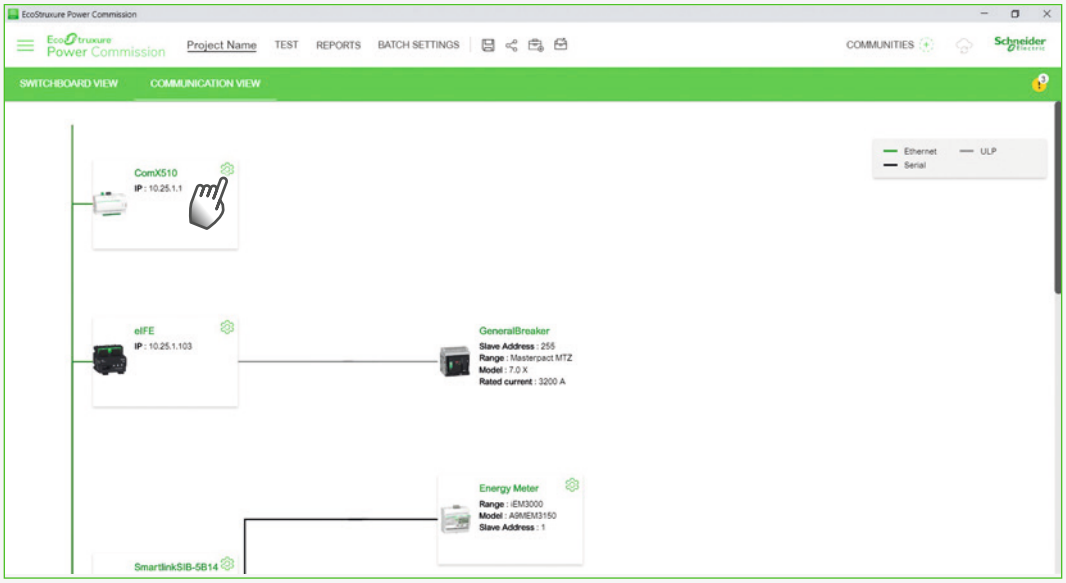
SUMMARY

I commission devices

2

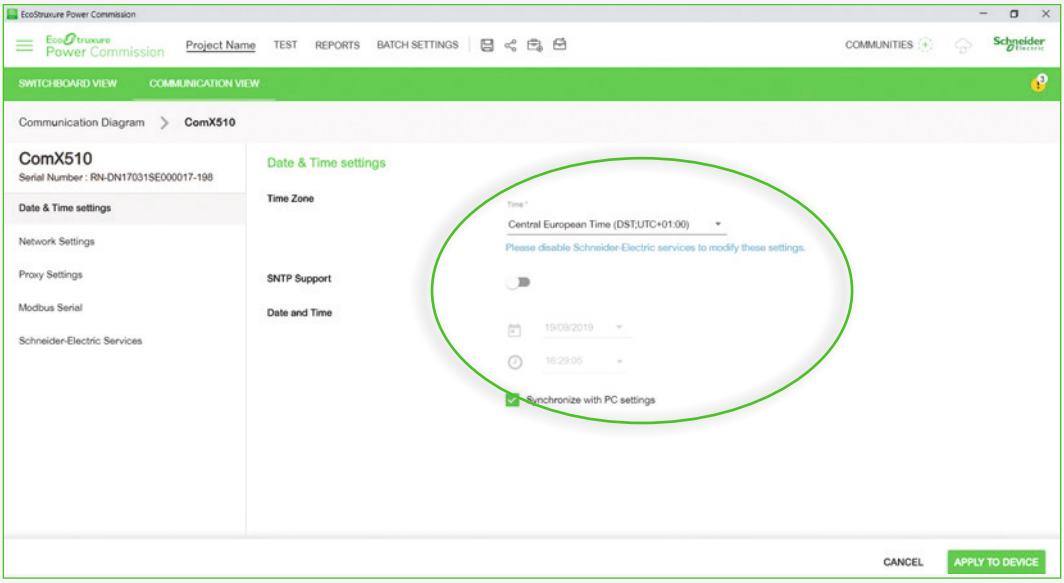


> Click on **"Communication view"**

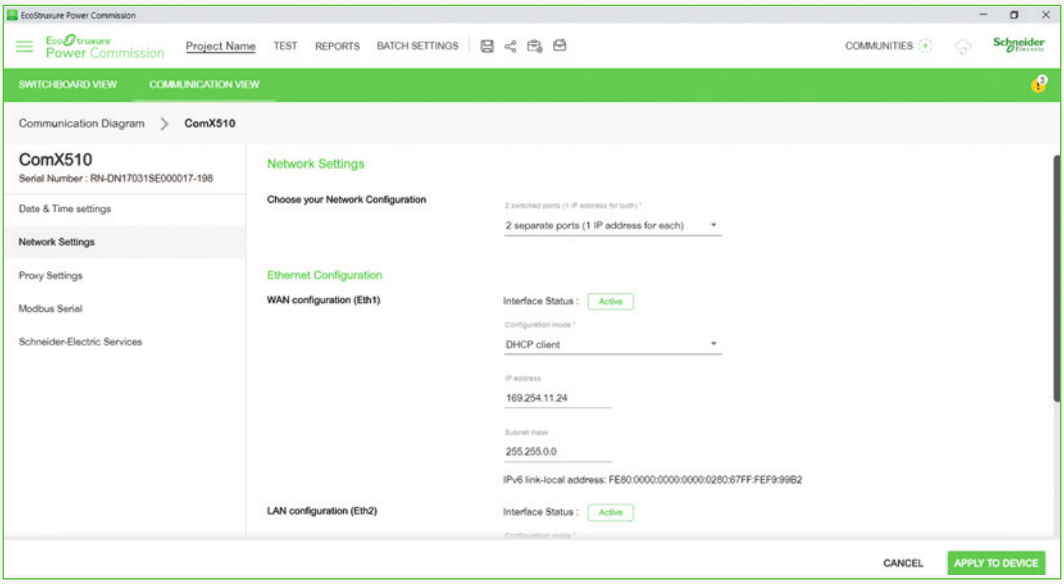


> Click on the Com'X gear icon

SUMMARY



> Enter Date & Time settings

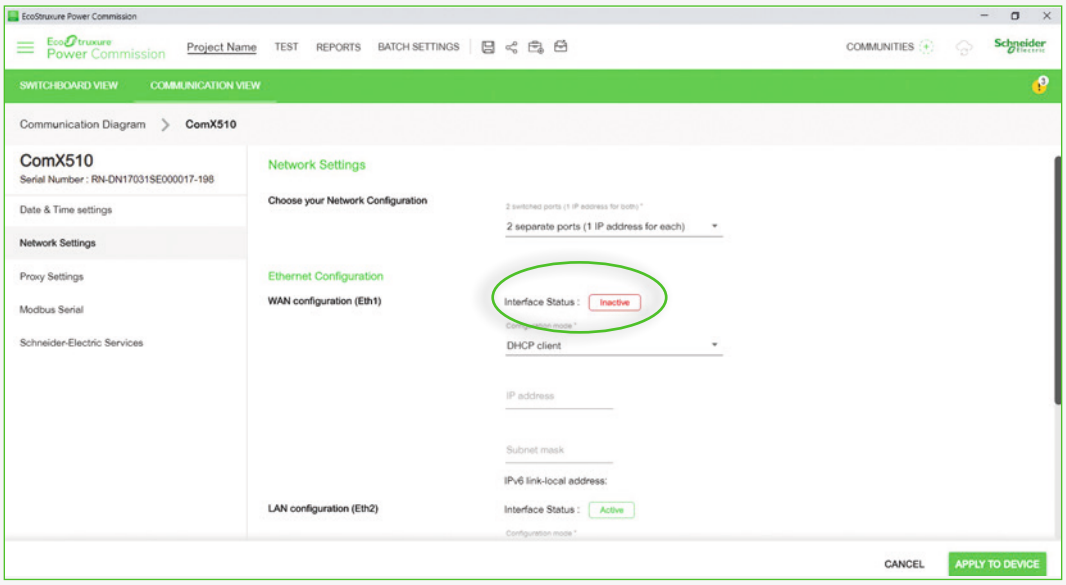


> Select Network settings :

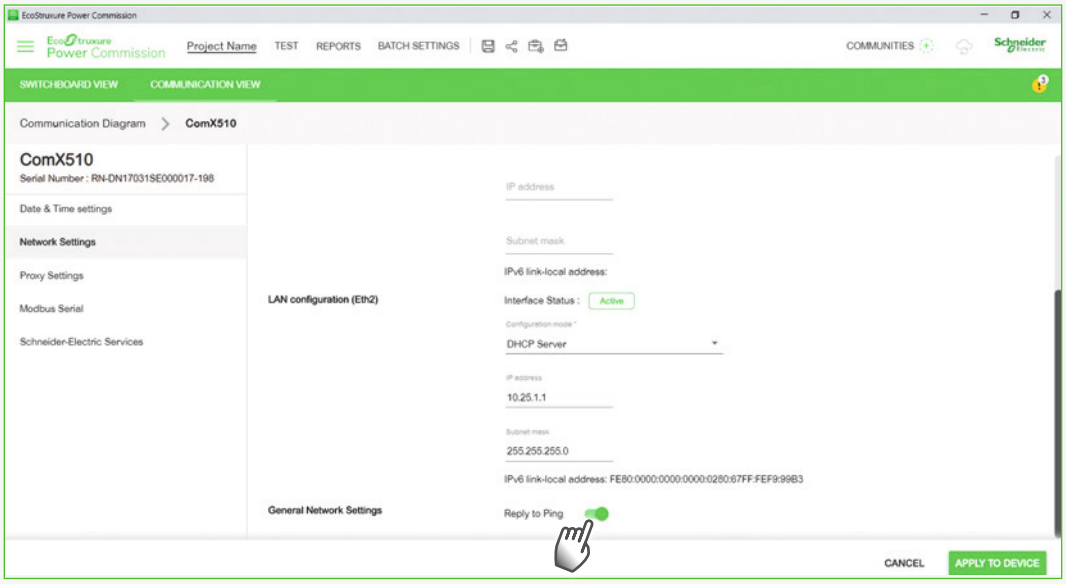
- use two separate ports
- ask the IT department for the choice between DHCP client and IPv4.

SUMMARY

If the Ethernet connection isn't working, the status is "inactive":

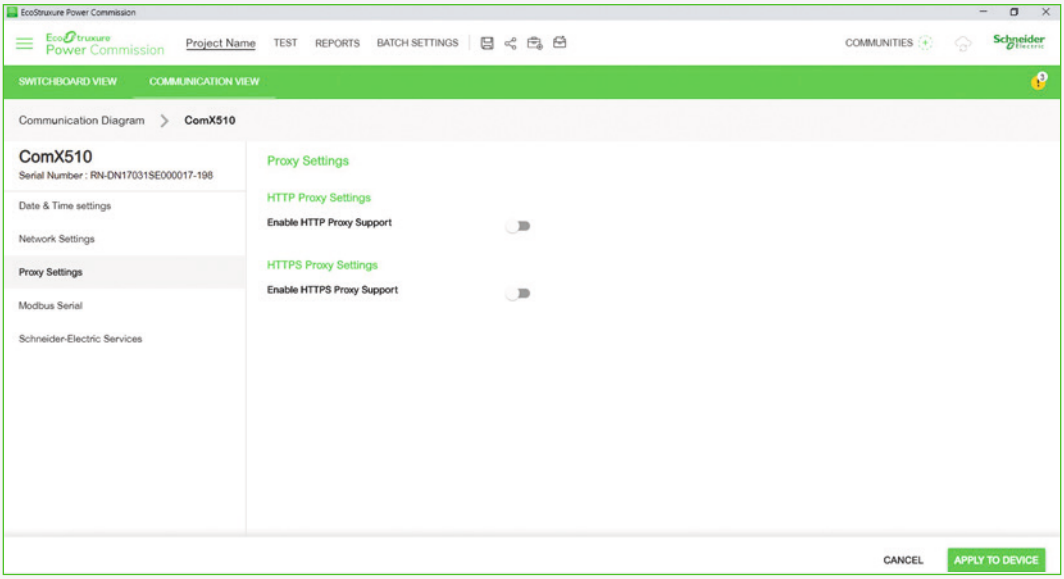


> Check your Ethernet connection cable and Com'X port

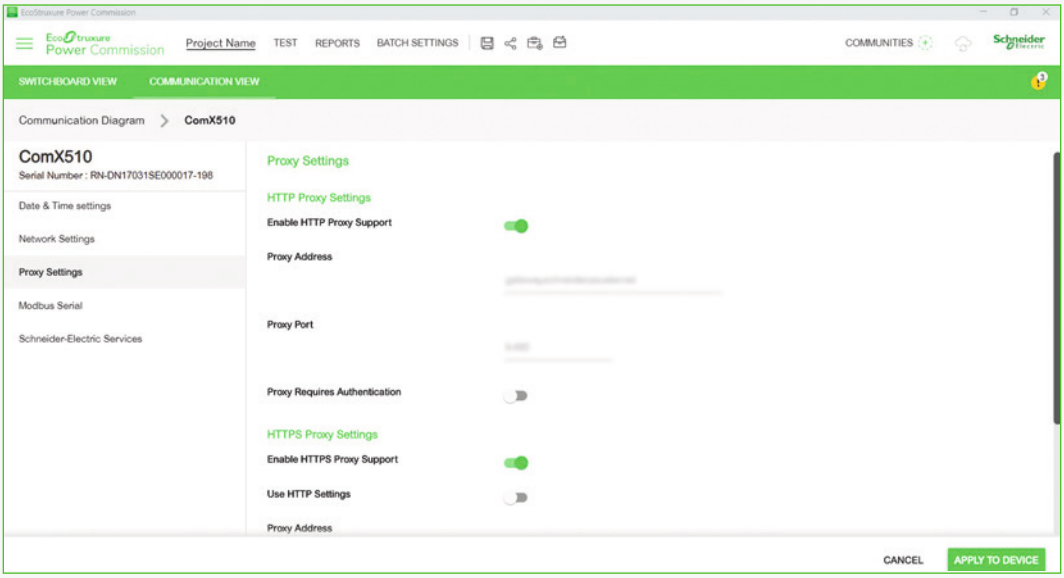


> Select **"Reply to ping"**

SUMMARY

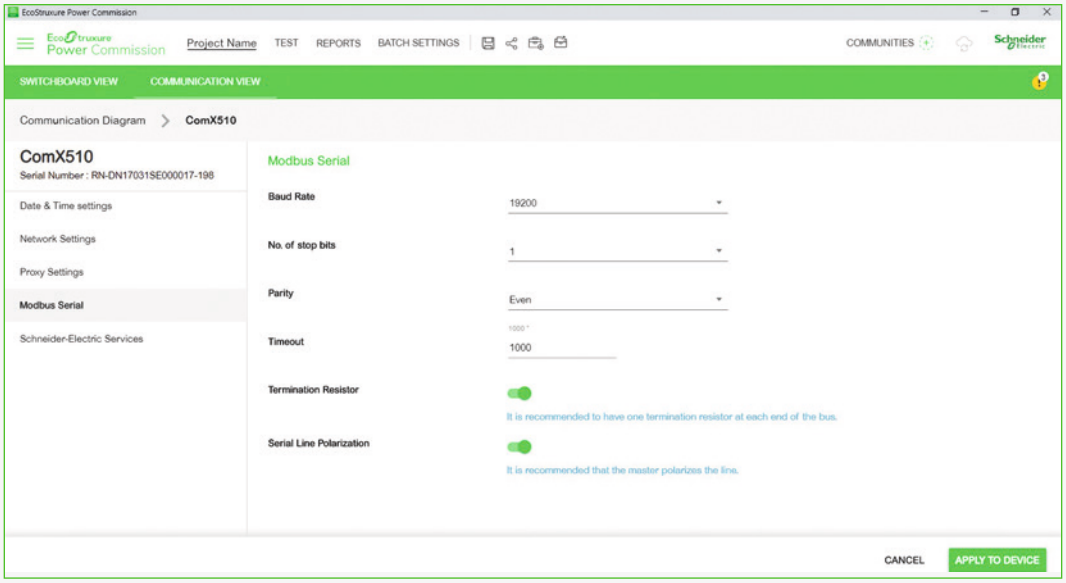


> Enter Proxy settings if needed, ask information from your IT department

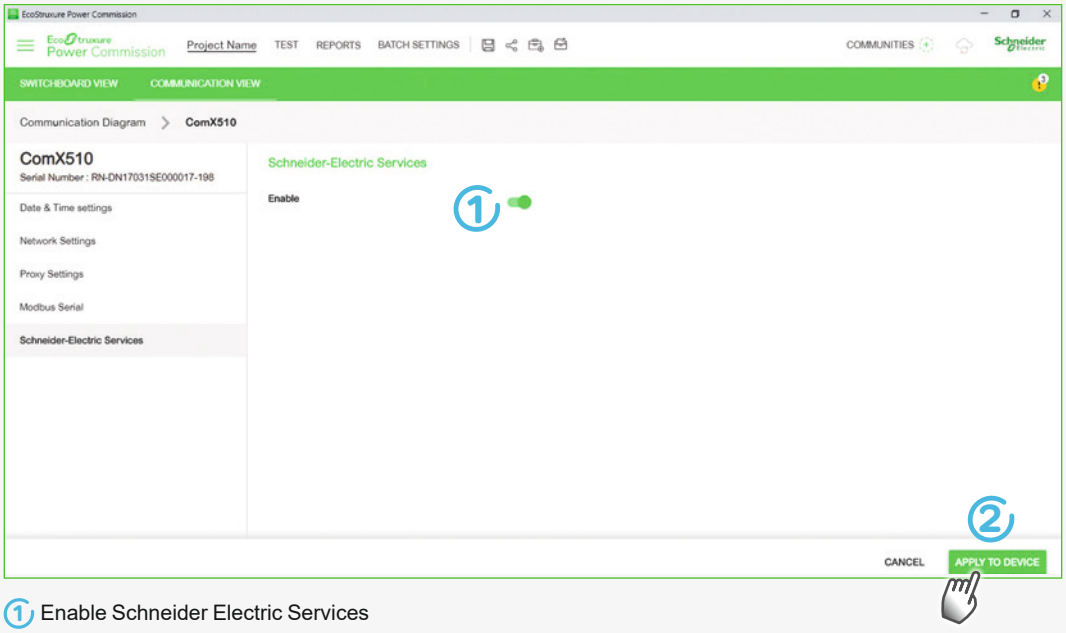


SUMMARY

I commission devices

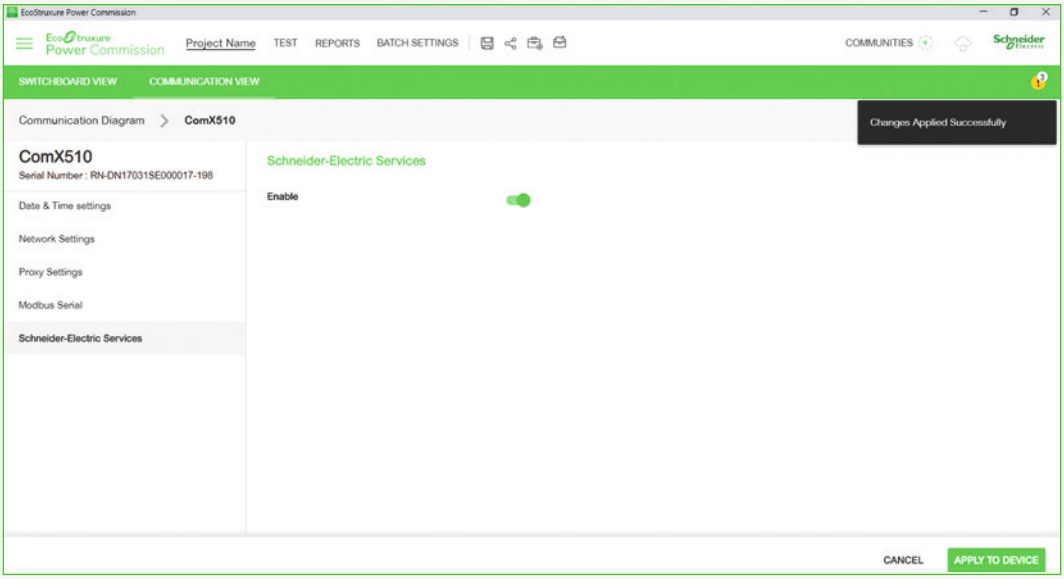


> Select Modbus tab: enter Modbus serial setting if slave devices are connected

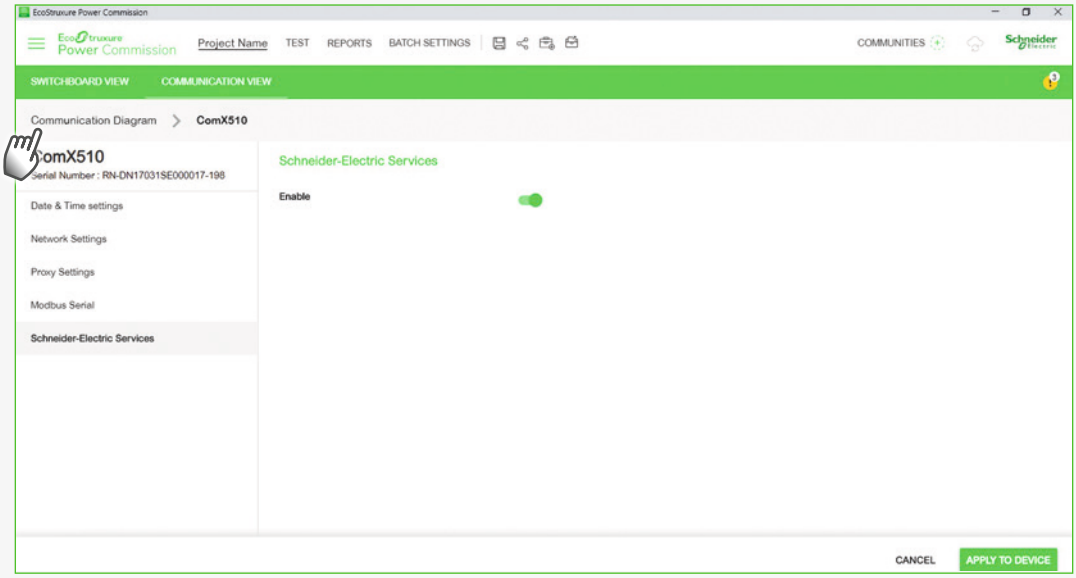


1. Enable Schneider Electric Services
2. Click on **"Apply to device"**

SUMMARY



The settings are applied

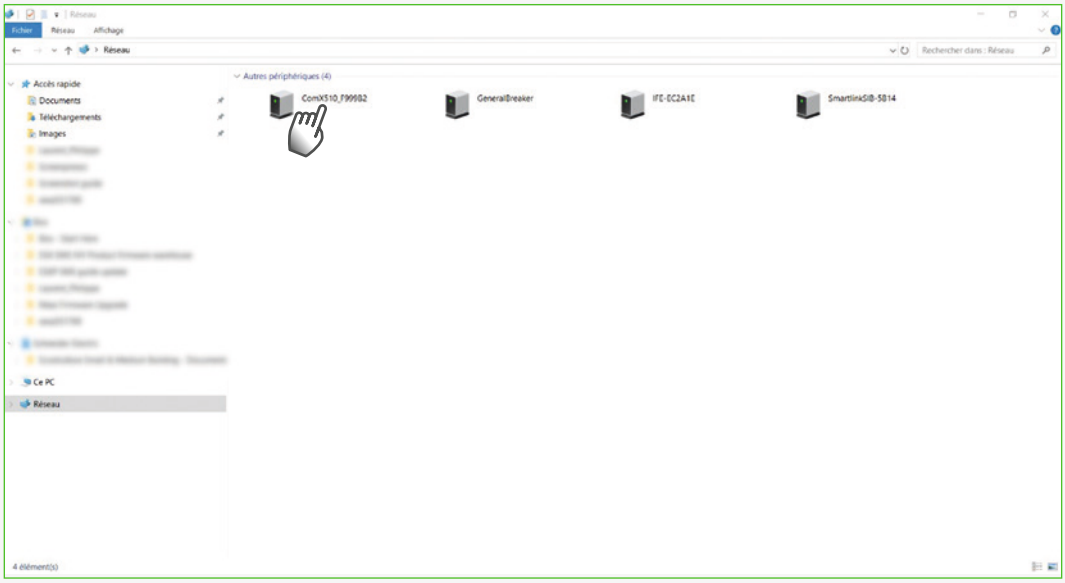


> Click on **"Communication Diagram"**

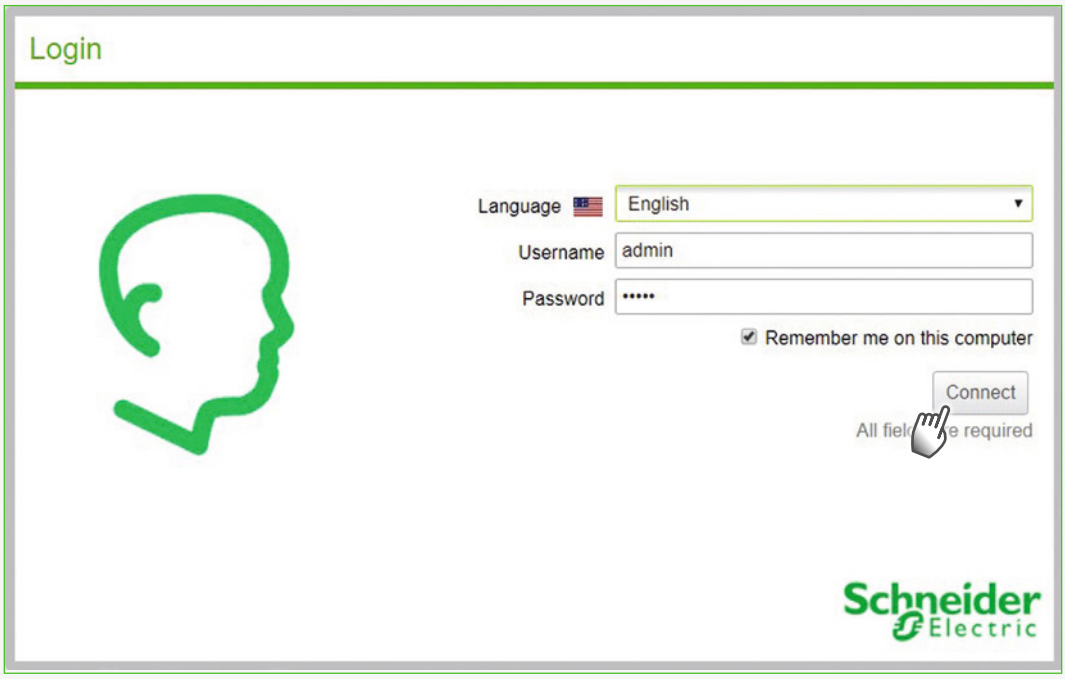
SUMMARY

To finish the configuration, go on the Com'X webpage

Open your File explorer and click on network



> Double click on the Com'X in the Windows network explorer



A webpage is displayed

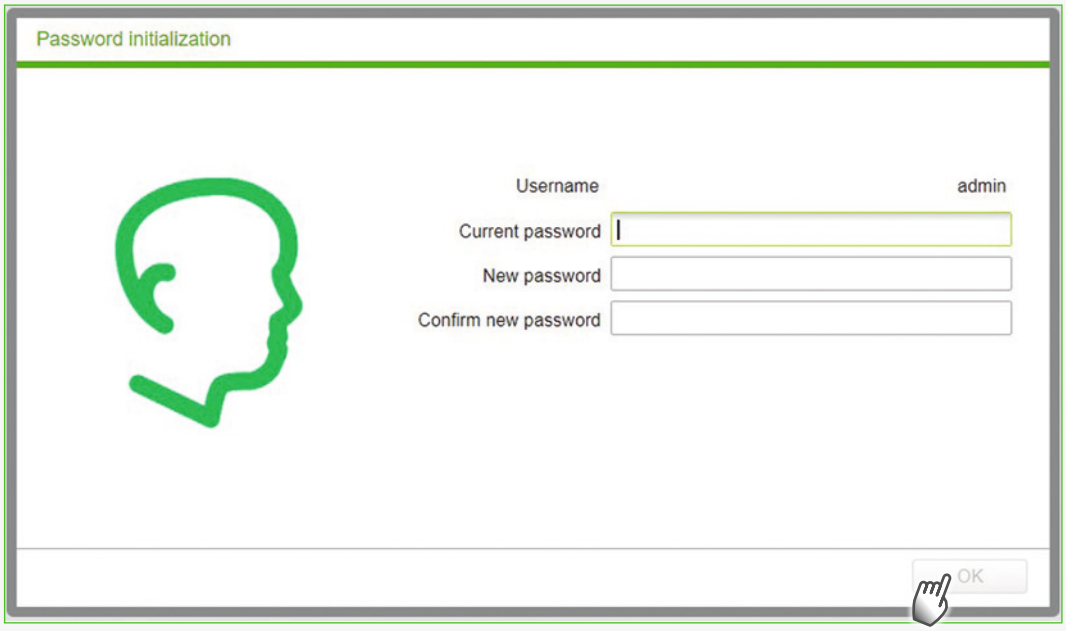
> Enter **Username** and **Password**. By default Username is **"admin"** and Password is **"admin"**

> Click on **"Connect"**

SUMMARY

① Read the License Agreement.

② Accept it.

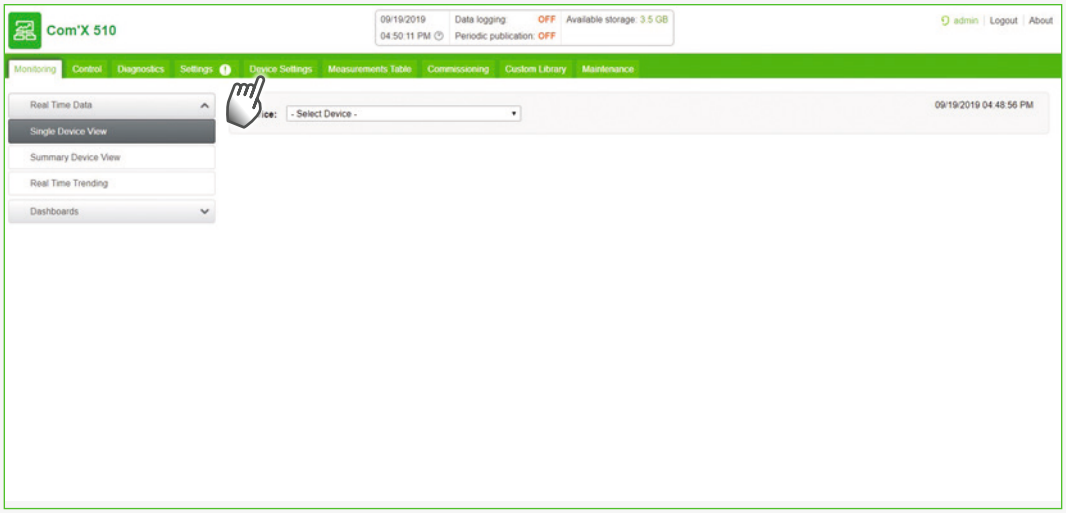


> Change the password

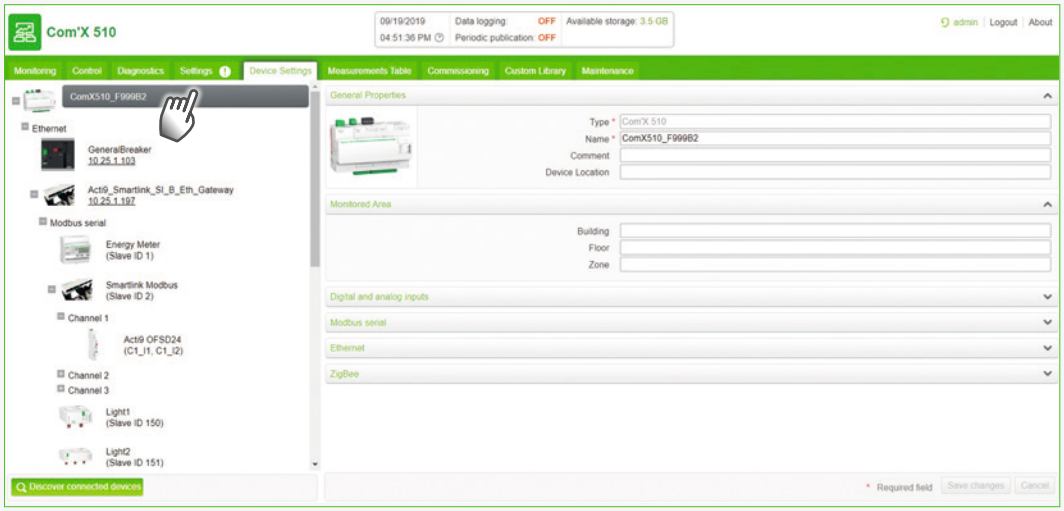
> Click on **"OK"**

SUMMARY

I commission devices

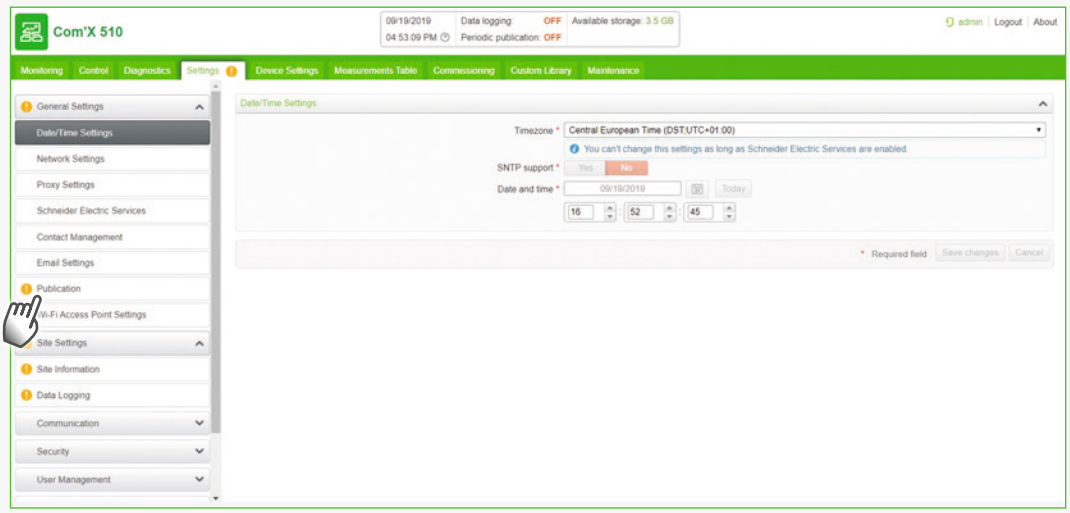


> Click on "**Device Settings**"



All the devices configured in EcostruXure Power Commission are listed here

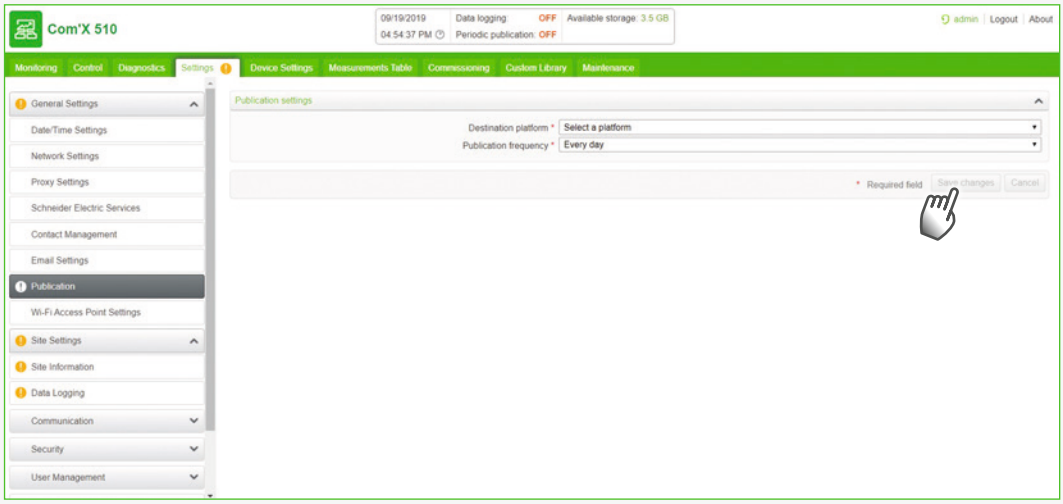
> Click on **"Settings"**



The settings entered with EPC are shown here

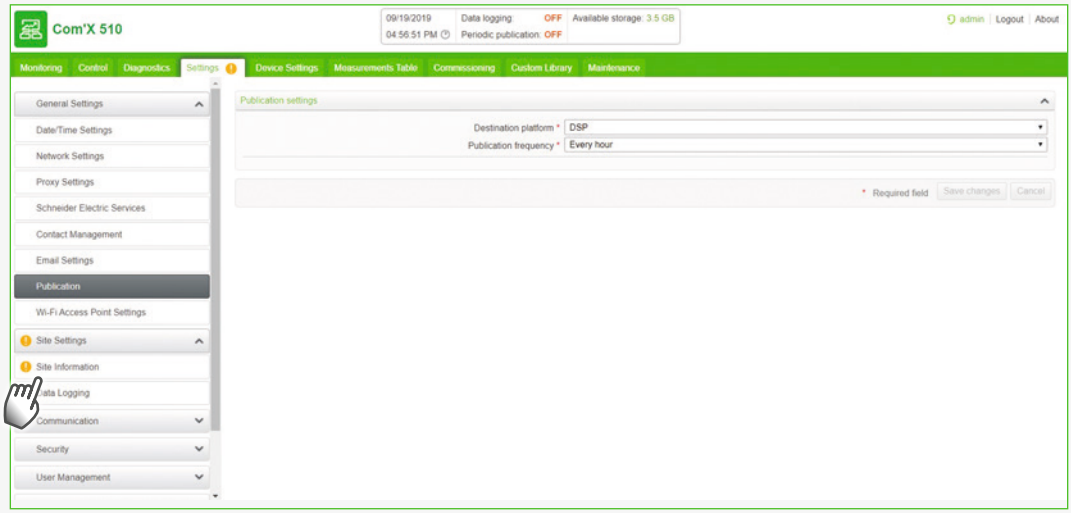
> Click on **"Publication"**

SUMMARY



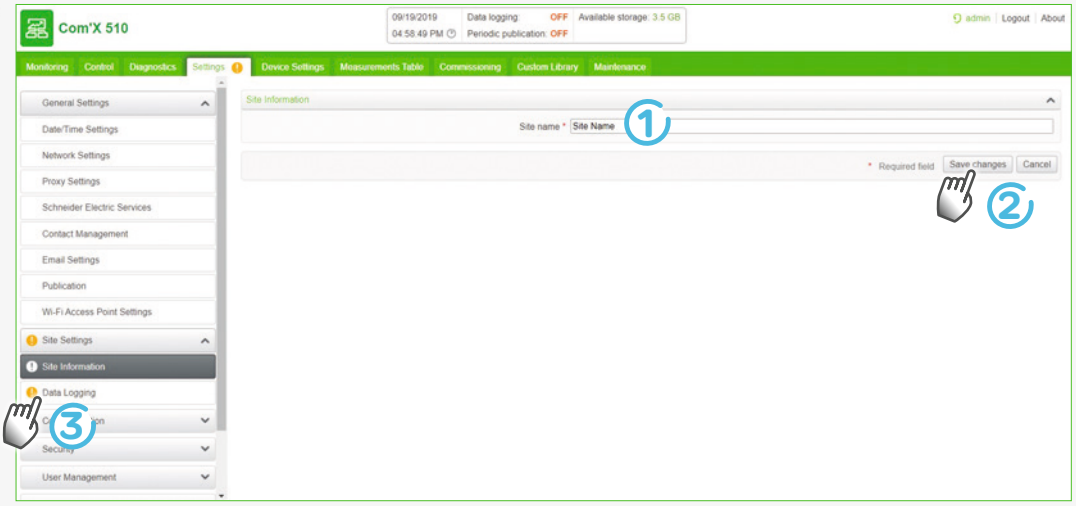
> Select your Publication settings

> Click on "**Save Changes**"

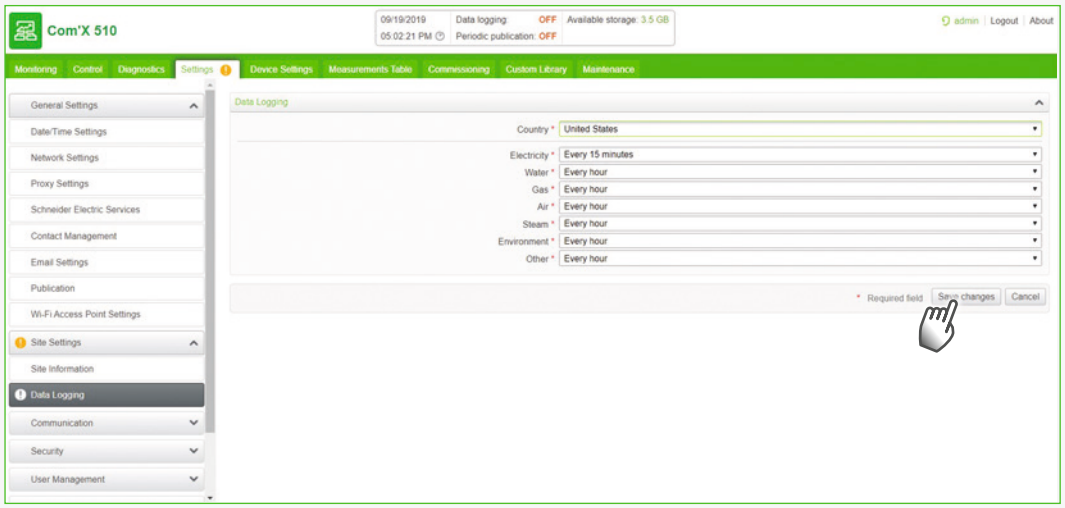


> Click on **"Site information"**

SUMMARY

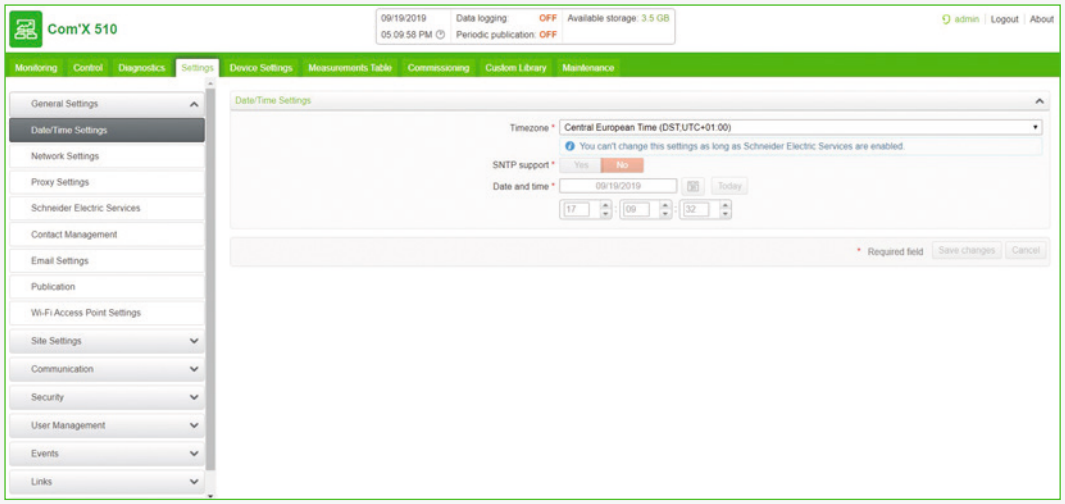


1. Enter "Site name"
2. Click on **"Save changes"**
3. Click on **"Data logging"**



> Set data logging parameters

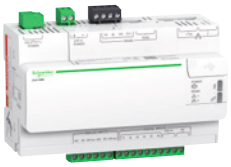
> Click on **"Save changes"**



The configuration is over

SUMMARY

3.1. Com'X generalities



For a general configuration overview, please refer to the **Com'X user manual** where you will have further information on:

- Windows device discovery (DPWS),
- Com'X provides a DHCP server by default on port E2; it will automatically attribute an IP address to the computer so that it can connect easily to the Com'X default IP address: 10.25.1.1. The DHCP server delivers addresses from 10.25.1.65 and provides a free addressing zone between 10.25.1.2 and 10.25.1.64 (use if setting a static IP address in your system).
- Wifi USB dongle, Com'X as an access point with nothing to configure:
  - A convenient way to configure the Com'X when access is difficult or to avoid requesting an IP from the customer network ("Private" Wifi network of Com'X)
  - Galvanic isolation with Wifi.

Com'X provides access to its webpages in HTTPS (as shown at the previous part). To enable this you may be asked to provide a certificate which is delivered by your information system provider. (Certificates are linked to your Domain Name Server).

At this stage it is strongly recommended to get the serial number of Com'X to connect further the electrical installation to EcoStruxure™ Facility Expert. Refer to section 5.2.2.

Check Firmware version

The firmware of Com'X compliant with EcoStruxureTM Power is available on Schneider Electric's website, on the "Documents and Downloads" section of product's page, see the following video for the upgrade process.

> see How to check the firmware version of Com'X

3.2. Network setting

RECOMMENDED PRACTICE
Do not connect your electrical installation without Firewall. Devices connected to Internet and Internet Firewall must be updated.

Advanced setting: use of Proxy

The IT department of the building very often requires the outgoing traffic to go through a proxy.

In that case it is mandatory to configure the Com'X to use this Proxy (because the direct access from the Com'X to the internet will be blocked by the Firewall of the site).

If the network administrator has set up a proxy or a firewall, verify that he has authorized the following HTTPS endpoints to allow the Com'X to communicate with the Facility Insights server:

- https://*.azure-devices.net:443
- https://bootstrap.gl.struxurewarecloud.com:443
- https://remoteshell.rsp.schneider-electric.com:443

Publication

The final step consist in activating the data publication from Com'X to EcoStruxure™ Facility Expert.

> see How to start data publication in Com'X

SUMMARY

3.3. Custom model creation for OF/SD in Com'X

The notification feature in Acti9 Communication System is not supported natively. The user needs to create a custom model as a contactor and then apply it to the selected unit. One custom model can be instantiated several times.

Custom models are multiple and can be applied to other electrical device model of Com'X, refer to the Com'X manual.

> see How to create custom model of OF/SD in Com'X 

> see How to connect an OF/SD to Acti9 Smartlink in Com'X 

3.4. Events activation

EcoStruxure™ Facility Expert mobile app provides automatic notification to mobile device in case of main electrical fault. They are considered as predefined events built for each model type of LV circuit breaker (MasterPact MTZ - NT -NW, ComPact NS-NSX).
The user needs to activate the feature in Com'X and select the relevant ones to be monitored in EcoStruxure™ Facility Expert mobile app later on.

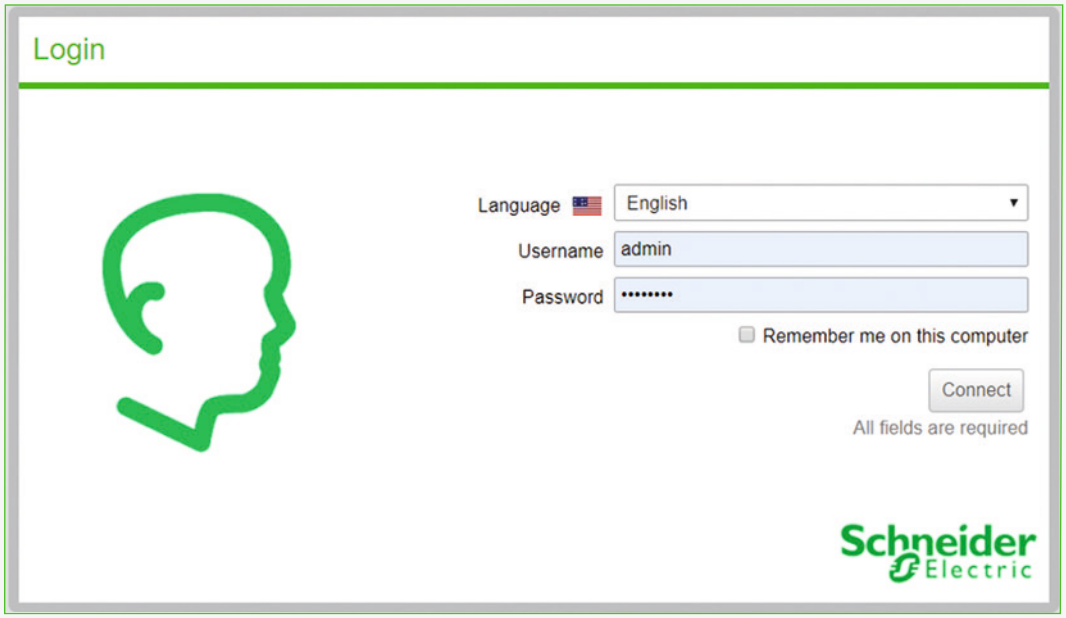
> see How to activate alert in Com'X 

SUMMARY

3.5. Medium Voltage devices

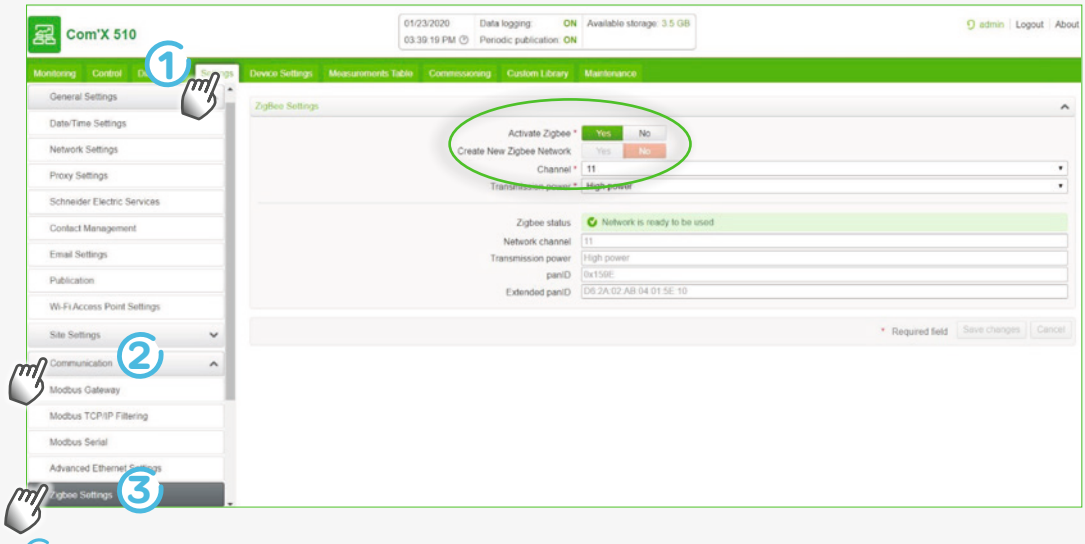
In this section, we will detail the integration process of Medium Voltage monitoring in the Com'X, specifically: Easergy TH110/CL110, Sepam and NT935 devices.
Note that to complete this process and for the Com'X to push its topology and data to the cloud, Internet access is a crucial requirement. If an Ethernet access is present inside the sub-stations, there is no need to establish GPRS/3G/4G connection.
But GPRS/3G/4G will be required if the sub-station is located in a remote area without Ethernet access.

3.5.1. Devices discovery



> Connect to the Com'X with your username and password.
> By default, both the username and password is "admin".

We will now first see how to discover your Zigbee devices (TH110 and CL110).
For these next steps, make sure that the ZigBee dongle is installed on your Com'X, and that your installation is energized.

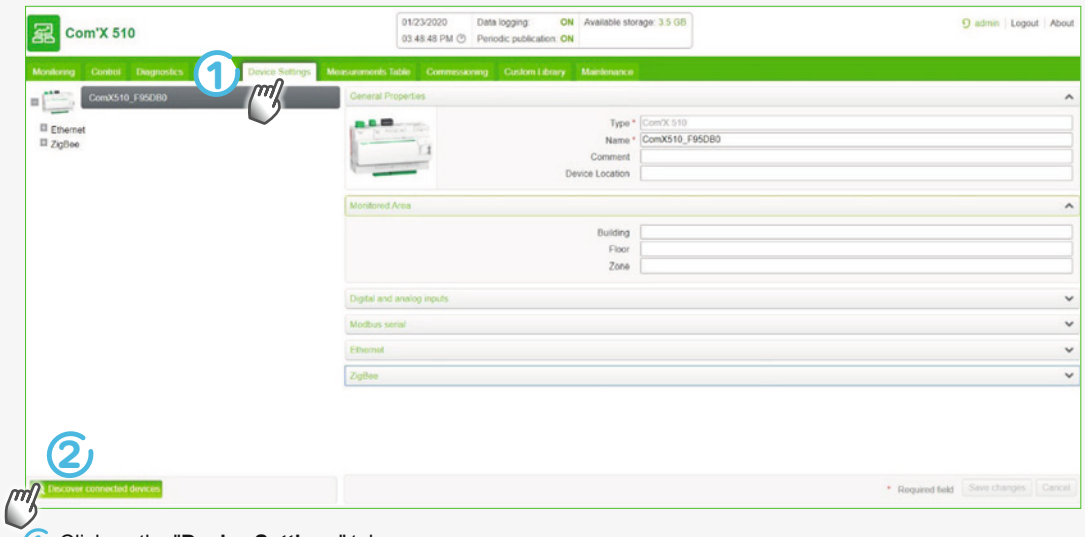


1. Click on the **"Settings"** tab
2. Open the **"Communication"** sub-menu on the left-hand side.
3. Click on "**Zigbee Settings**" and select the follow parameters:
   - "**Activate Zigbee**" set to "**Yes**".
   - "**Transmission power**" set to "**High power**".

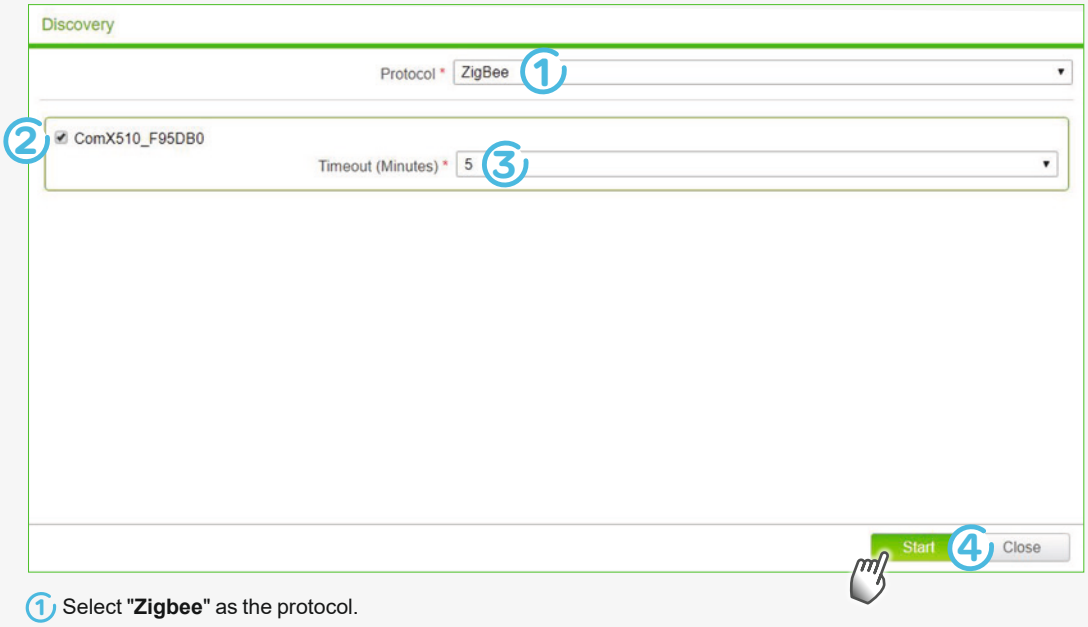
> Acknowledge the message you should get after selecting "**High power**".

SUMMARY

I commission devices



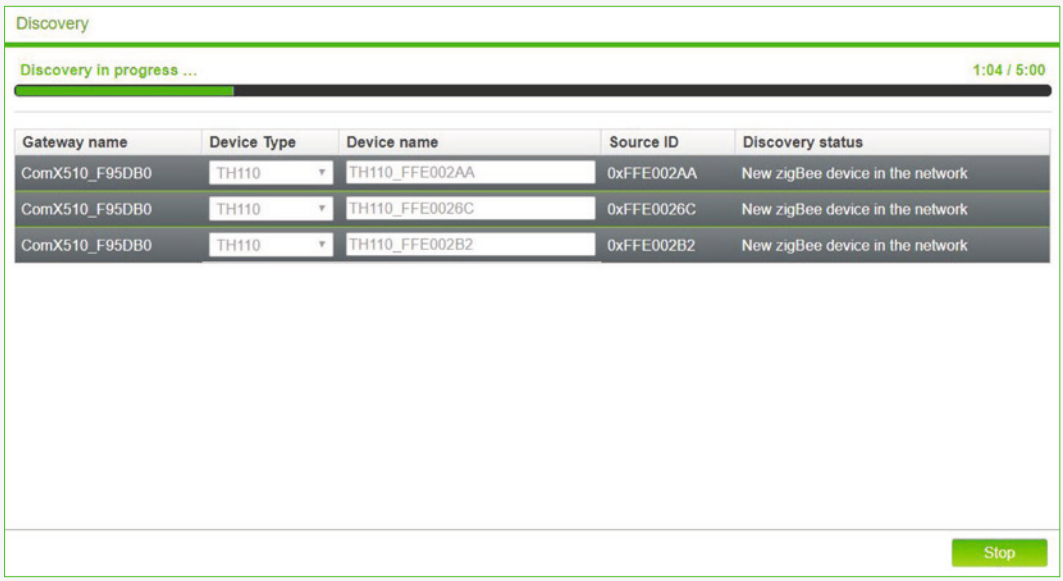
1. Click on the "**Device Settings**" tab.
2. On the bottom left, click on "**Discover connected devices**".



1. Select "**Zigbee**" as the protocol.
2. Select your Com'X.
3. Set the timeout duration of the discovery.
4. Click on "**Start**".

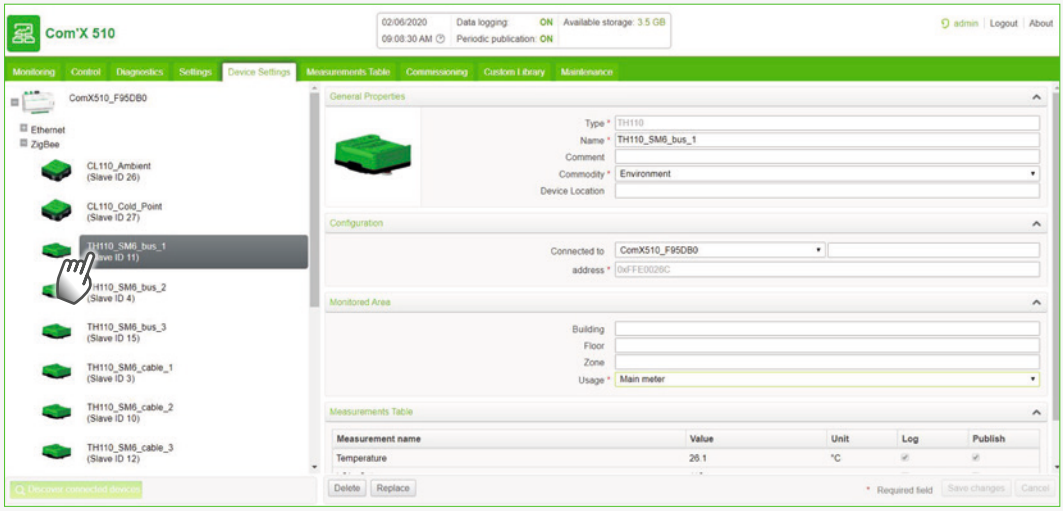
To discover each CL110 sensor, you will need to activate its pairing before you start the discovery by pressing on a small button situated on the device.
You do not need to do this for the TH110 as they will be discovered automatically (provided that your installation is energized to power them on).

SUMMARY



> The discovery of your devices will then begin.

> Once they have all been found, you can stop the process or wait for the timeout, and then close the window.



> You can view all your discovered devices by expanding the "**Zigbee**" sub-menu on the left-hand side under your Com'X.

> Click on a device to edit its main parameters, such as renaming it.

Renaming your device is key as it is the name that will be displayed in Facility Expert later on, allowing you to easily identify it.

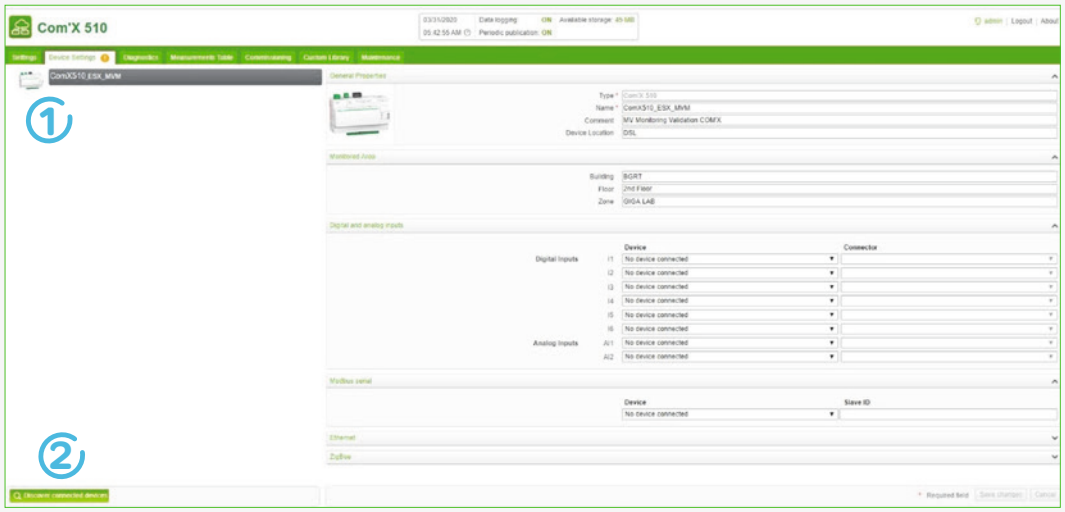
To complete this step, you should use the correspondence table that was provided with your installation to correctly map each sensor's serial ID to its actual location on the equipment.

SUMMARY

I commission devices

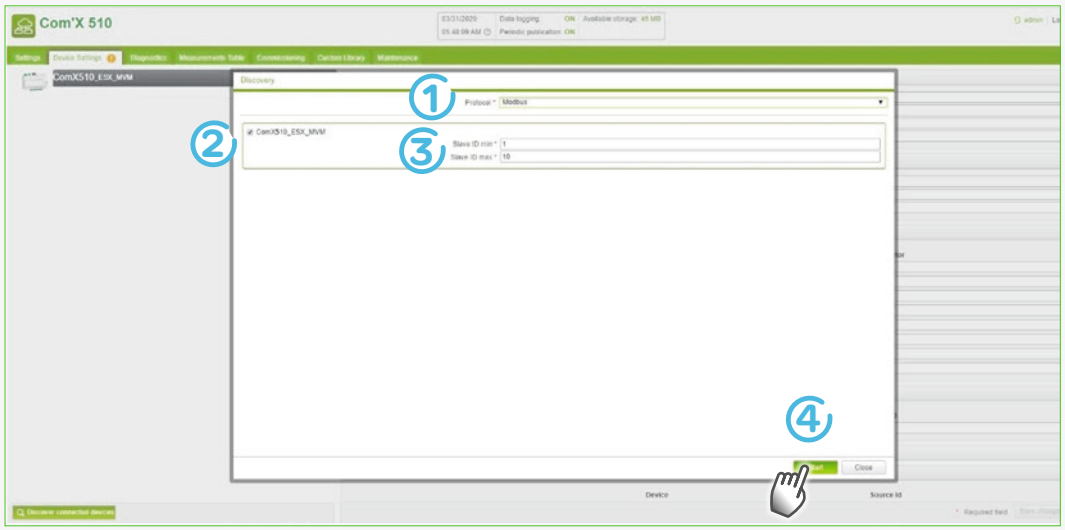
3

We will now see how to discover your Sepam device.



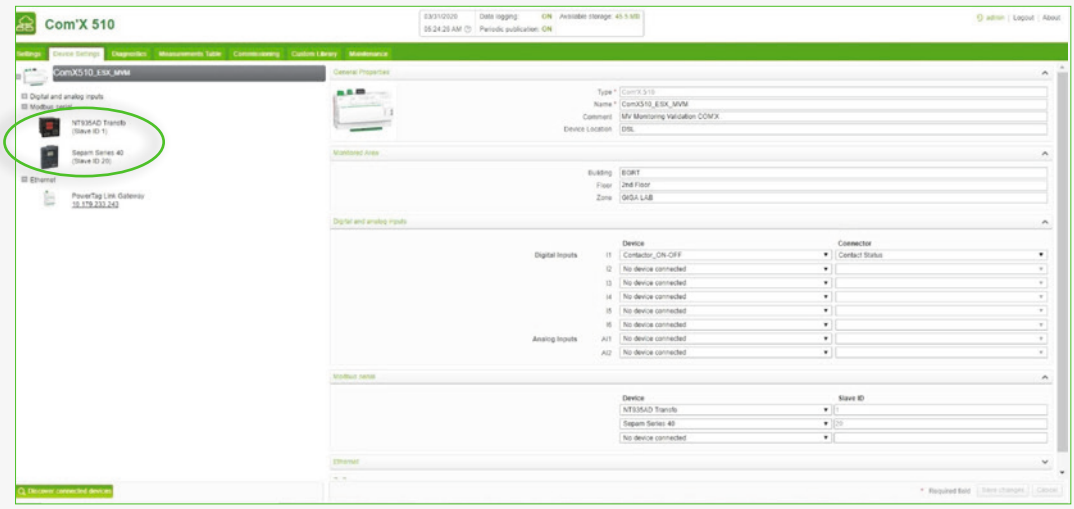
> You can repeat the same process as before for Ethernet devices, such as an EGX150.

1. First select the device
2. Then click on "**Discover connected devices**".

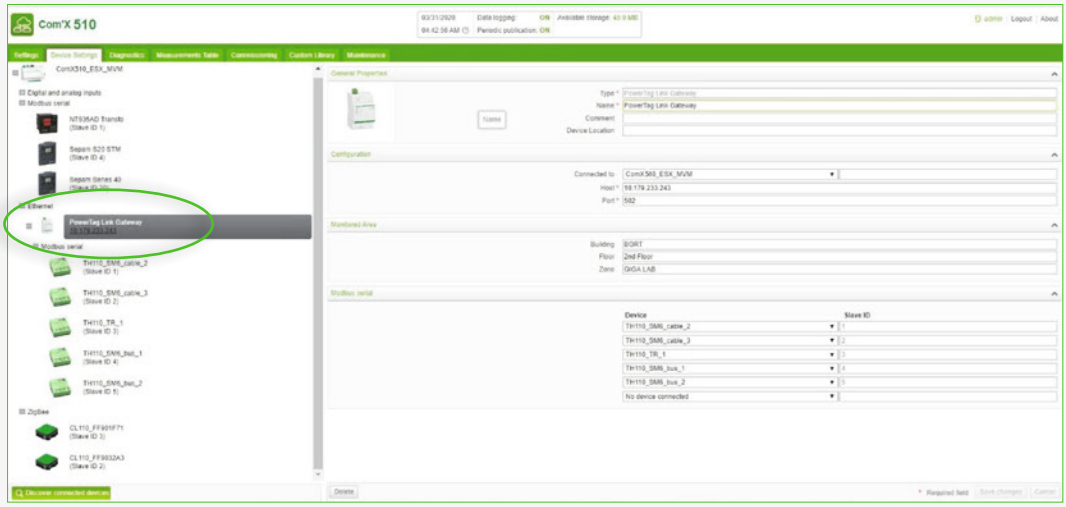


1. Select the "**Modbus**" protocol.
2. Select your EGX150 device.
3. Select your min and max Slave ID values.
4. Click on "**Start**".

SUMMARY

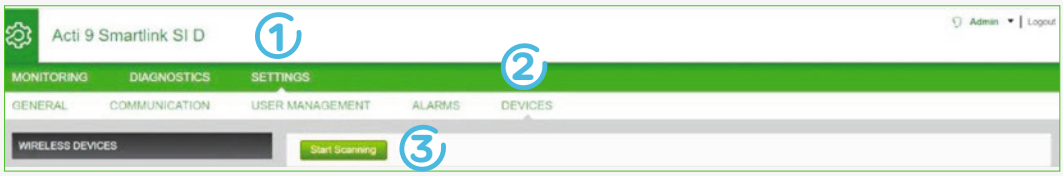


> You will then be able to see your Sepam and NT935 devices by expanding the **"Modbus serial"** sub-menu on the left-hand side under your Com'X.



> Depending on your configuration, if your Com'X is maxed out of devices or if the transformer is in a separate location, you also have the possibility of discovering your TH110 and CL110 devices through a PowerTag Link gateway.

> To do this, you must first discover the ZigBee sensors via the PowerTag Link webpages or EcoStruxure Power Commission.



> On your PowerTag Link webpages:

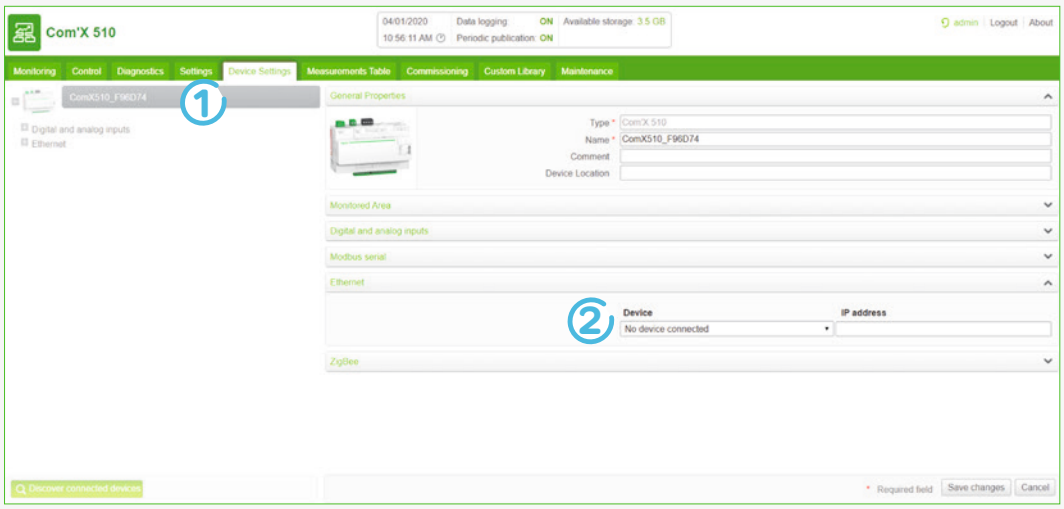
1. Go to the "Settings" menu
2. Select the "Devices" tab
3. Click on "Start Scanning".

> After all sensors have been found, the PowerTag Link will have assigned a virtual Modbus slave to each individual TH110 or CL110 device.

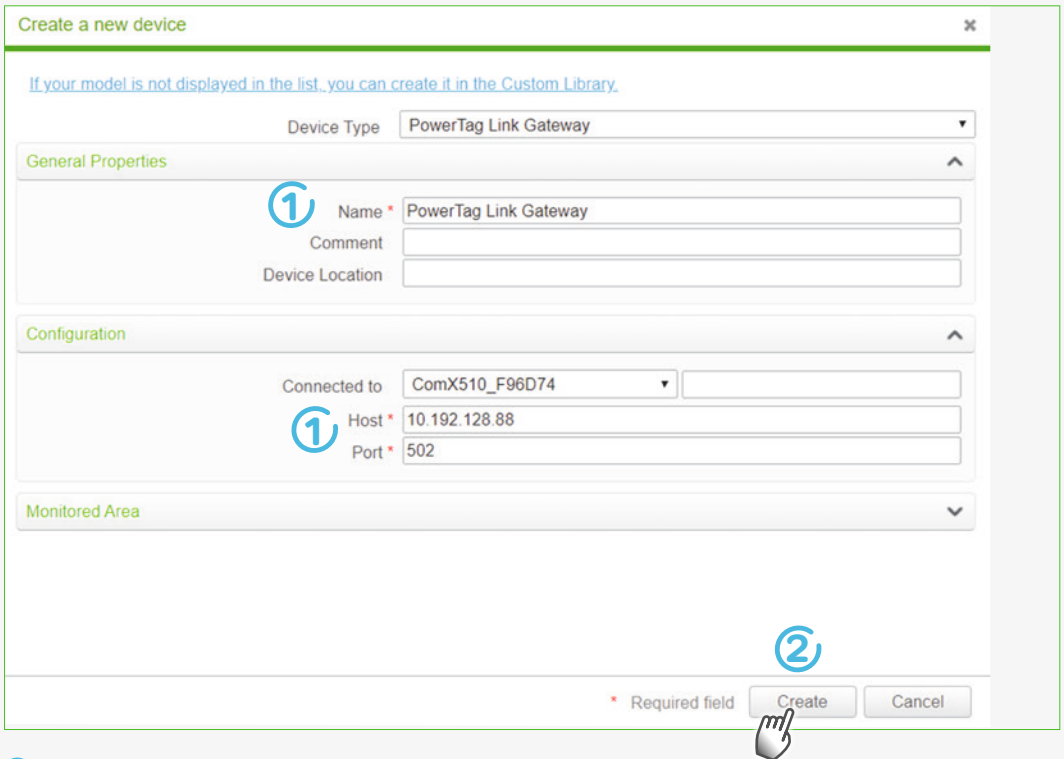
> Once this is done, go back to your Com'X webpages.

SUMMARY

I commission devices

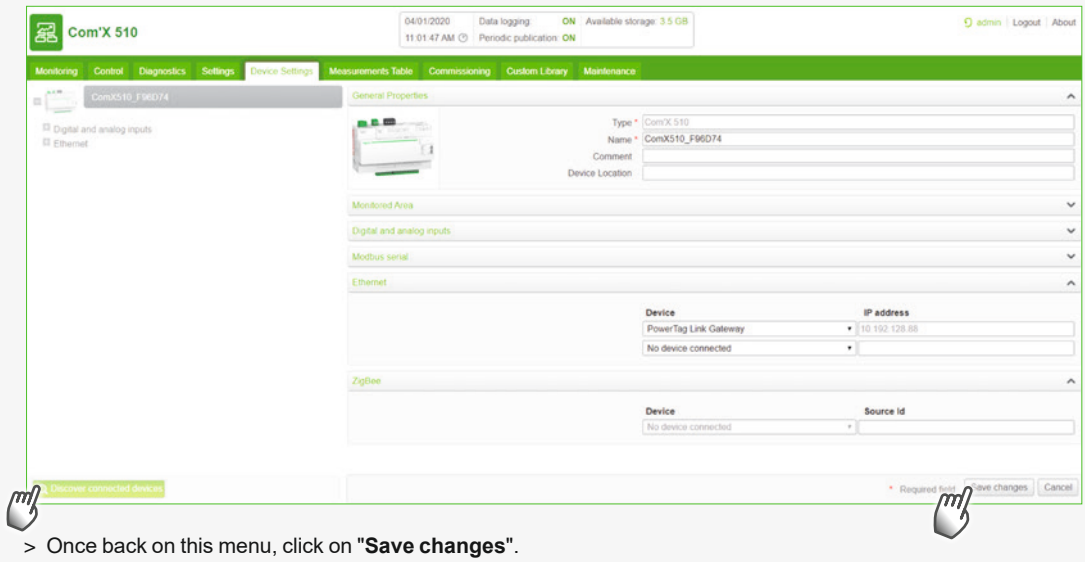


1. Click on your Com'X.
2. Under the "**Ethernet**" section on the right, click on the "**Device**" dropdown menu and select "**Create a new device**".



1. Enter the details of your PowerTag Link, specifically its host (IP) address.
2. Click on "**Create**".

SUMMARY

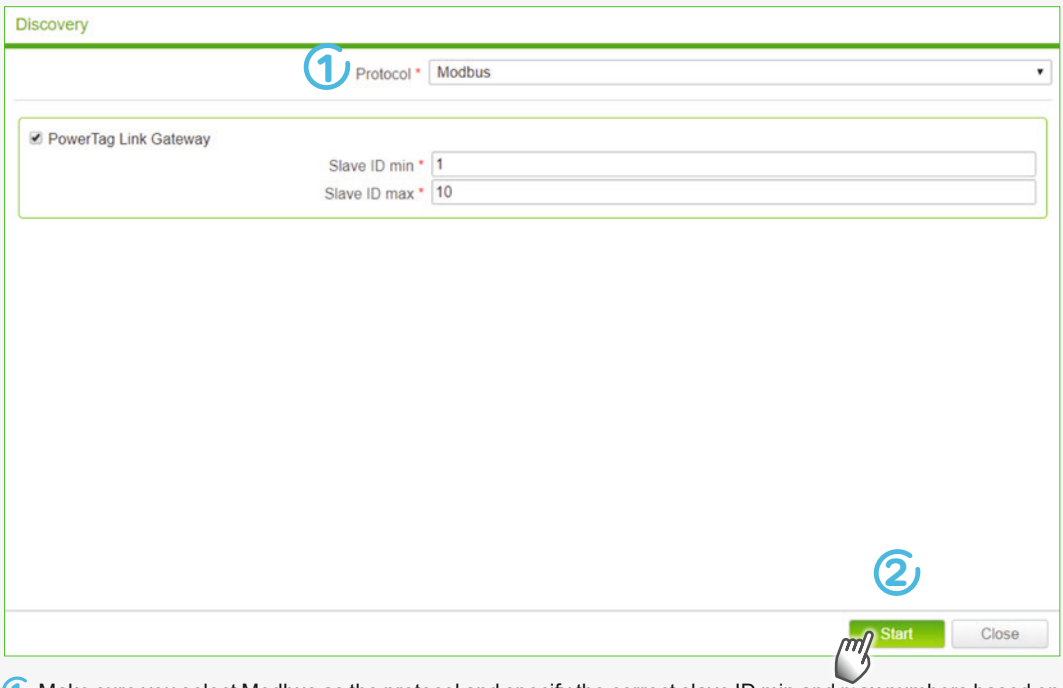


> Once back on this menu, click on "**Save changes**".

> Your PowerTag Link should now have been successfully added to your Com'X in the left menu.

Note that it will not yet show the ZigBee sensors that were discovered earlier in the PowerTag Link webpages as they need to be re-discovered in the Com'X.

> To do this, launch another device discovery on your PowerTag Link, this time by selecting it from left menu and clicking on "**Discover connected devices**" (as was done for the Sepam and NT935).



1. Make sure you select Modbus as the protocol and specify the correct slave ID min and max numbers based on what the TH110 and CL110 devices were assigned earlier.

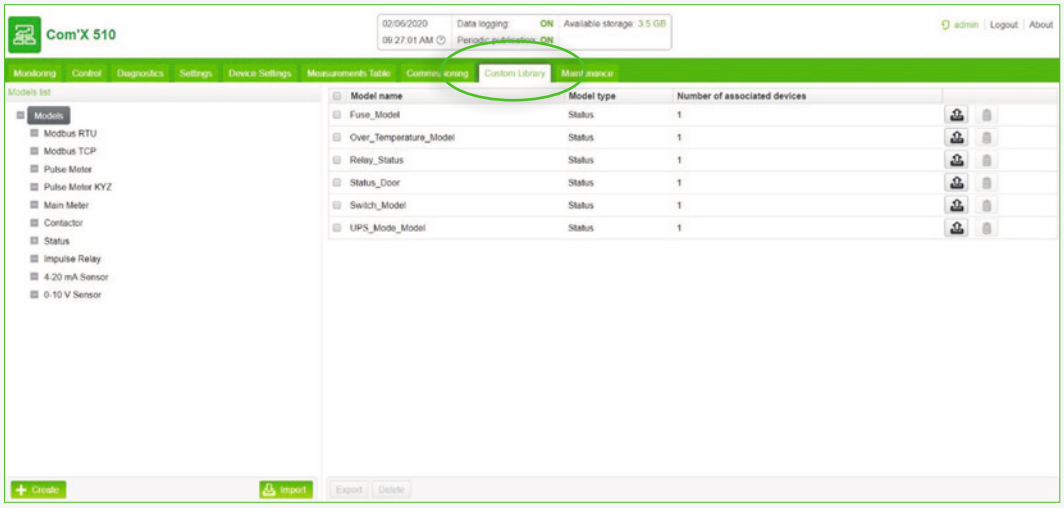
2. Click on "**Start**".

This should finish the discovery process of your TH110 and CL110 devices via the PowerTag Link.

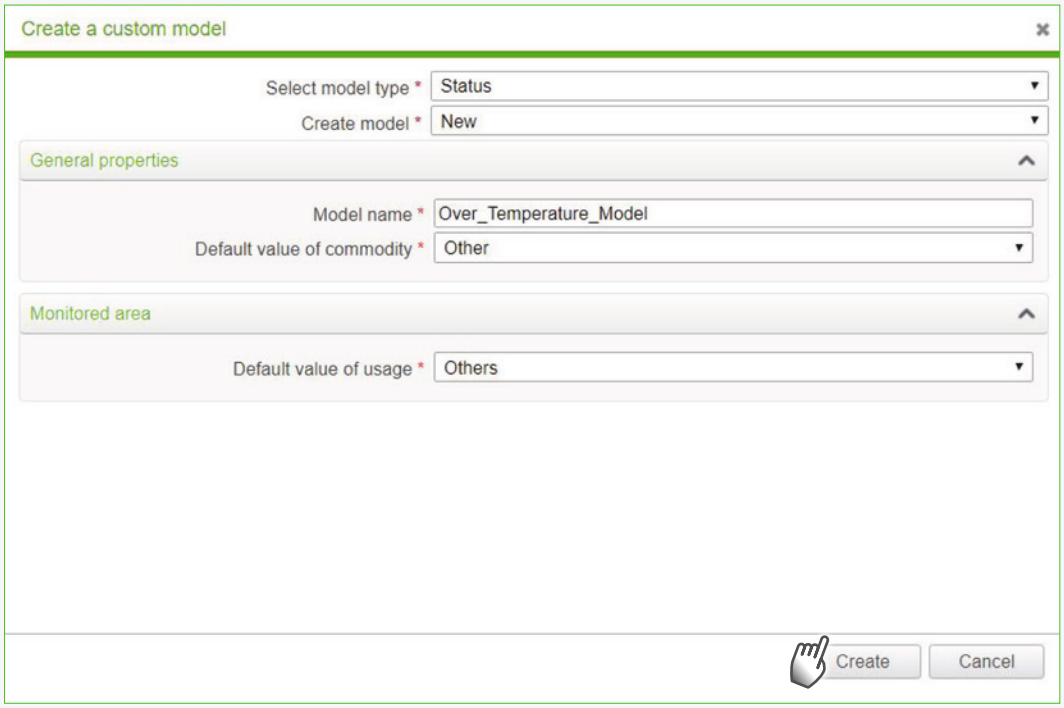
SUMMARY

3.5.2. Creating custom models and events

To monitor key parameters in your installation and receive notifications in Facility Expert, you will need to create custom models and events.



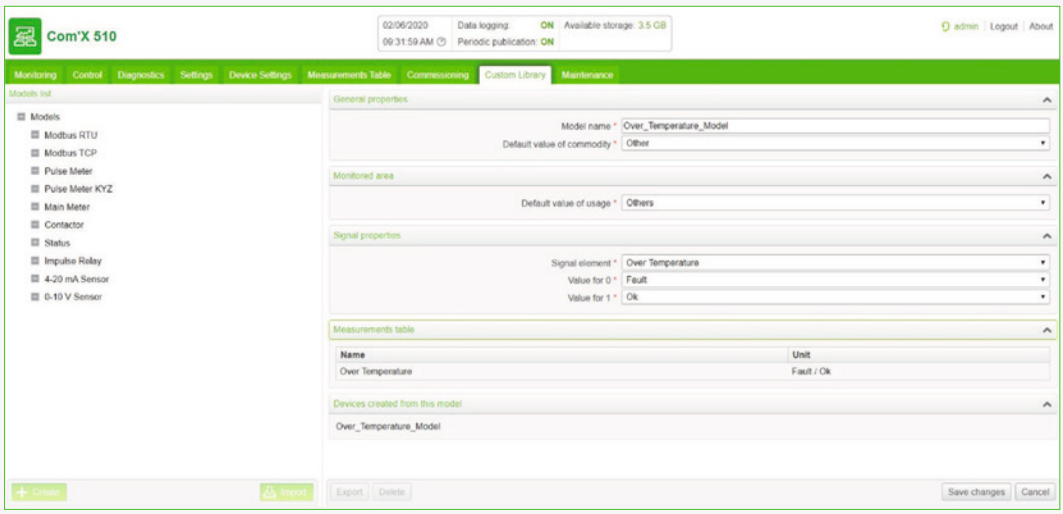
> To add a Digital Input to your Com'X, first go to the "**Custom Library**" menu tab.



> Define the parameters of your custom model, selecting "**Status**" as the model type.

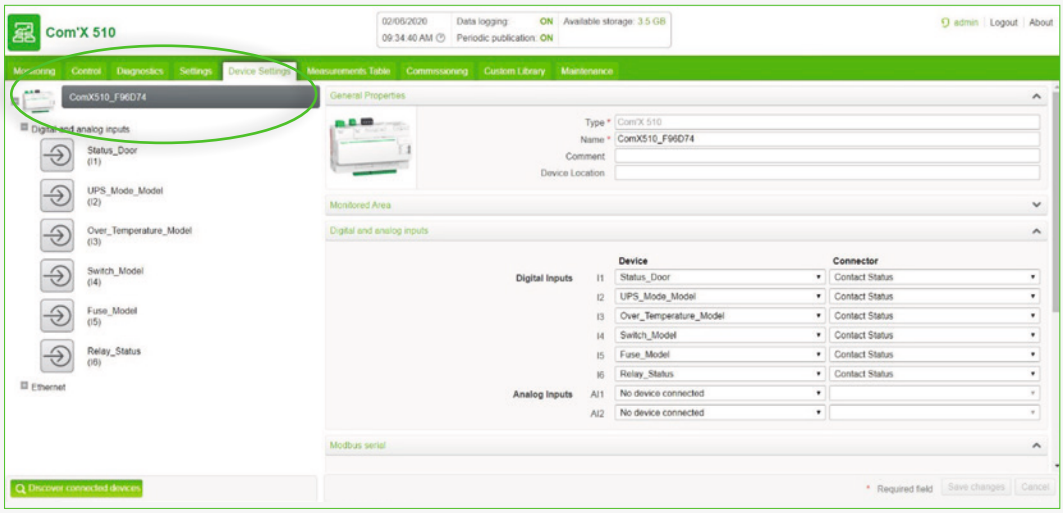
> Click on "**Create**".

SUMMARY



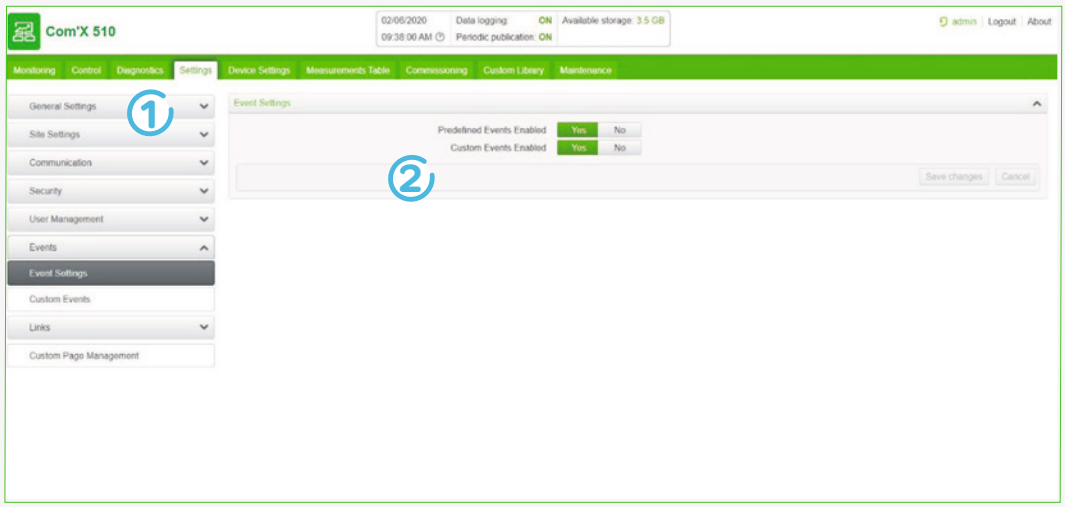
> You will then see a summary of your custom Digital Input.

> By defining its "**Signal properties**", you can set the labels associated to the status.

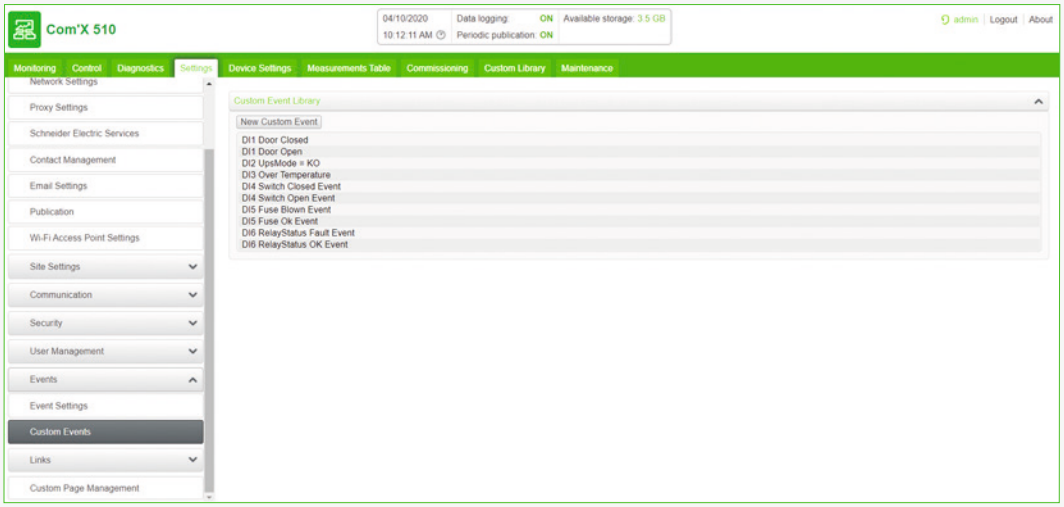


> By going back to "**Device Settings**" and selecting your Com'X, you can then assign to each Digital Input its status model.

SUMMARY



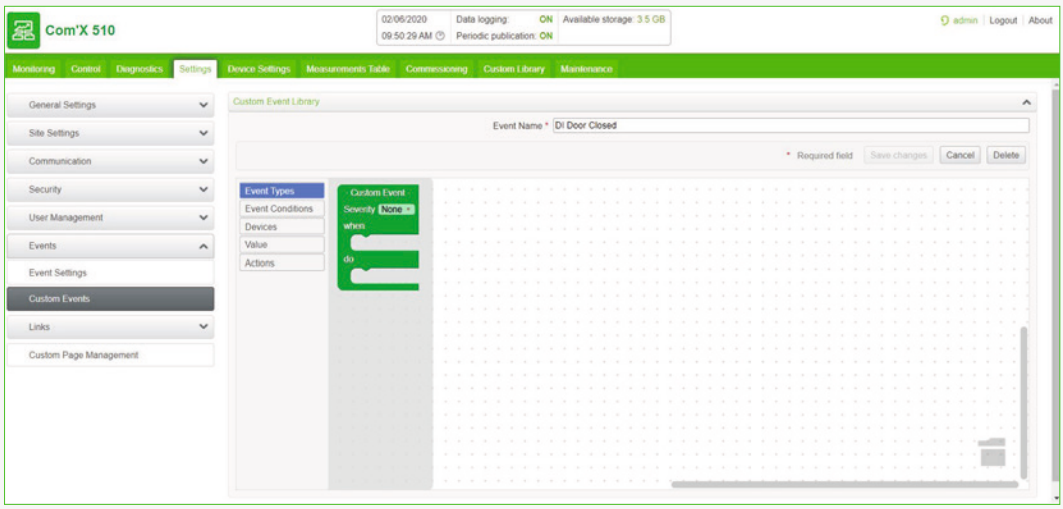
1. To start creating your own events, go to the "**Settings" tab**.
2. Under "**Event Settings**", make sure you enable "**Predefined Events**" as well as "**Custom Events**".



> You can then go to the "**Custom Events**" sub-menu to start creating your own.

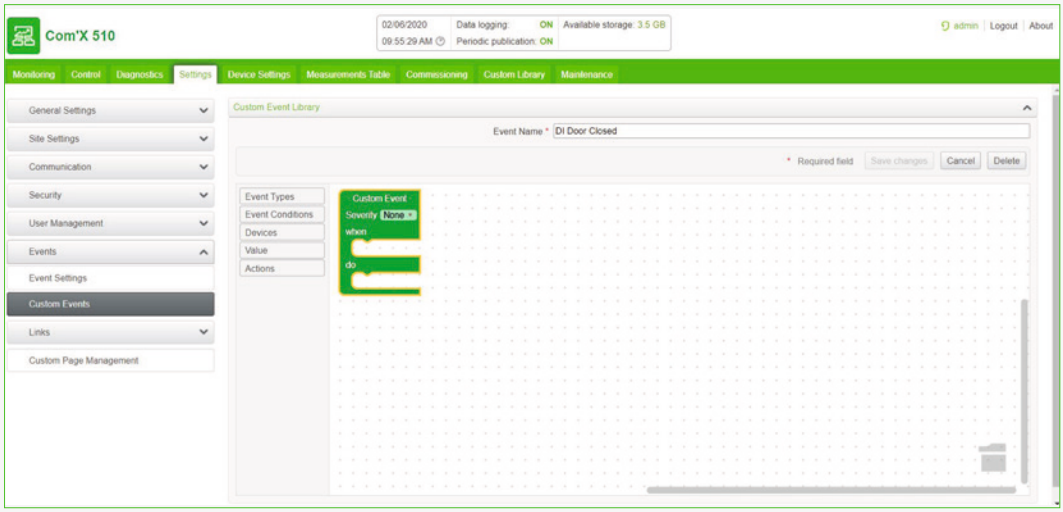
> Click on "**New Custom Event**".

SUMMARY



> Choose your "**Event Name**".

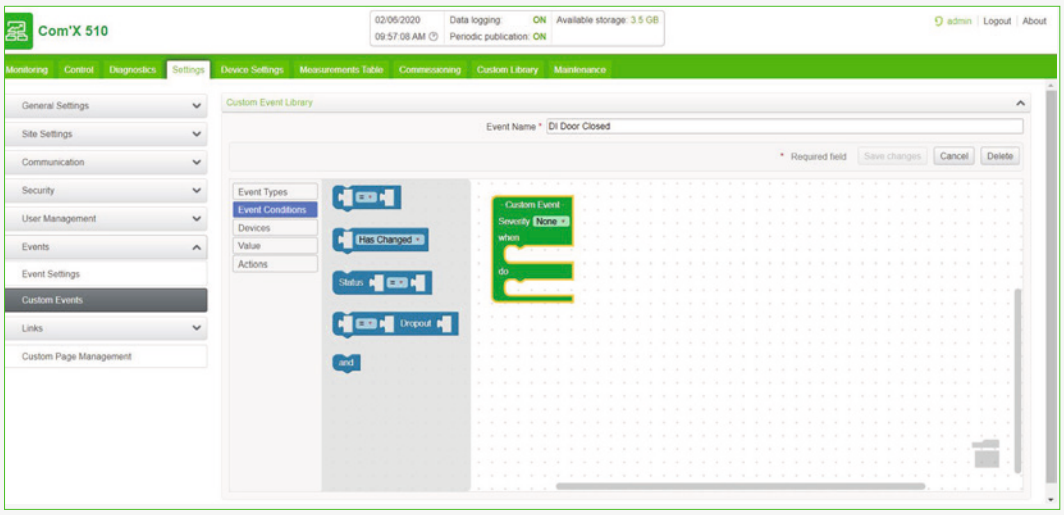
> Start by selecting "**Event Types**".



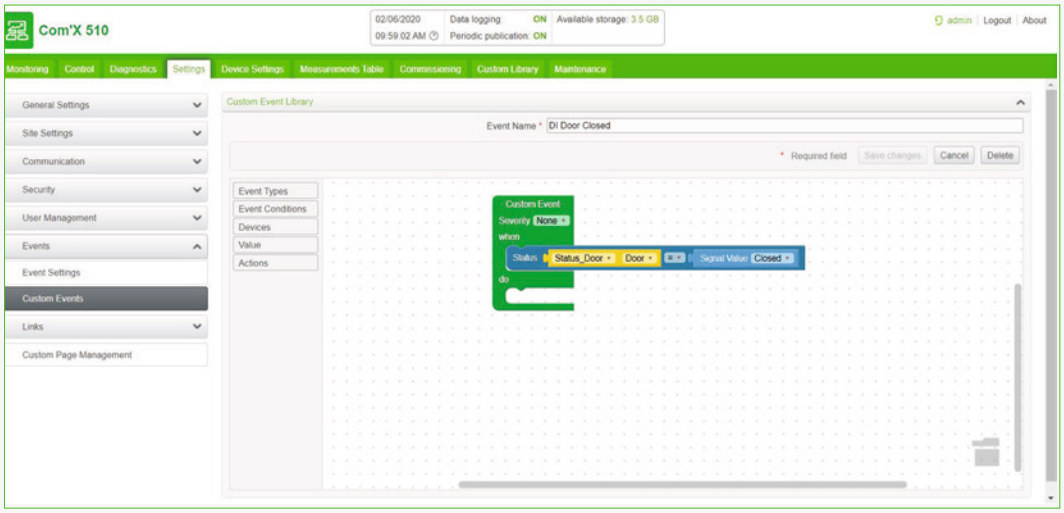
> Make sure you click on the displayed module to place it on the grid.

> You can then drag it wherever you like.

SUMMARY

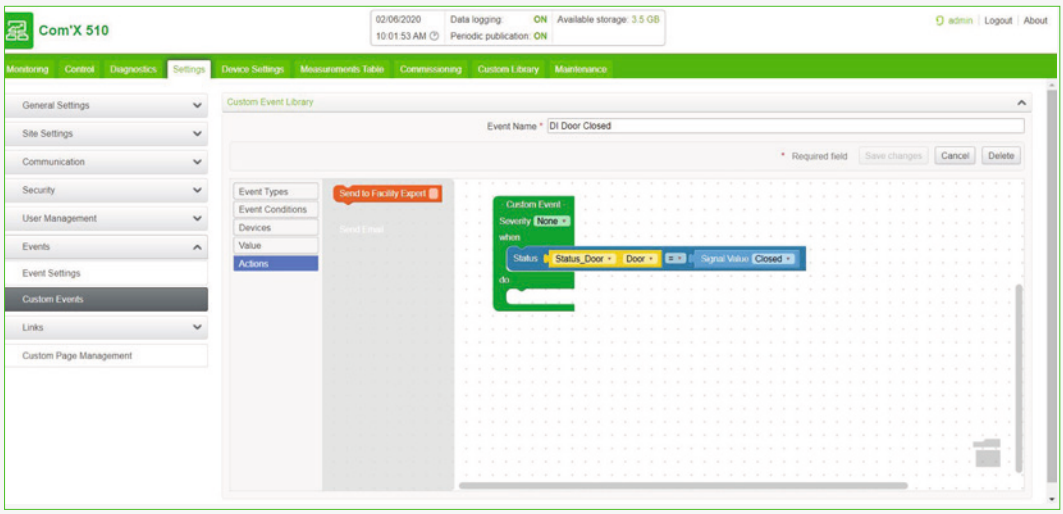


> Select "**Event Conditions**" and drag a module into the "**when**" section.

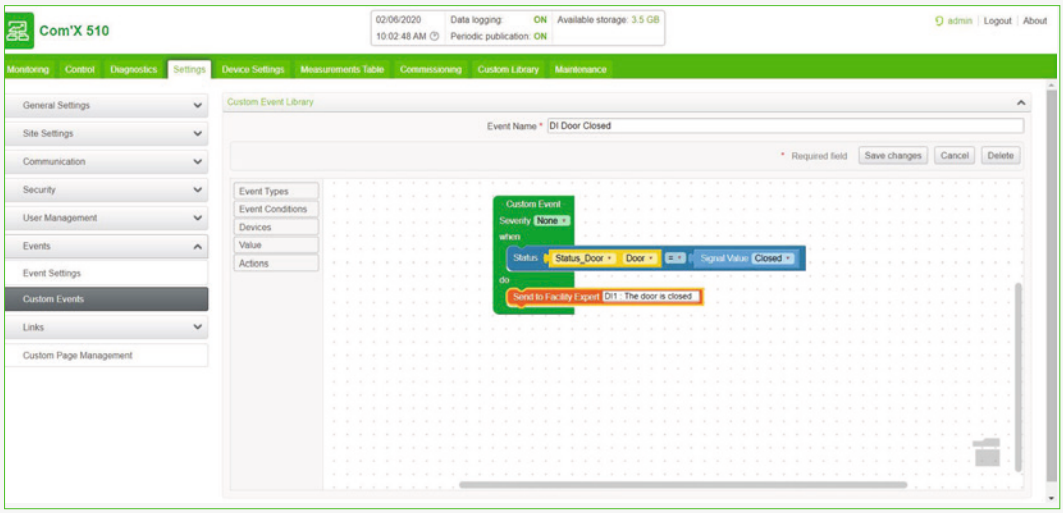


> Define your conditions as required.

SUMMARY

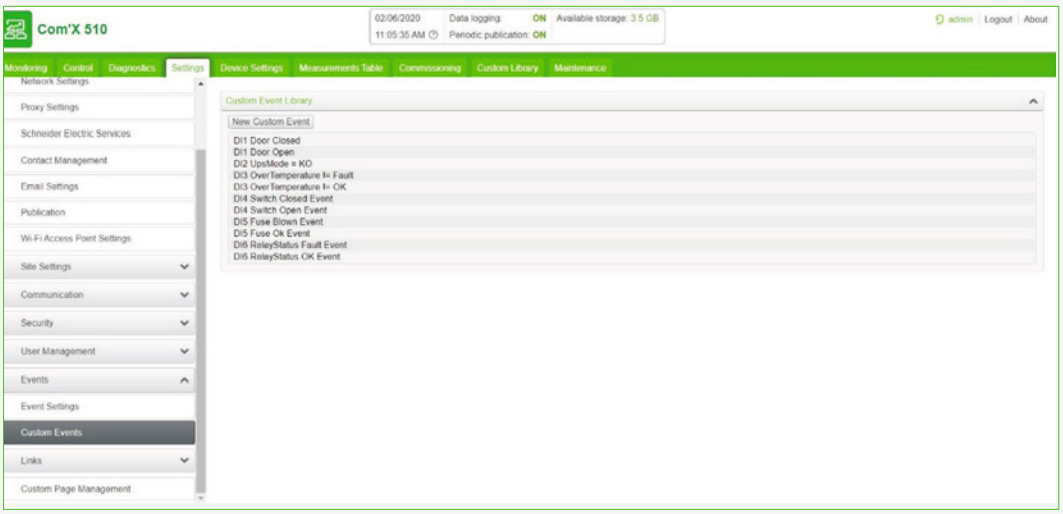


> Select "**Actions**" and drag a module "send to Facility Expert" into the "**do**" section.



> Define your message as required.
This is the message that will be displayed in Facility Expert when the event is triggered.

SUMMARY



> You will then be able to view all the custom events you created.

SUMMARY

4.1. General settings

A settings wizard is automatically launched at first power-on to help you set up the FDM128 display unit. The setting wizard guides you through three main configuration parts:

> 1. The FDM128 display unit general settings.
> 2. The communication settings depending on the network architecture.
> 3. The editing devices functionalities.

Each configuration part is described further in this section. Each time you modify the communication network, it is recommended to update the communication settings.

Note: In case of power loss, the FDM128 display unit will retain the settings.

The following video shows the sequence of steps presented by the settings wizard to configure the FDM128 general settings:

> see How to configure the general settings of FDM128 local display

4.2. Communication Settings

The following video shows how to configure Acti9 Smartlink gateway SIB, IFE gateway, IFE and eIFE in the FDM128 local display.

> see How to configure the FDM128 local display

4.3. Auto-discovery

The auto-discovery sequence detects up to 16 devices on the network. These devices are displayed in ascending order by Modbus address, with the Modbus address indicated in the first column.

Note: The 16 detected devices are those with the 16 first Modbus addresses. You can select a maximum of eight devices from the discovered devices.
The FDM128 display guides you through the following autodiscovery procedure:

Step	Action
1	The auto-discovery sequence is started during the communication settings procedure. A progress bar is displayed during the auto-discovery sequence. The sequence duration is around 5 minutes.
2	In the list of the discovered devices, select the check box for each device you want to include. Devices previously selected is an auto-discovery loop are displayed in gray.
3	Press **Finish**. The **Editing devices** screen appears.

FDM128 Auto-discovery

SUMMARY

4.4. PowerLogic PowerTag monitoring with FDM128

The following video shows how to monitor Acti9 **PowerLogic** PowerTag devices from Acti9 Smartlink gateway SIB in the FDM128 local display.

> see How to monitor **PowerLogic** PowerTag sensors in FDM128 local display

> see How to monitor **PowerLogic** PowerTag NSX sensors in FDM128 local display

SUMMARY

Introduction

RECOMMENDED PRACTICE

Use Com'X 210 if only the cloud based application is required without local energy management. Settings are identical to Com'X 510 for EcoStruxure™ Facility Expert.

EcoStruxure Facility Expert

Whether used on smartphone, tablet, online or offline, EcoStruxure™ Facility Expert is a collaborative technology that helps you optimize your operational efficiency and expand your business with preventative maintenance and enhanced energy services. It allows you to stay connected to buildings and equipments, involving very simple information sharing between all users.

Providing relevant information on key assets and sending documented alarms EcoStruxure™ Facility Expert-Operations allows to diagnose remotely in case of issue and to manage maintenance more efficiently.

EcoStruxure™ Facility Expert-Energy is fully adapted to multi-sites projects and helps you track energy consumption, delivers reports and operates dashboards comparing zone, usage or meters to identify contributors to peak consumption or to simply compare your buildings with local performance scale (A to I graph).

A web portal to monitor energy

A mobile App for asset maintenance and operation

Get more details by downloading the EcoStruxure Facility Expert user guide for asset management

Get started using your App with its on-line training.

SUMMARY

5.1. Prerequisites

This chapter contains information about the elements and data that have to be collected before starting to commission EcoStruxure™ Facility Expert.

5.1.1. User account and EcoStruxure™ Facility Expert subscription

You need to have:

- A valid EcoStruxure™ Facility Expert account with login and password.
  For asset management you can either create an account from the web or from your App using:

  EcoStruxure Facility Expert web access **for asset management**

  Or your smartphone or tablet to get the App according to your operating system.

  Scan QR code for iOS or Android devices

  For iOS device **For Android device**

  For Energy management create your account from the EcoStruxure Facility Expert web portal.
- Once your User account is created, you can receive by email Release Note information for every major upgrade of EcoStruxure Facility Expert.
- At least one available EcoStruxure™ Facility Expert subscription. If GoDigital is not available for subscription in your country, please contact your local Schneider Electric representative to obtain your account and access to EcoStruxure Facility Expert.

To learn about the features of each subscription and know how to purchase the most suitable refer to chapter 1.

SUMMARY

5.1.2. Data required to set up EcoStruxure™ Facility Expert

Data required to create a customer

- Name [1]:
- Email:
- Country [1]:
- Activity [1]:

[1] Mandatory

Data required to create a site

- Name [1]:
- Address [1]:
- Zip code [1]:
- City [1]:
- State [1]:
- Time zone [1]:
- Surface area:

[1] Mandatory

Data required for the company data agreement signature

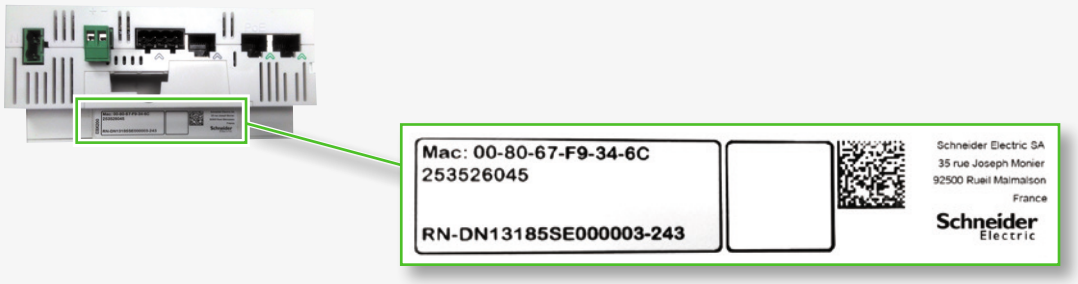
At the end of the setup, an email is sent to the Building Owner or the responsible party to sign the Company data agreement.

The data will not be exported from the site to EcoStruxure™ Facility Expert until the legal documents are signed.

Com'X serial number

You will have to pair the Com'X with the site using the serial number of the Com'X. It can be found in the Com'X embedded webpage, in the About area or on top of the product, as displayed in the figure below.

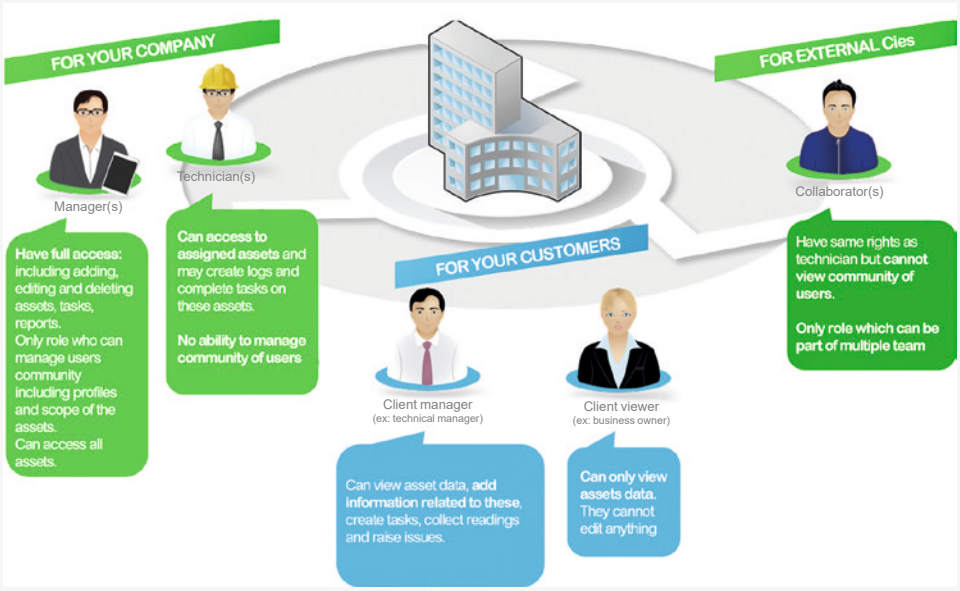
It starts with RN-DN…



SUMMARY

5.2. User management

Set up and manage user profiles through your App or Web portal.
EcoStruxure™ Facility Expert proposes profiles with adapted and restrictive abilities regarding your effective relationships with your Team, Contractors or Customers.



Notes:

- From 5.0 EcoStruxure Facility Expert release, you can log on multiple devices simultaneously (smartphone, PC, tablet).
- From 7.2 EcoStruxure Facility Expert release, Collaborator profiles can be part of multiple teams.

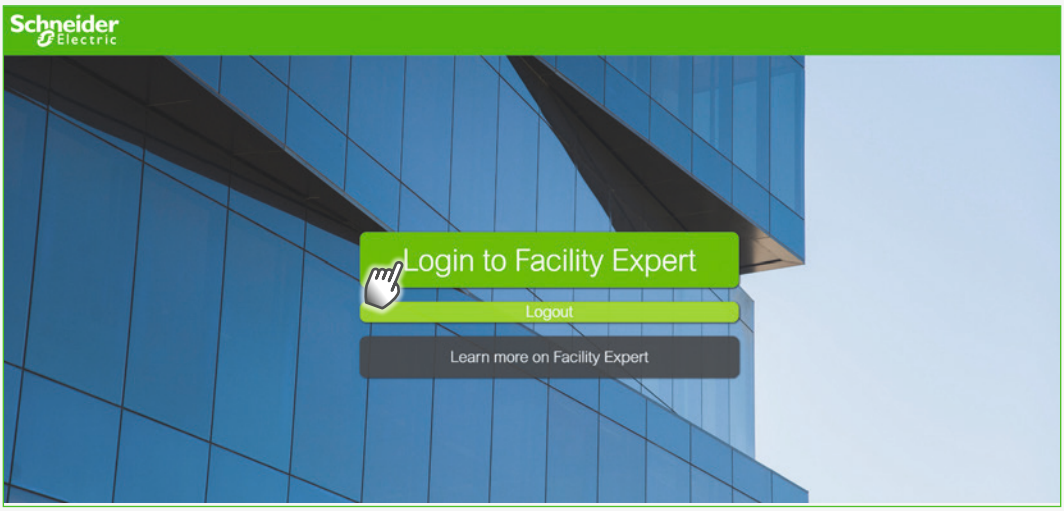
	PARTNER			CUSTOMERS	
USER PROFILE	**MANAGER**	**TECHNICIAN**	**COLLABORATOR**	**CLIENT MANAGER**	**CLIENT VIEWER**
USER MANAGEMENT					
Add/remove a Manager	●				
Add/remove an Technician	●				
Add/remove a Collaborator	●				
Add/remove clients users	●	●			
Manage access to assets per user	●				
COMMISSIONING & SETTINGS on webportal					
Create a customer	●				
Update customer information	●	●			
Create site	●	●			
Update site information	●	●		●	
Associate a subscription to a site	●	●			
Register a data source	●	●	●		
Create / update / delete connected assets	●	●			
Configure events settings on energy & assets	●	●			
OPERATIONS FEATURES on mobile App					
Create / modify / delete asset	●	●			
Add attachments to an asset	●	●	●		
Duplicate asset	●				
Be notified and access to alarm / alert in case of issue	●	●	●	●	●
Acknowledge and close alarm / alert	●	●	●		
Access to detailed asset dashboard	●	●	●	●	●
Scan QR code to access asset detail	●	●	●	●	●
Create log	●	●	●		
Add a comment to a log	●	●	●		
Delete log	●				
Raise an issue / a ticket	●	●	●	●	●
Create / assign a task	●	●	●	●	
Complete a task	●	●	●		
Delete tasks completed	●				
Collect readings manually	●	●	●	●	●
Customized reports	●				
Generate intervention report	●	●	●		
Generate activity report	●	●			
Request asset access by scanning QR code	●	●			
Access to export data function (on demand)	●				

SUMMARY

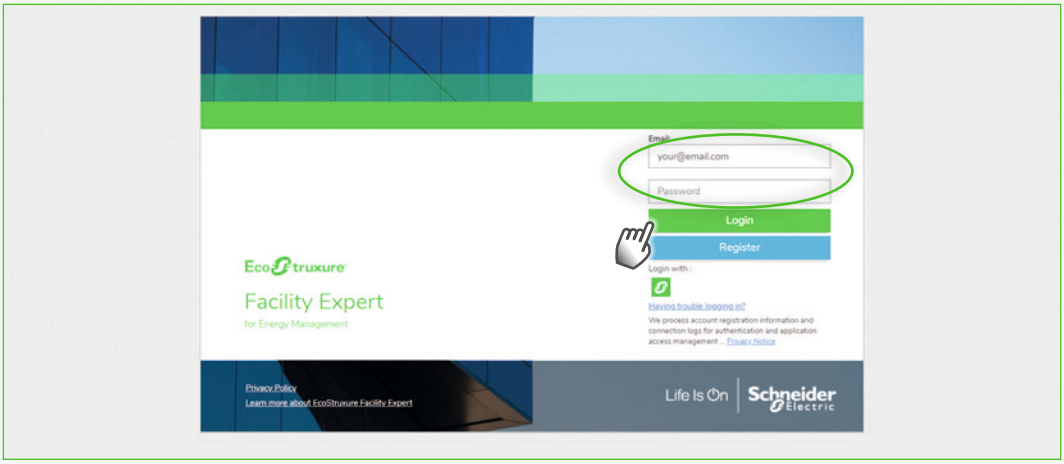
5.3. Initial setup

In this step, you will:

- create a customer and a site,
- assign an EcoStruxure™ Facility Expert subscription to the site and pair the Com'X to the site,
- retrieve all devices configured in the Com'X.



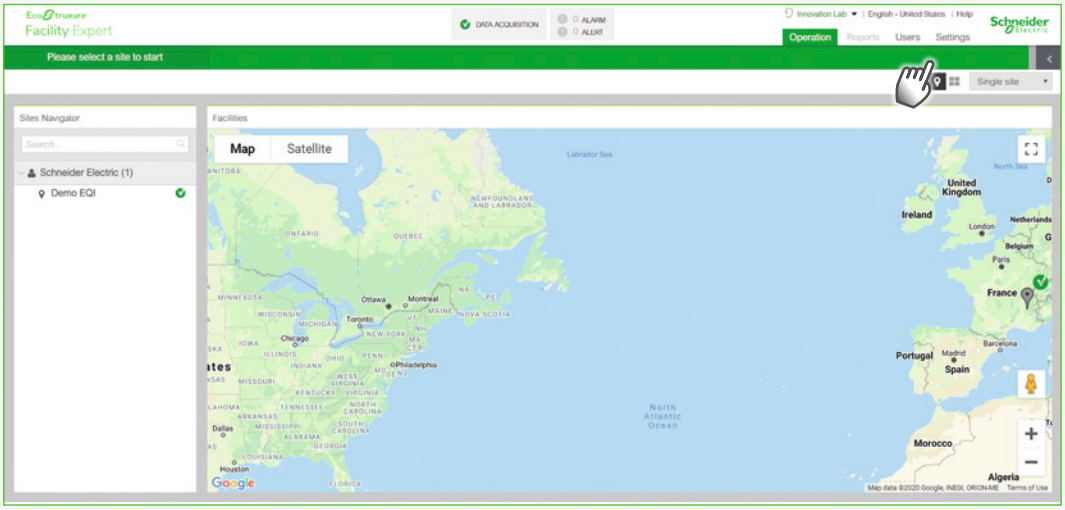
> Click on "**Login to Facility Expert**".



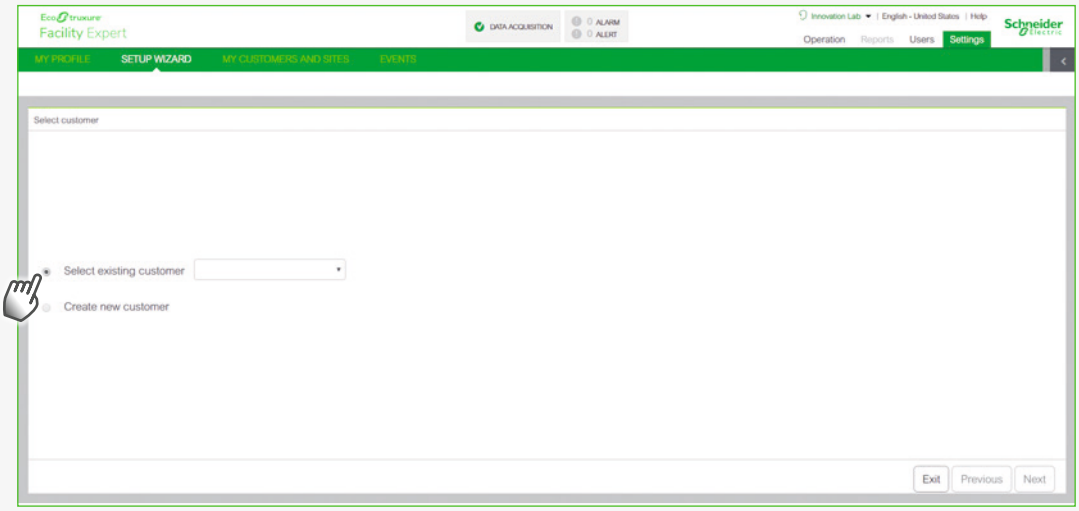
> Enter the email and password associated to your Facility Expert account, then click on "**Login**".

SUMMARY

I activate service

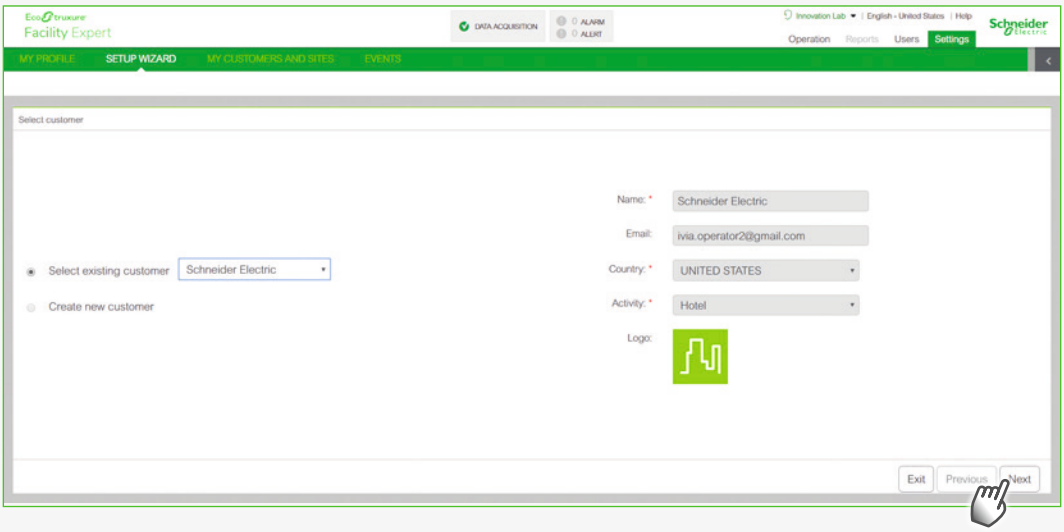


> Once in Facility Expert, click on the "**Settings**" tab at the top.



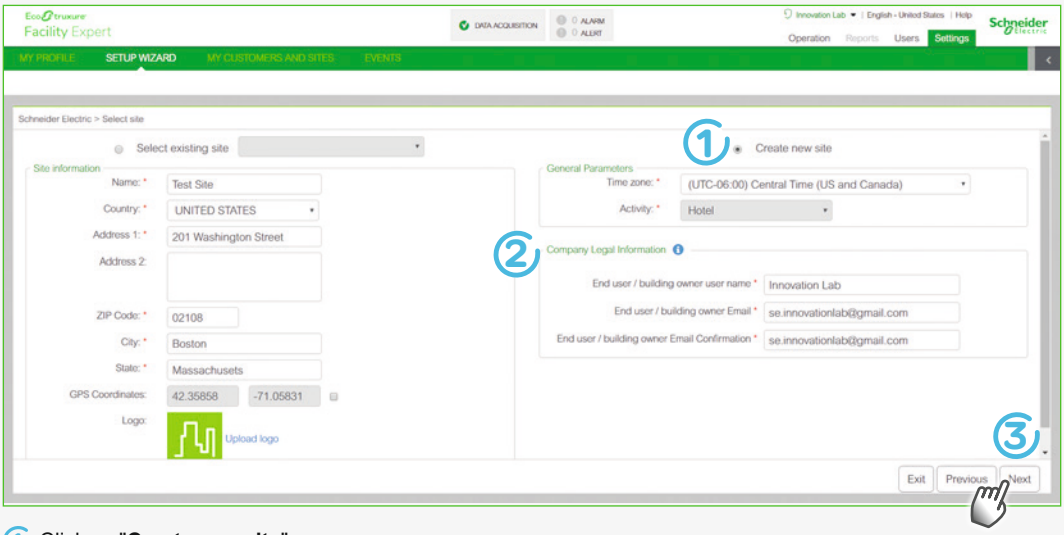
> Under the "**SETUP WIZARD**" tab, click on "**Select existing customer**". If there are no existing customers, click on "**Create new customer**".

SUMMARY



> If you selected a pre-existing customer, basic details will be filled out automatically. If you are creating a new customer, enter those manually.

> Click on "**Next**".

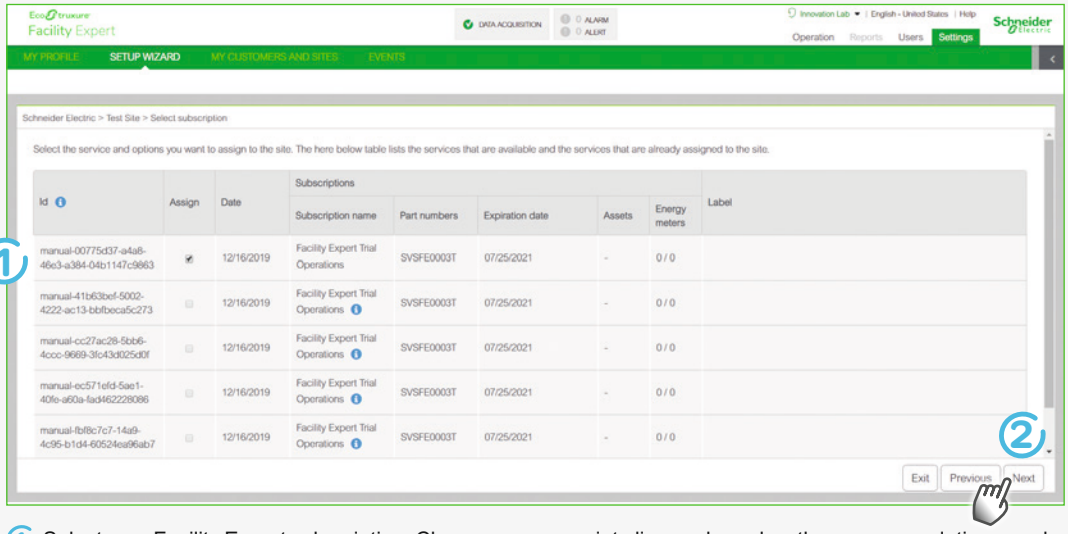


1. Click on "**Create new site**".
2. Enter all the details of your site as appropriate. Make sure you enter a correct email address for the "**Company Legal Information**" section as accepting this will be a mandatory step for you to receive your Com'X data.
3. Click on "**Next**".

SUMMARY

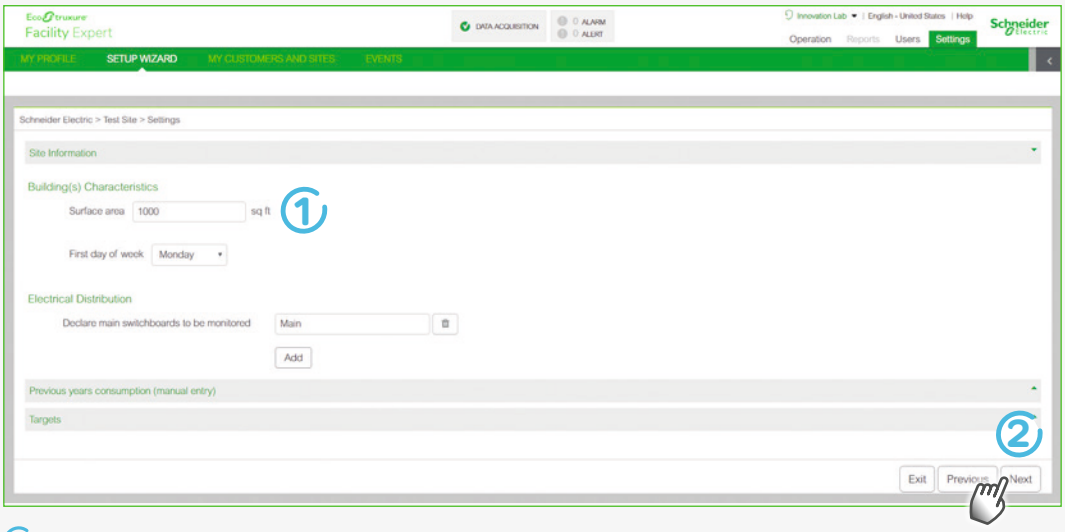
I activate service

5



1. Select your Facility Expert subscription. Choose an appropriate license based on the recommendations made on pages 10-12 of this guide.

2. Click on **"Next"**.

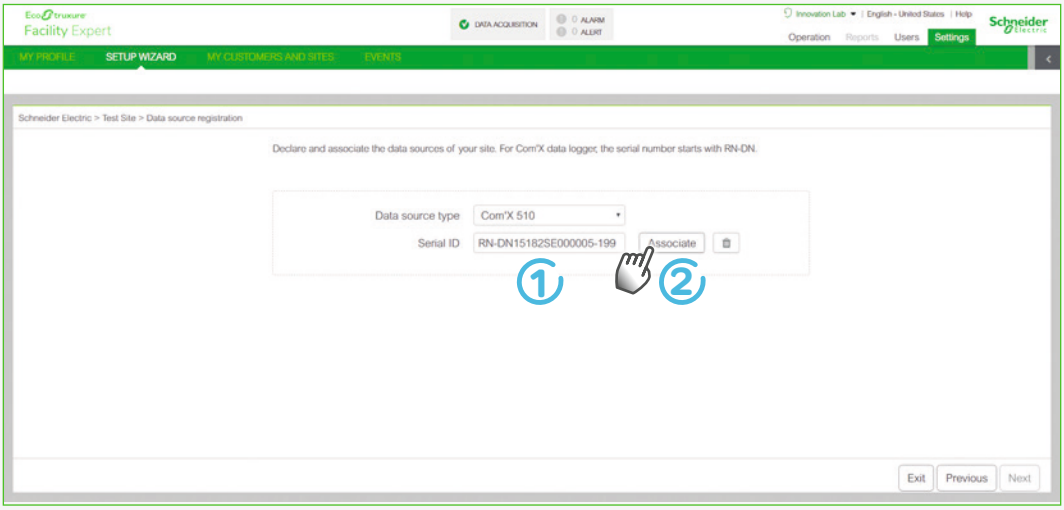


1. Enter the surface area of your site.

Note that you have the possibility here to manually enter your previous-years consumption and targets.

2. Click on **"Next"**.

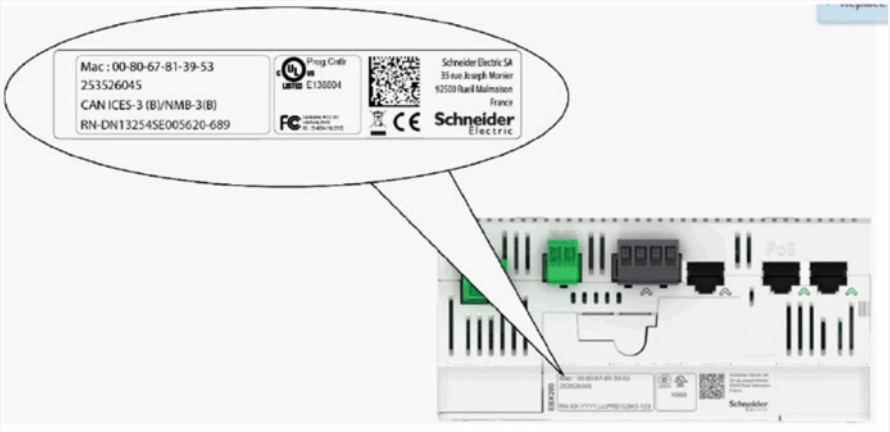
SUMMARY

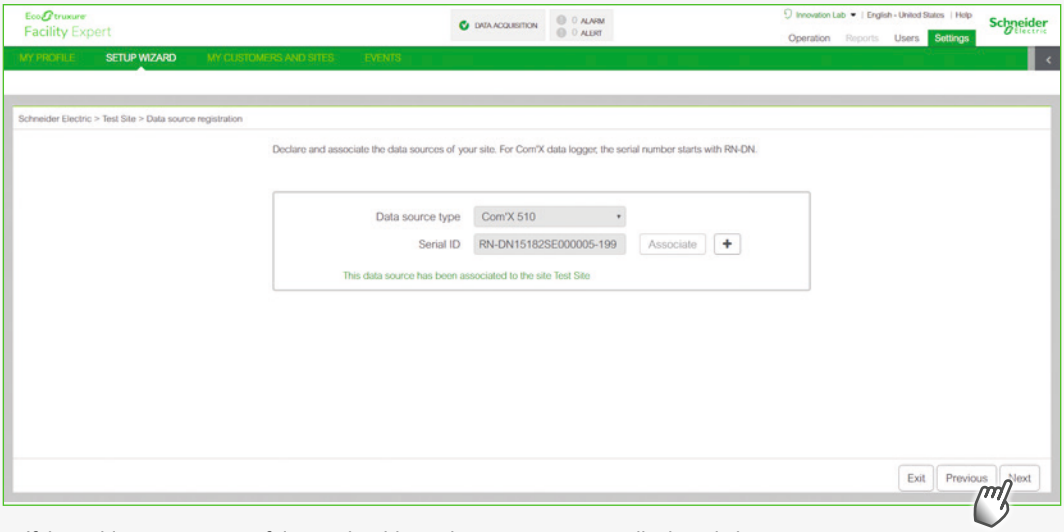


① Select your Com'X type and enter its serial ID.

② Click on '**Associate**' to pair this Com'X with your site.

Note: The serial ID (beginning with RN-DN) can be found on the Com'X webpages by going to the "About" section. Alternatively, you can find it on the top of your Com'X (see image below).





> If the pairing was successful, you should see the green message displayed above.

> Once you're done, click on '**Next**'.

SUMMARY

I activate service

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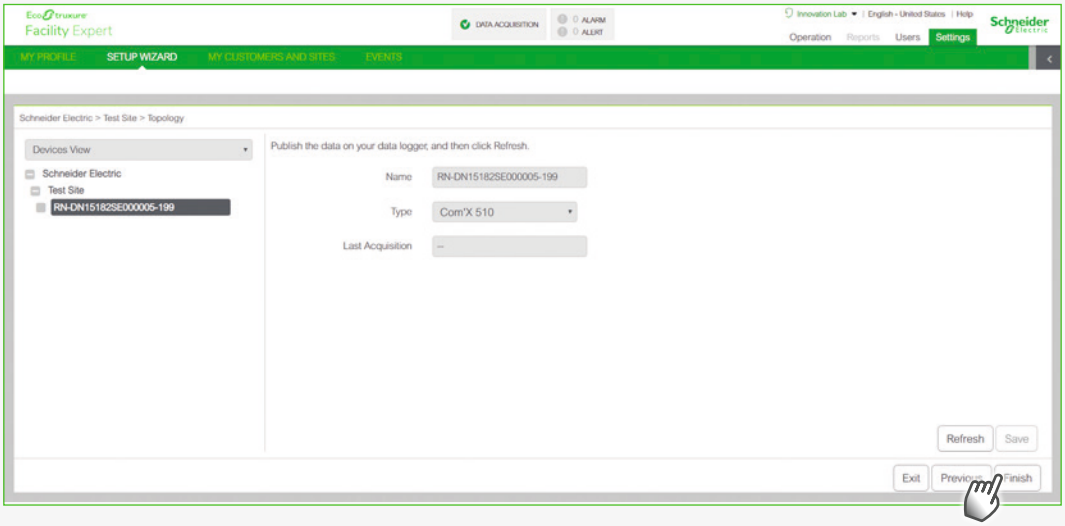
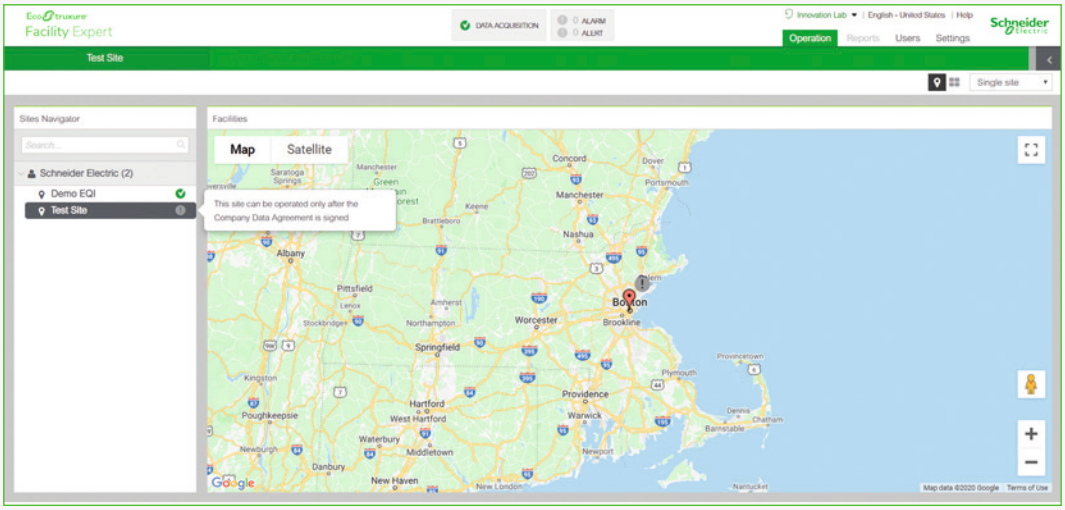
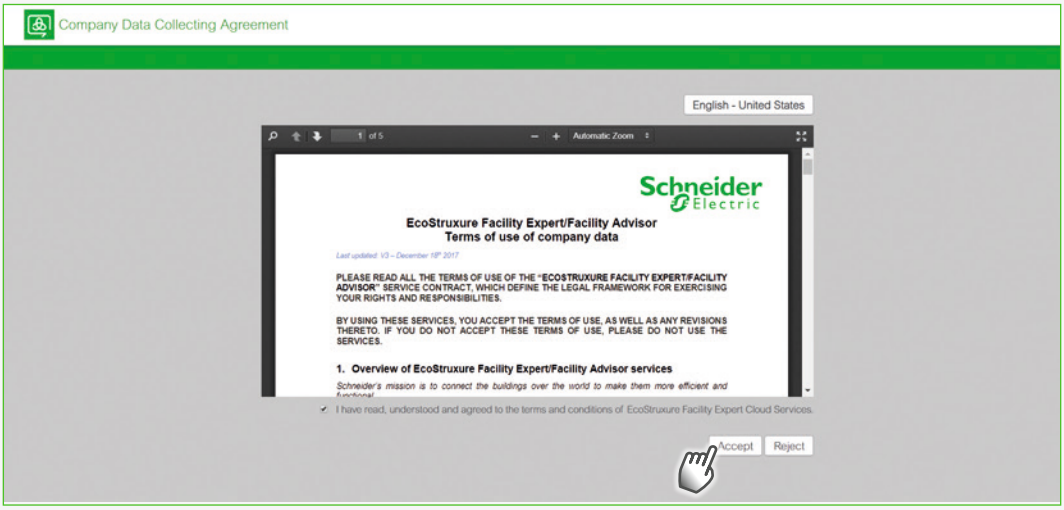


> In the final step of the setup wizard, once your Com'X has been associated to your site, click on **"Finish"**. Note that it can then take an hour for your Com'X to push its first data (depending on the choice of publication frequency made in the webpages).



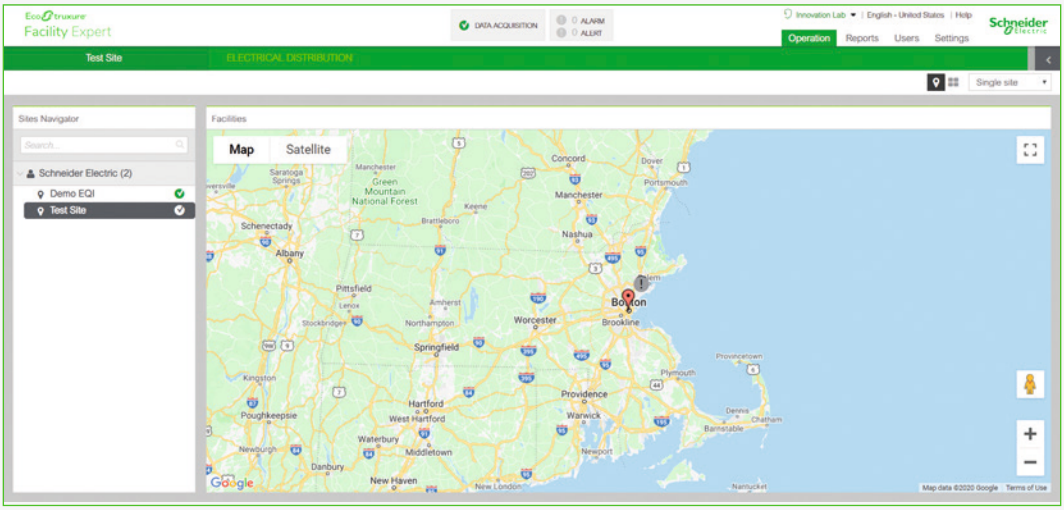
> Until you sign the Company Data Agreement that was sent to the email address you entered earlier in the Company Legal Information section, data will not be pushed and the above message will be displayed next to your site.

SUMMARY



> Once you open the link received by email, the following window will be displayed.

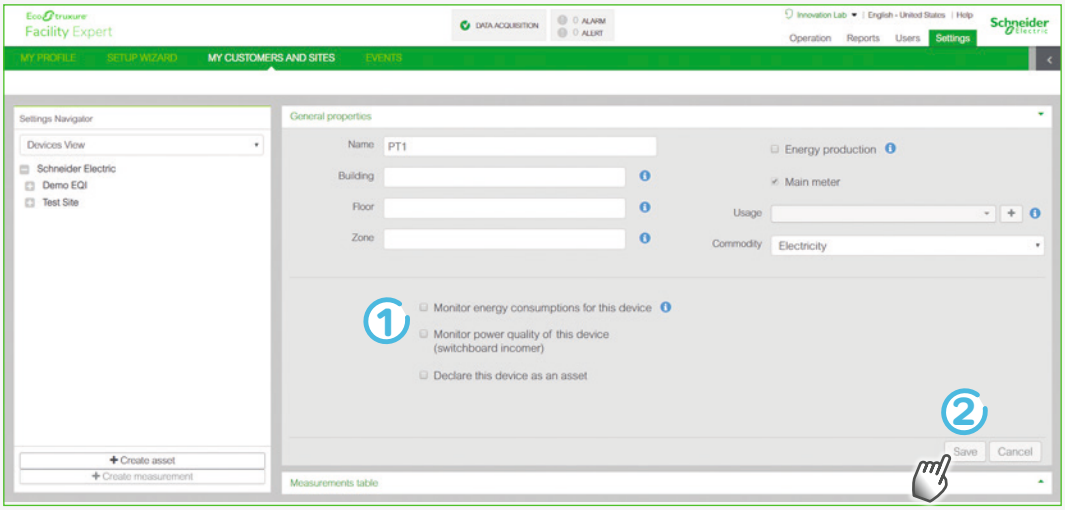
> Make sure you read the Terms of use of company data, confirm you have read, understood and signed them, and then click on "**Accept**".



> Once you're done, you will have completed your setup and Facility Expert will be fully ready to receive data from your Com'X.

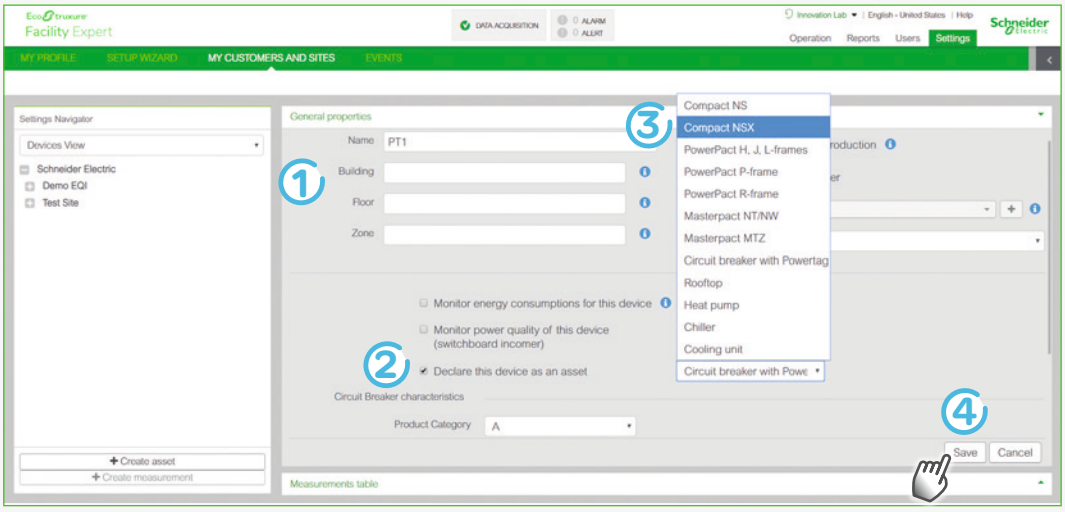
SUMMARY

> Check that all devices have been well retrieved with the right measurements. Energy meters will be automatically declared in EcoStruxureTM Facility Expert. If the number of meters exceeds what is included within your subscription, you should declare the meters in EcoStruxureTM Facility Expert.
You can do this as shown below:



1. Select one of your energy meters under your site and tick the box that reads "**Monitor energy consumption for this device**".
2. Click on "**Save**".

5.4. Declaring a circuit breaker asset



> Similarly, if you want to declare a circuit breaker asset in EcoStruxure Facility Expert,

1. Select your device under your site
2. Tick the box that reads "**Declare this device as an asset**".
3. You can then select the appropriate circuit breaker asset.

   Note that alarms will then be automatically created for that device.
4. Click on "**Save**".

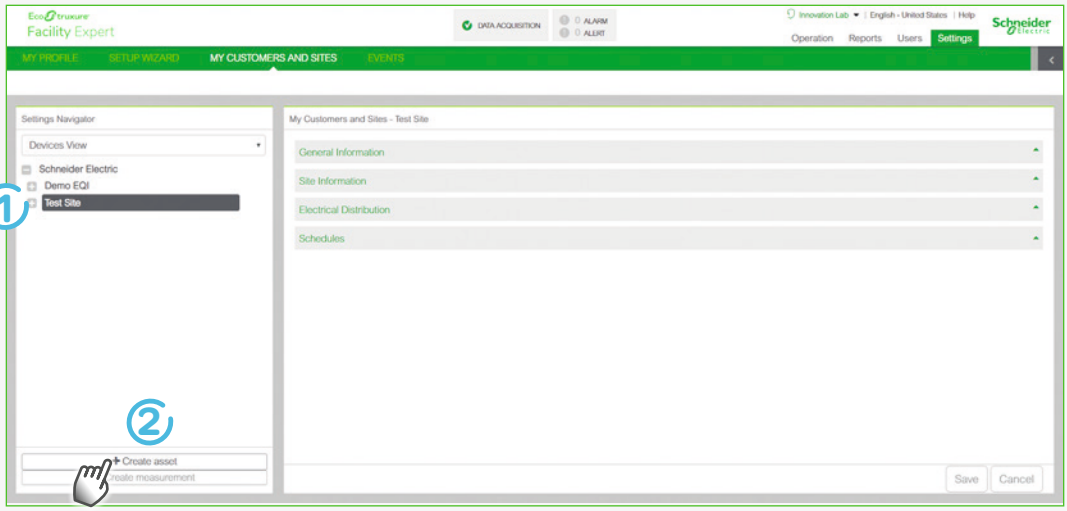
> You can check that the events have been created for the Schneider Electric circuit breakers that you have declared as an asset by going to the "**EVENTS**" tab at the top.

SUMMARY

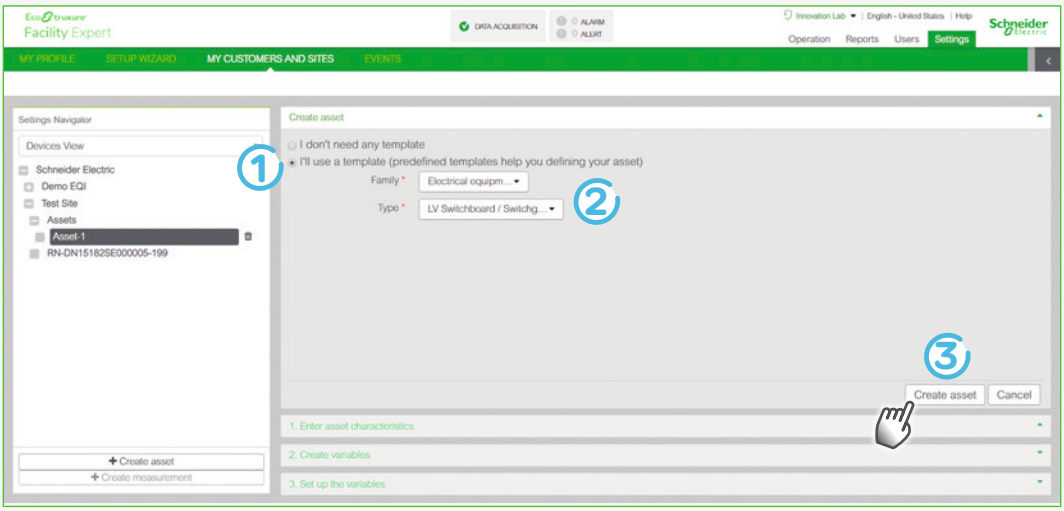
5.5. Creating a panelboard asset and pairing an alarm

In the "**EVENTS**" tab menu, you will also be able to check that the custom events which have been configured in the Com'X have been created in EcoStruxure™ Facility Expert.

In this step, you create a "Panelboard" type of asset and pair it to the custom events you have previously configured in the Com'X. For example, this will enable you to receive a notification on your smartphone when an Acti9 circuit breaker trips.



1. Select your site.
2. Click on "**Create asset**".

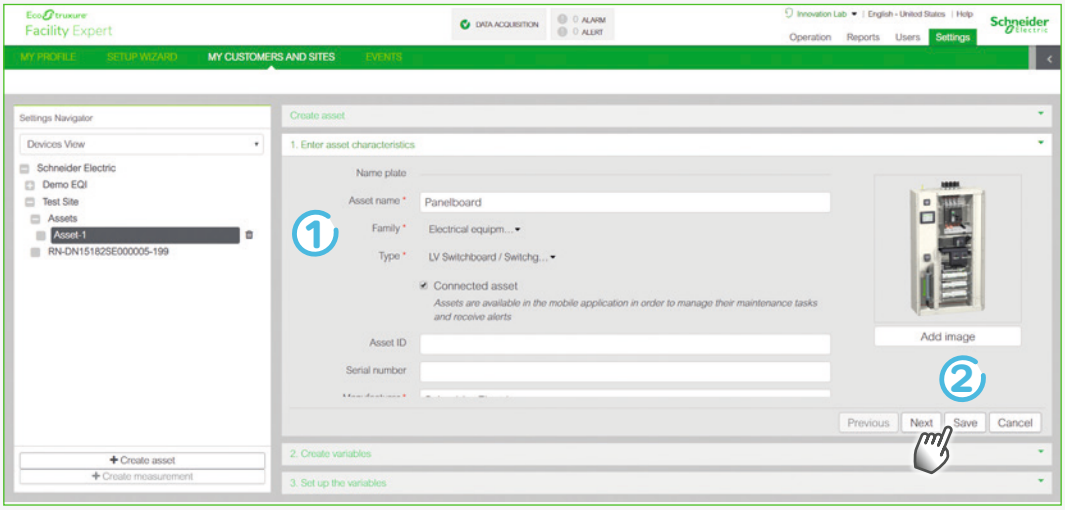


1. In the section on the right-hand side, click on "**I'll use a template**".
2. Select Electrical equipment as the "**Family**", and LV Switchboard / Switchgear as the "**Type**" to enter your asset as a panelboard.
3. Click on "**Create asset**".

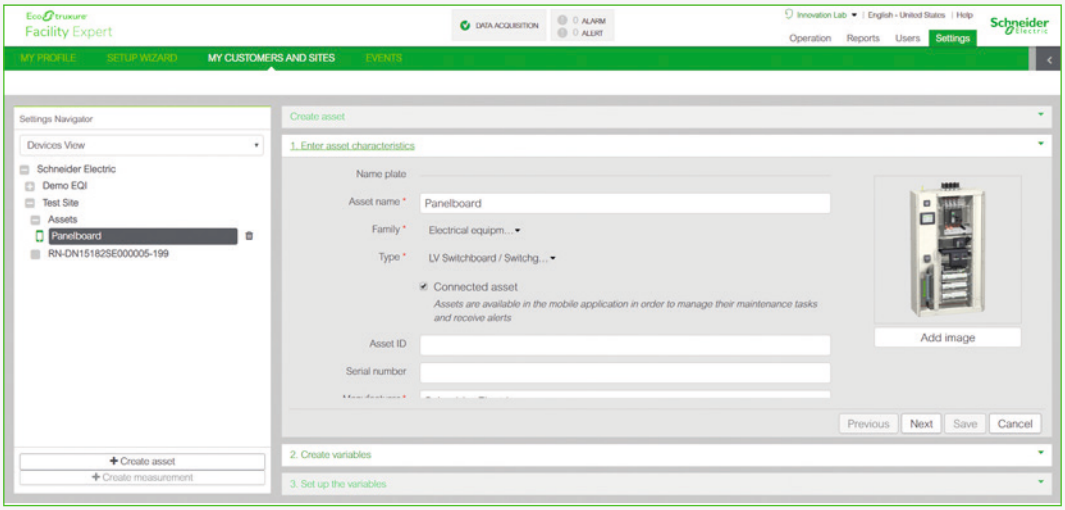
SUMMARY

I activate service

5

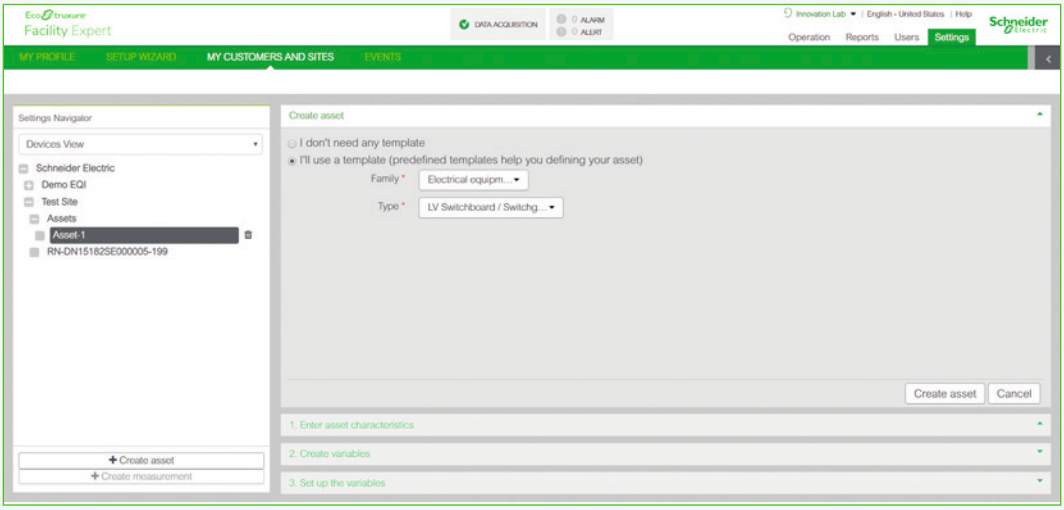


1. Fill out the rest of the information as needed.
2. Click on "**Save**".



> You will now be able to see your newly created Panelboard asset under your site.

SUMMARY



> Finally, to pair your custom events to your newly created Panelboard asset, go to the "**EVENTS**" tab menu.

> After selecting your site, scroll down to your Com'X custom events (labeled in green). By clicking on each, select your Panelboard as the asset in the "**Related to**" section.

> Click on "**Save**".

Note that these alarms, when triggered, will be received in the form of notifications in the EcoStruxure Facility Expert - Operations environment for Asset Management.

5.6. Checking the assets import in the mobile application

In this step, you check on EcoStruxure™ Facility Expert mobile app that:

- all assets have been correctly imported,
- the maintenance plans are implemented for MasterPact circuit breakers,
- you receive a notification on your smartphone when an alarm is triggered.

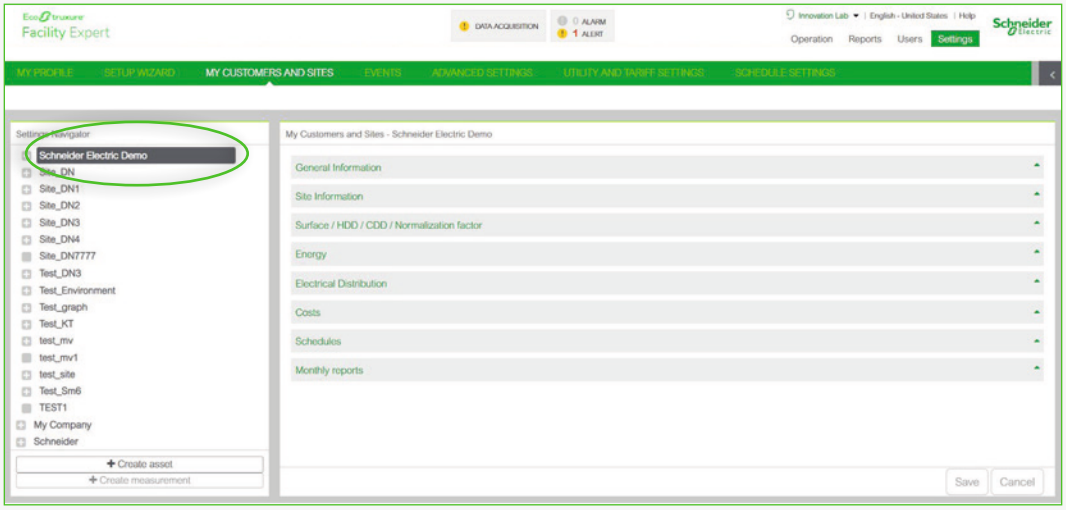
> see How to manage my asset with alert notification in EcoStruxure™ Facility Expert

To download EcoStruxure Facility Expert mobile application refer to "5.1.1. User account and EcoStruxureTM Facility Expert subscription".

SUMMARY

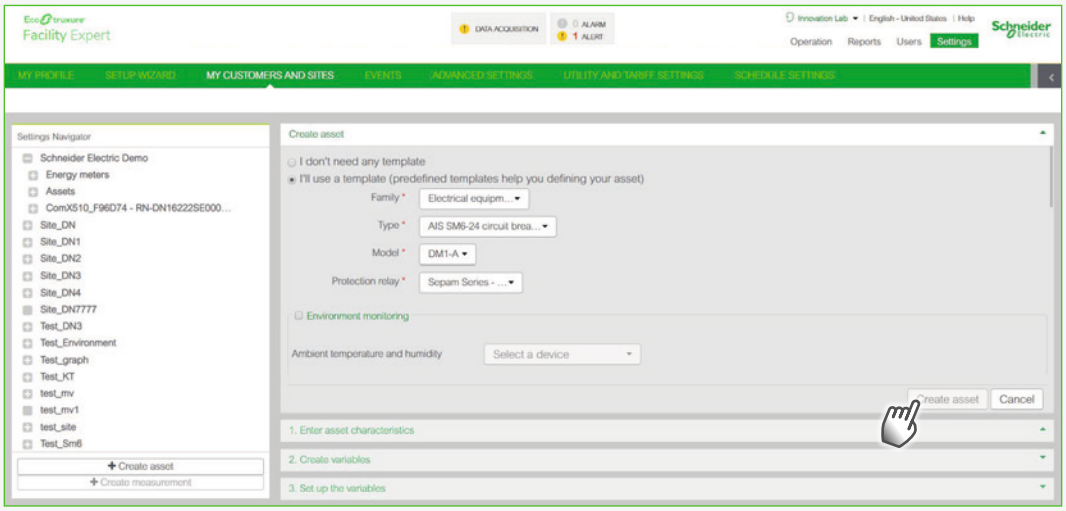
5.7. Medium Voltage devices

In section 3.5, we saw how to commission MV monitoring devices via the Com'X. In this section, we will see how to create the 3 different types of related assets in EcoStruxure Facility Expert, specifically: SM6 switchgear, Cast Resin Transformer and Substation.



> On EcoStruxure Facility Expert webportal, select your site.

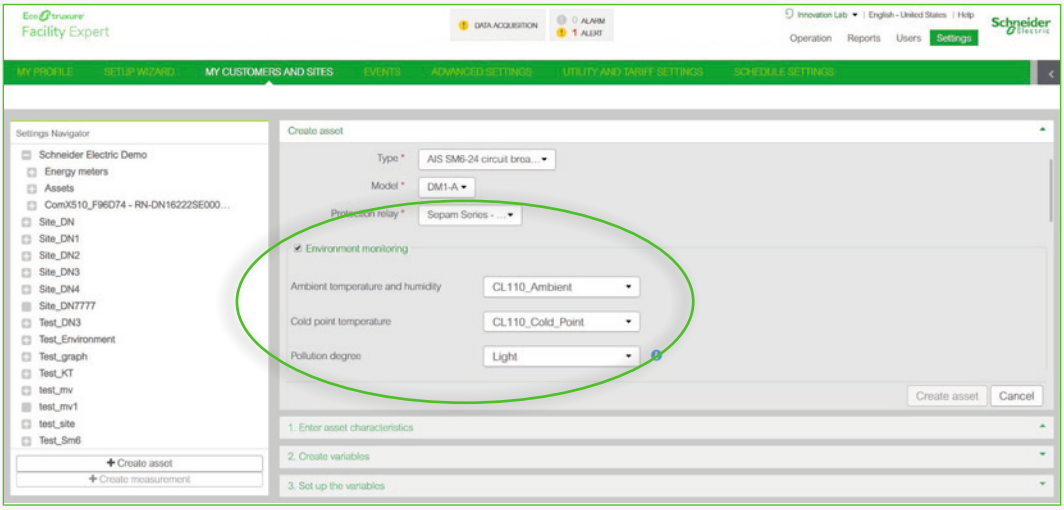
We will first see how to create your SM6 asset.



> Click on **"Create asset"**.

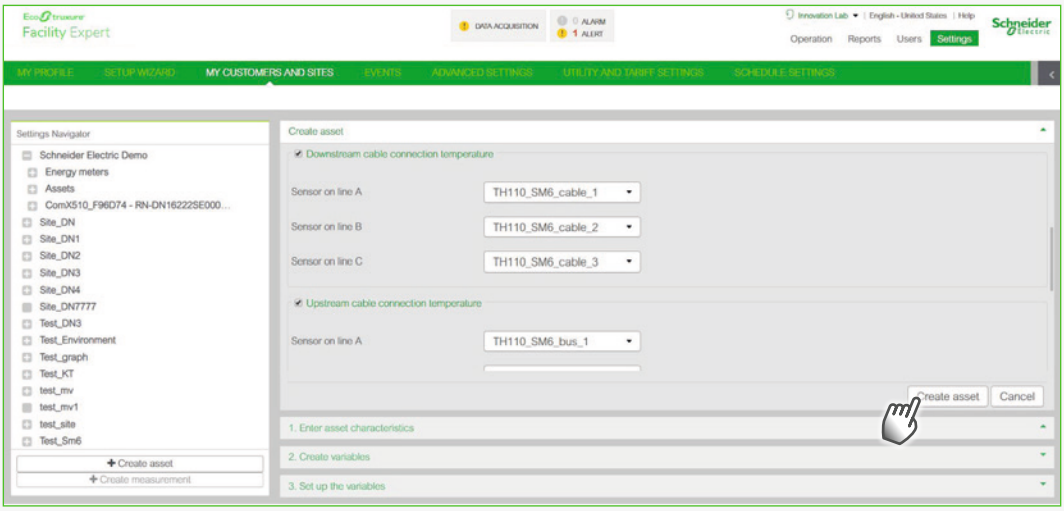
> Select the parameters as shown above to create your SM6 asset.
Note that you have the possibility to select a circuit-breaker or fuse-switch configuration for your SM6.

SUMMARY



> By checking the **"Environment monitoring"** box, you can then assign the CL110 devices you previously configured in your Com'X.
Note that one CL110 device should be used for **"Ambient temperature and humidity"** monitoring (the device should be located somewhere in the room), and a second CL110 device should be used for **"Cold point temperature"** monitoring (the device should be located inside your cubicle).

Note:
If a device is missing, make sure it has been correctly discovered and published by the Com'X.



> The same goes for the downstream and upstream sensors.
In this case, the sensors used should be your TH110 devices to monitor both your cable and busbar temperatures.

> Once you filled out the information, click on **"Create asset"** on the right.

SUMMARY

I activate service

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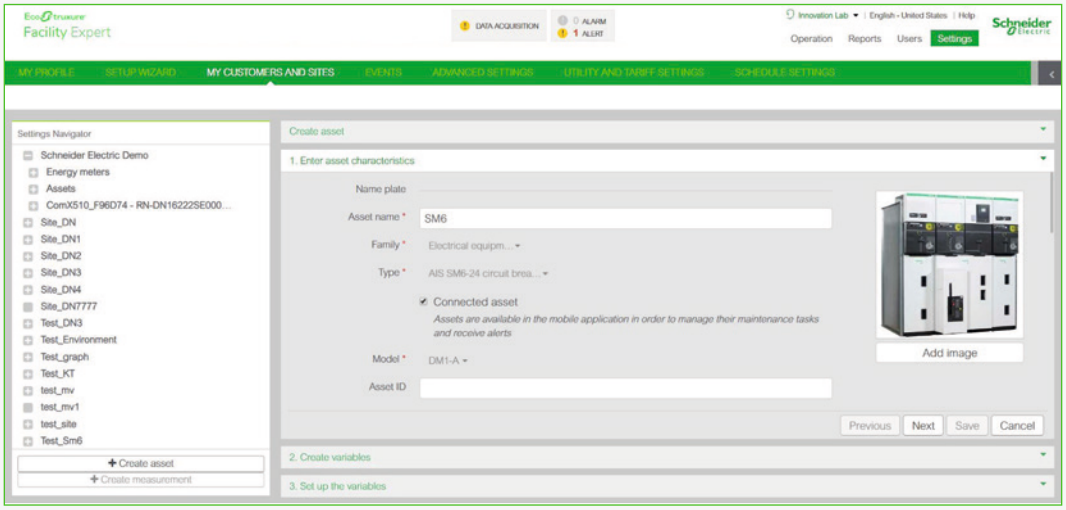
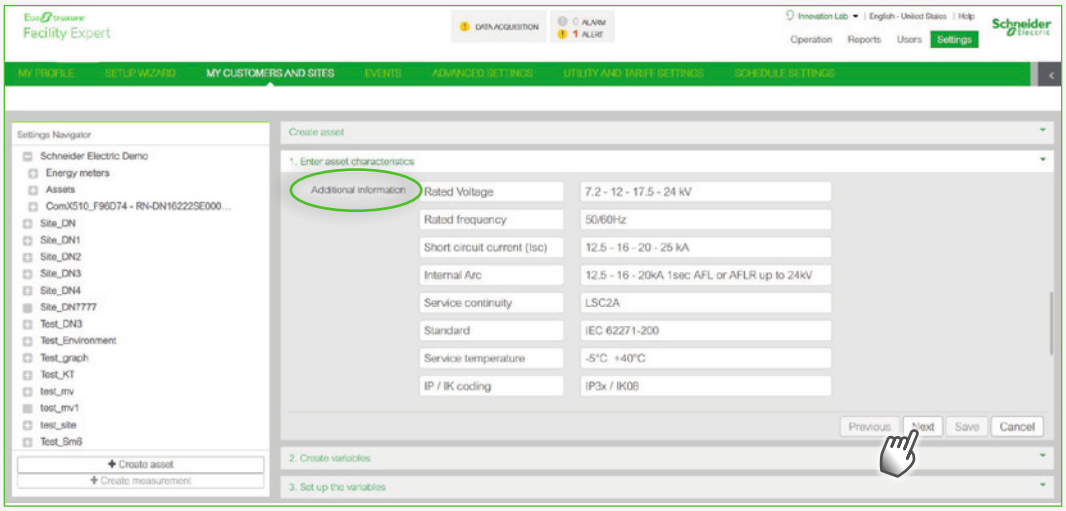


> Enter your asset characteristics in the next menu.

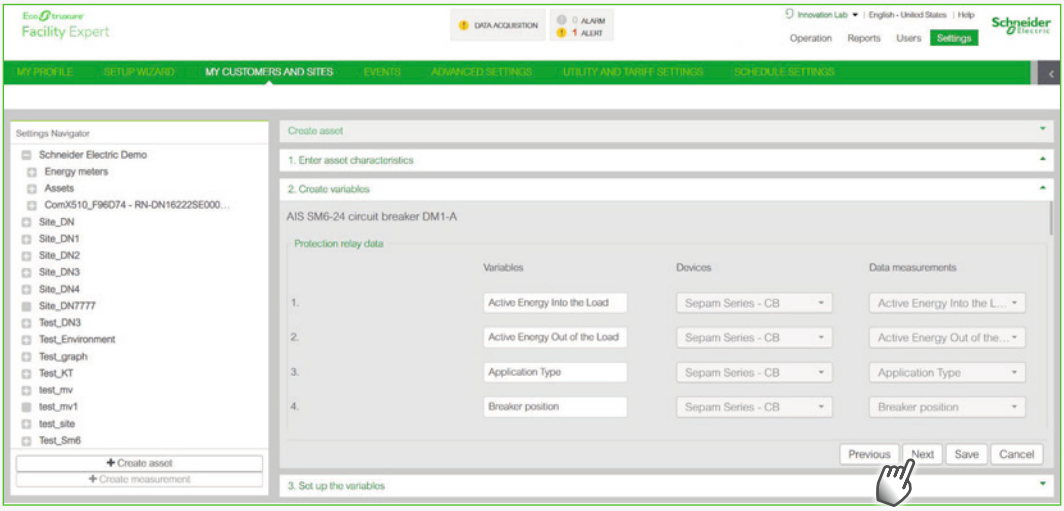


> For the "**Additional information**" section, the variables shown will have been pre-defined.

> Select the ones related to your installation by deleting the inappropriate values.

> Click on "**Next**".

SUMMARY



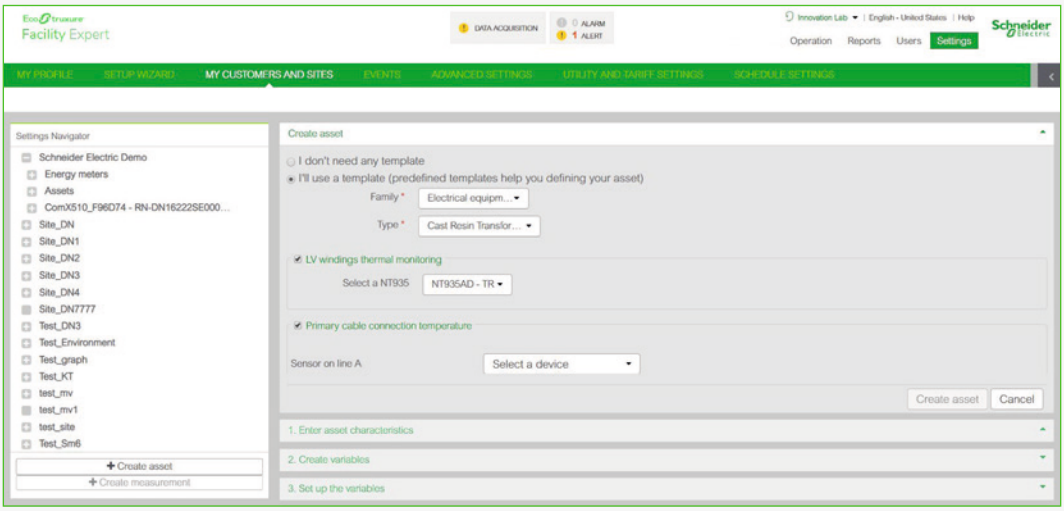
> Check variable names.

Note:
If a variable is missing, make sure that it has been published by the Com'X.

> Once you have finished, click on "**Next**".

Your asset has now been saved.

We will now see how to create your transformer asset.



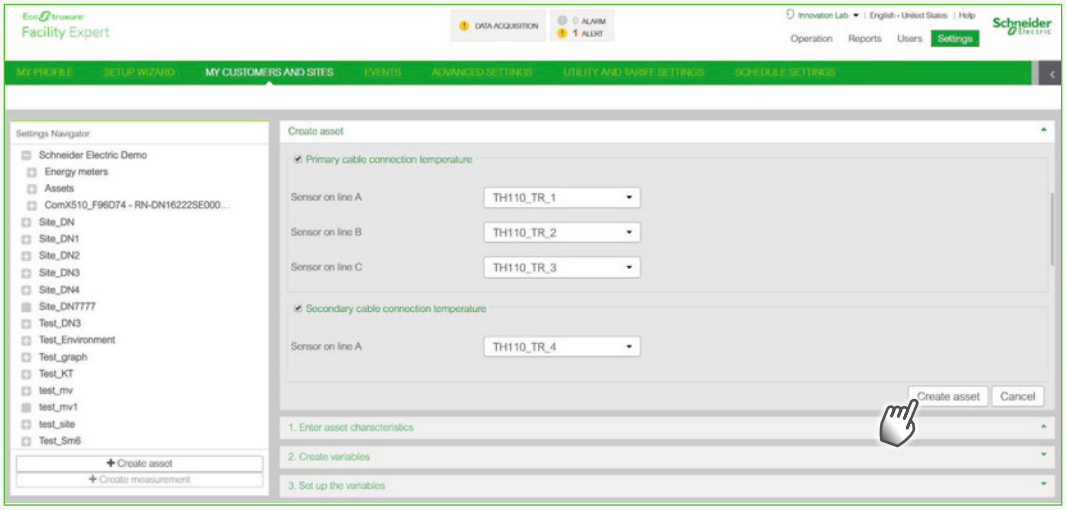
> You can repeat the same process to create your transformer asset.

Make sure you select "**Cast Resin**" as the transformer type, and that your NT935 device that was discovered by your Com'X earlier is selected to monitor the LV windings temperature.

SUMMARY

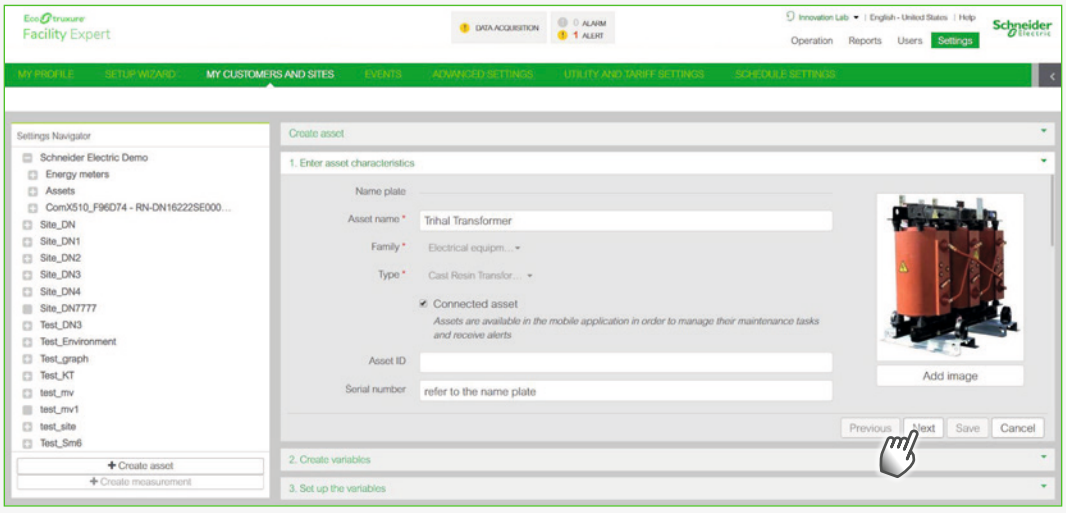
I activate service

5



> Select the appropriate TH110 devices you previously configured in your Com'X for the primary and secondary cable connection temperatures.

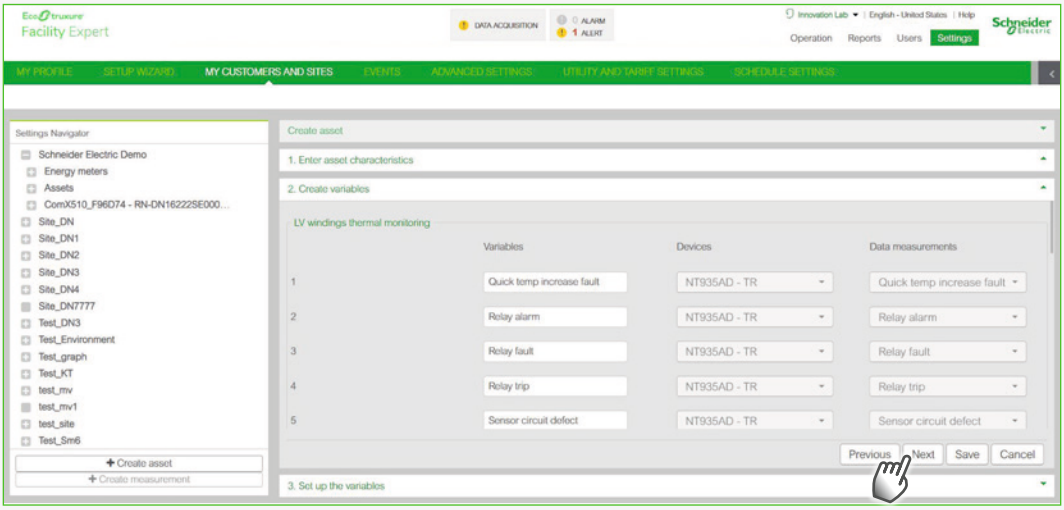
> Once you filled out the information, click on "**Create asset**" on the right.



> Enter your asset characteristics in the next menu.

> Click on "**Next**".

SUMMARY



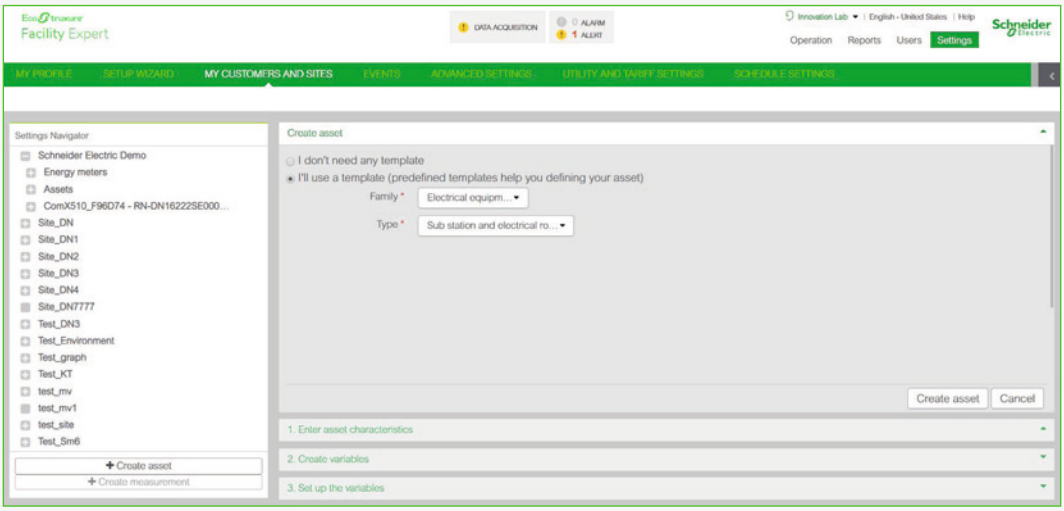
> Check the variable names.

> Once you have finished, click on "**Next**".

As before, your asset has now been saved.

We will now see how to create your substation asset.

Here, you will have the possibility to associate all the custom events you previously created in your Com'X to your substation. This will allow you to monitor the status of your equipment and receive notifications in Facility Expert when one of the events is triggered.

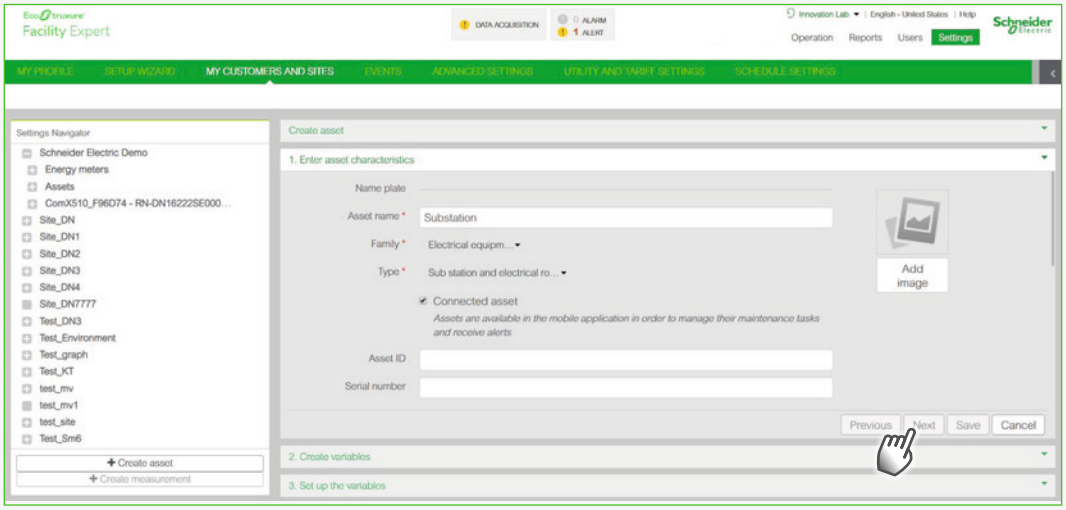


> Make sure you select "**substation and electrical room**" as the asset type.

SUMMARY

I activate service

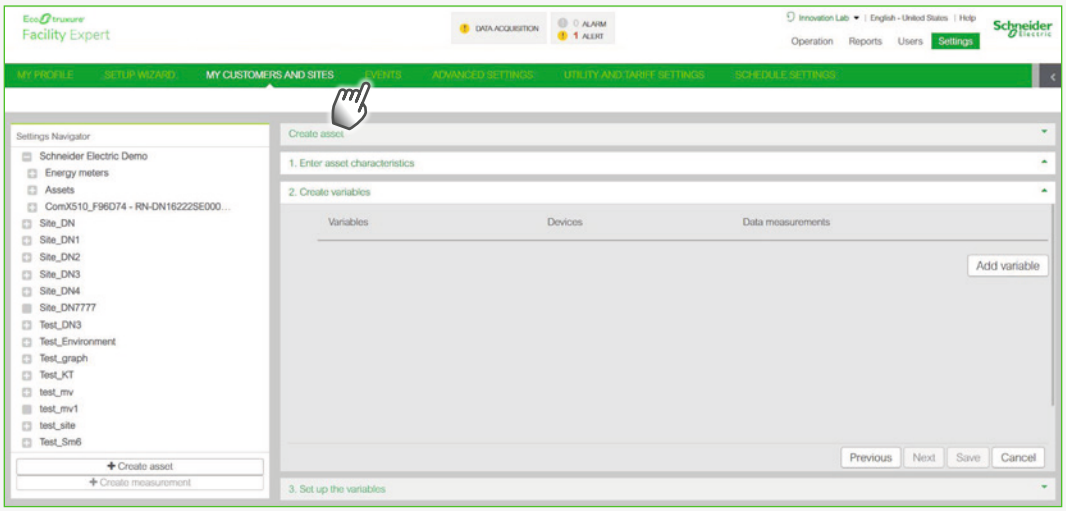
5



> Enter your asset characteristics in the next menu.

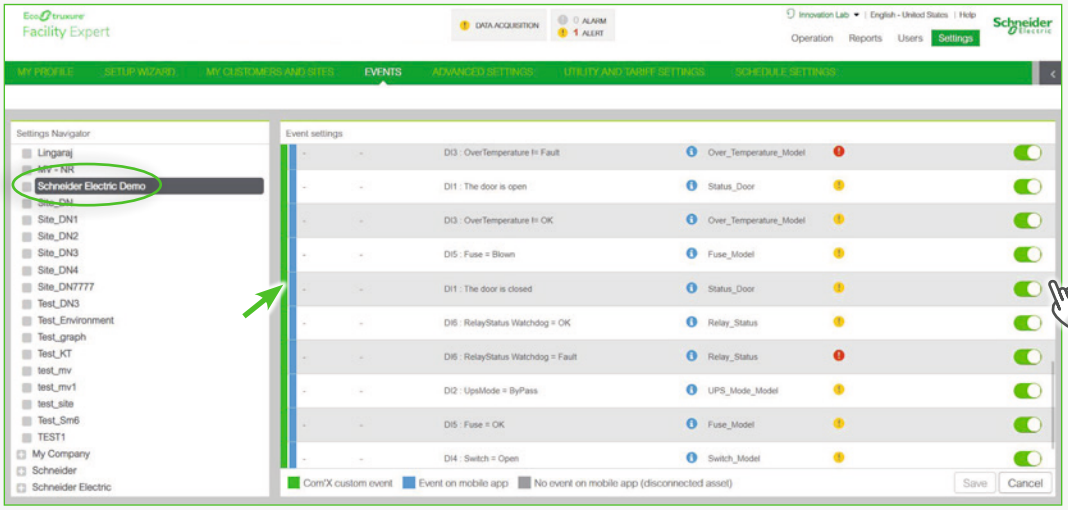
> Click on "**Next**".

Your asset has now been saved.



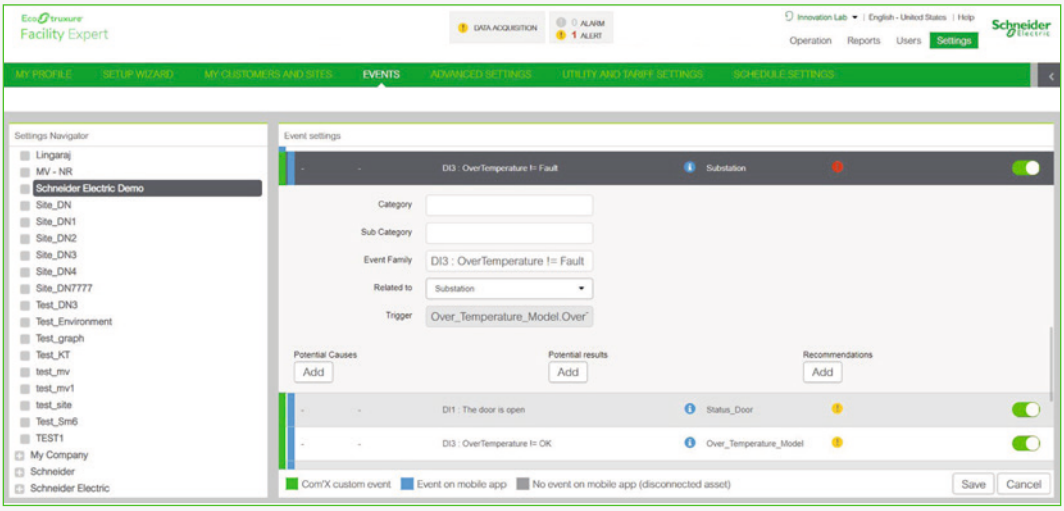
> You can skip this section and go instead directly to the "**Events**" tab at the top.

SUMMARY



> Select your site on the left-hand side menu.

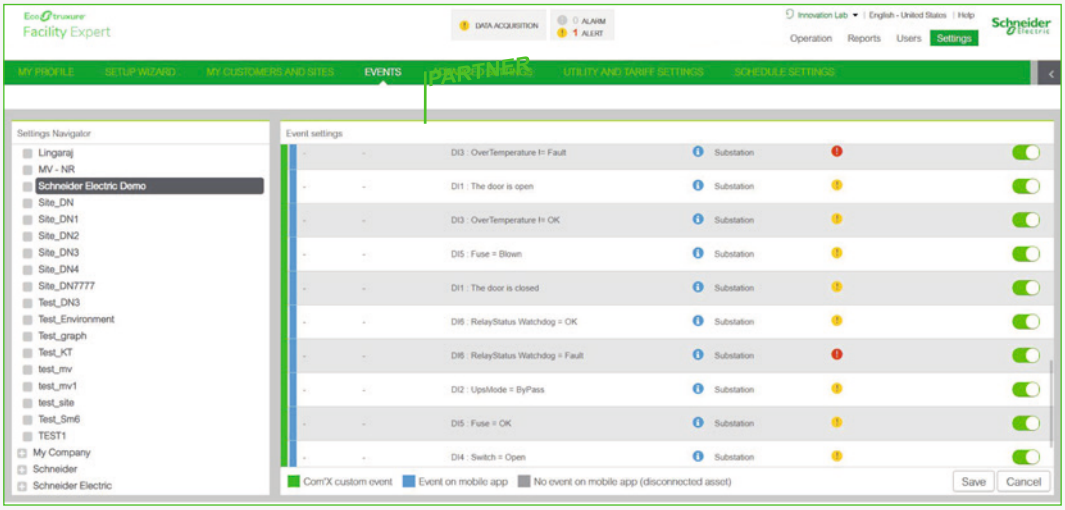
You should be able to see all the custom events that you previously declared in your Com'X, indicated by the green label on the left.



> Click on each event one by one, and select your substation asset in the **"Related to"** section.
This step is crucial as it will allow you to receive all the events in your Facility Expert mobile app.

You also have the possibility of adding potential causes, results and recommendations to the event in question if you wish.

SUMMARY



> Once you have filled out all this information for each custom event, click on **"Save"**.

5.8. Optional settings

5.8.1. Asset events and alarms notifications

On the EcoStruxure™ Facility Expert mobile app, in My Profile, you are able to activate or deactivate the notifications of new log, new alarm or new tasks.

5.8.2. Energy dashboards and events settings

On the EcoStruxure™ Facility Expert web portal, select the **Settings Menu > My Customer & Sites**.

In the section **Energy** of a site, you are able to set:

- power demand limit,
- monthly targets for main consumptions,
- monthly consumptions of previous years.

For **events settings**, select the **Settings Menu > Events**.

Clicking on each Energy events, you are able to:

- set threshold for Power demand and Power Factor alarms,
- enable/disable alarms,
- select the recipients of the alarms to be notified through email.

SUMMARY

Troubleshooting on Com'X

For any question concerning the Com'X, refer to the troubleshooting section of the Com'X 210/510 User Guide.

Create / Set Up a Site in EcoStruxure™ Facility Expert

If	Then
The desired service reference is not available to create a site.	Contact your local Schneider Electric representative to confirm that you have subscribed to the correct service offer.
The Com'X cannot be paired to the site.	■ Check Com'X serial number. ■ Check that the Com'X is not already paired to another site. ■ Contact Schneider Electric technical support.

Setting Up and Configuring the Com'X for EcoStruxure™ Facility Expert

If	Then
The Com'X cannot connect to the EcoStruxure™ Facility Expert server.	If connected on the Ethernet port, check that there is no proxy present to set. If it is the case, contact your network administrator.
	If connected on the Ethernet port, it is possible that your DNS server is not compatible with Schneider Electric server. Temporarily try the Google DNS address 8.8.8.8 and then contact Schneider Electric technical support.
	Execute a Com'X restart.
	Save Com'X device configuration if needed and execute a factory reset. Load the configuration file again and try reconnecting to the remote platform.
The Com'X is not connected to the EcoStruxure™ Facility Expert server.	Check that the Com'X has been properly registered in EcoStruxure™ Facility Expert.
Configuration of Com'x has to be duplicated	User should configure manually both Com'X. The dupplication of configuration is not recommanded.

Modifying a custom event on OF/SD

If	Then
You update a custom event in Com'X	Pair again the asset in EcoStruxure™ Facility Expert in the event tab.
	If necessary fill in the causes, potential result and recommendation fields.

SUMMARY

Testing Publication / Data Import in EcoStruxure™ Facility Expert

If	Then
Following a successful publication, the Com'X name has not been upgraded and the devices do not appear in EcoStruxure™ Facility Expert tree view.	Refresh the page (**Ctrl+F5**). Sign out and sign back in your EcoStruxure™ Facility Expert account. Launch again a publication test. Wait 15 minutes and refresh the page. Contact Schneider Electric technical support.
No usage is displayed in the widget **Consumption per usage** or no zone is displayed in the widget **Consumption per zone**.	Check that the fields **Usage**, **Building**, **Floor**, and **Zone** have been properly filled in the EcoStruxure™ Facility Expert settings tab. The meter **Main Meter** is not displayed in those widgets. Eight usages and eight zones can be displayed in default widget size and up to 20 usages and 20 zones in larger widget size.
There is no value in the electrical distribution widget.	Check that the **Switchboard Incomer** check box has been selected for one of the devices in the EcoStruxure™ Facility Expert settings tab.
Some widgets are missing values.	Check the time range displayed.
There is no value in the **Baseload** widget.	This widget displays values from the day before.
The circuit breaker dashboard is incomplete.	Check that the circuit breaker has been properly instrumented with the complementary module (BSCM for ComPact NSX and PowerPact circuit breakers).
There is no circuit breaker in the list of Assets.	Check that the **is active** check box has been selected for the relevant circuit breakers in the EcoStruxure™ Facility Expert Settings tab.
A wrong device has been configured in the Com'X.	Use the function **Replace the device** in the Com'X, publish data. Data history is kept.
Notification is not receive on EcoStruxure™ Facility Expert Mobile App	Wait 2 min and refresh the EcoStruxure™ Facility Expert mobile App.

Default settings & password

The default configurations are shown below:

To activate default configurations, > refer to the device user guides listed in the reference documents.

DHCP client (Default ADDR* =169.254.YY.ZZ**)

Login: admin

Password: admin

SmartLink SI B

PowerTag link

E1 = E2
Client DHCP (Default ADDR* =169.254.YY.ZZ**)

Login: Administrator

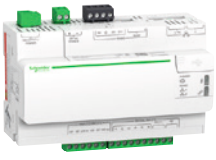
Password: Gateway

IFE

E1<>E2
E1: DHCP client (Default ADDR* =169.254.YY.ZZ**)

E2: DHCP server (ADDR 10.25.1.1)

Login: admin
Password: admin (after first access, user is requested to change it)



Com'X

Static IP (Default ADDR* = 0.0.0.0)

Login: admin
Password: admin

*: By default ADDR is the zero conf backup when DHCP is not present
**: YY.ZZ last digits of MAC ADDR

FDM128

SUMMARY

Firmware installation and upgrade recommendations

It is important to consider your firmware in the context of the system.
In some situations, adding and updating devices potentially creates inconsistencies for communication and firmware upgrades. It is therefore important to review your firmware upgrade plan with respect to other devices in your system. If the firmware creates inconsistencies, the system may be subject to limitations or unexpected behavior.

Firmware precautions

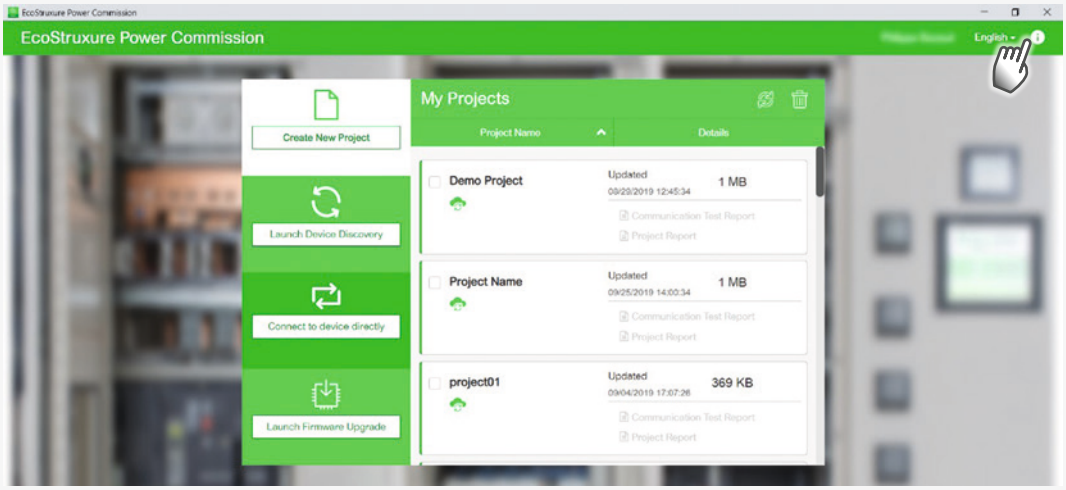
Please follow the precautions below during a firmware installation or update:

- Please check the Minimum Supported Baseline to ensure the firmware version is compatible with other devices.
- Ensure that a verification plan is prepared and executed to verify that the product behavior and communication is as planned.
- It is recommended to perform a firmware upgrade during non-peak hours as the product cannot operate normally until the upgrade is complete. This may result in some abnormal communication and perceived unresponsiveness.
- In some situations, the firmware upgrade may require the upgraded device to power cycle.

How to check the firmware version

It is important to manage the Smart Panels firmware to allow the full set of features. Each device should be updated to ensure optimal communication and compliance of the modules. Most Enerlin'X products can be connected to EcoStruxure Power Commission, a Windows-based application, to check the firmware compatibility. Customers are encouraged to connect to EcoStruxure Power Commission and run the compatibility check to ensure the system is coherent.

EcoStruxure Power Commission software provides the current baseline for Smart Panels components, by clicking on the help button  :



EcoStruxure Power Commission Device Firmware compatibility

Then click on Device firmware baseline to get the current baseline compatibility or view the old one. EcoStruxure Power Commission only allows to upgrade the firmware.

In addition, product versions can be found via the device webpages or on the splash screen during product startup. For more information, > Please refer to the user guide for the product at www.schneider-electric.com.

The EcoStruxure Power Commission compatibility check is used for Compact PowerPact (MCCB) MasterPact (ACB) and Acti9 SmartLink devices. As a result, Enerlin'X devices that are not part of these product lines (e.g. FDM128, Com'X, iEM, PM) should be manually verified with the Enerlin'X Communication Components Minimum Supported Baseline.

In some cases, the firmware in the Enerlin'X system needs a physical component change to ensure correct behavior. Please ensure that the product date code printed on the product sticker is higher than the number mentioned in the Enerlin'X Communication Components Minimum Supported Baseline table accessible from the EcoStruxure Power Commission software.

SUMMARY

Firmware update tools

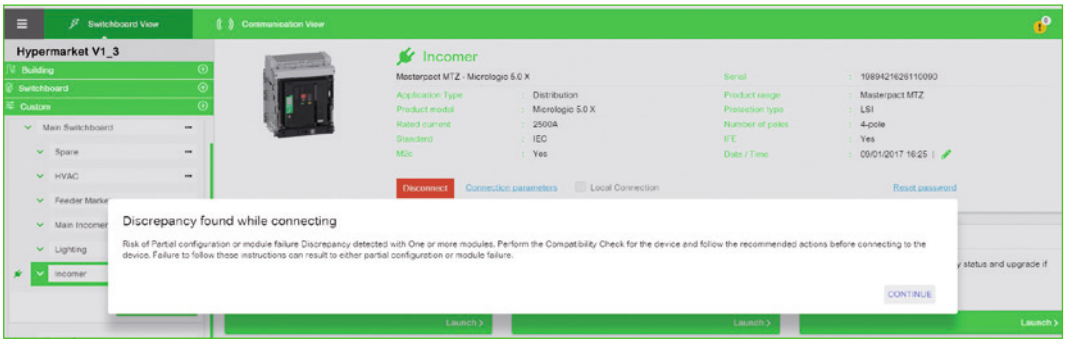
Most Enerlin'X products can be updated via EcoStruxure Power Commission. Supplementary firmware downloads (e.g. FDM128, Com'X can be loaded onto products via a USB key. EcoStruxure Power Commission software provides a one-click upgrade for:

- The ULP system
- The Acti9 Smartlink system.

From EcoStruxure Power Commission project, launch Firmware Upgrade:

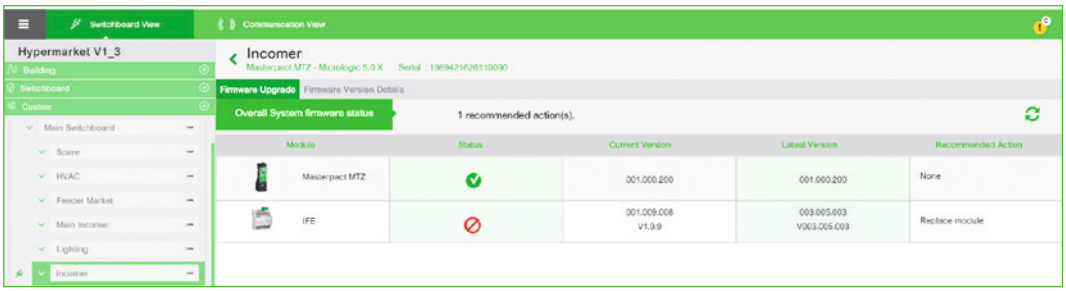
> see How to check devices firmware baseline with EcoStruxure Power Commission

When connecting to a device, EcoStruxure Power Commission will inform you in case of firmware baseline discrepency.
It is recommended to upgrade the device with the latest firmware available.



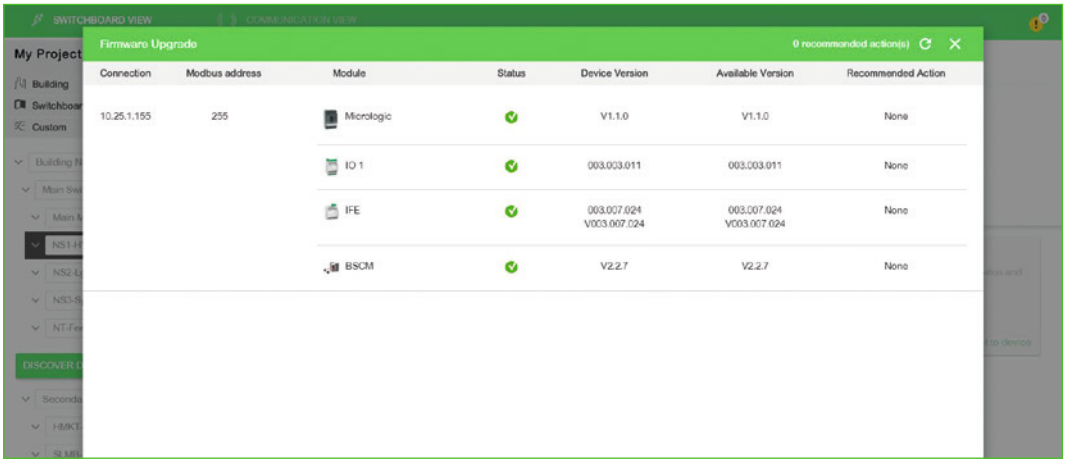
Device firmware discrepancy

In some cases, EcoStruxure Power Commission may highlight hardware discrepency. It implies to change physically the device.



Hardware module discrepancy

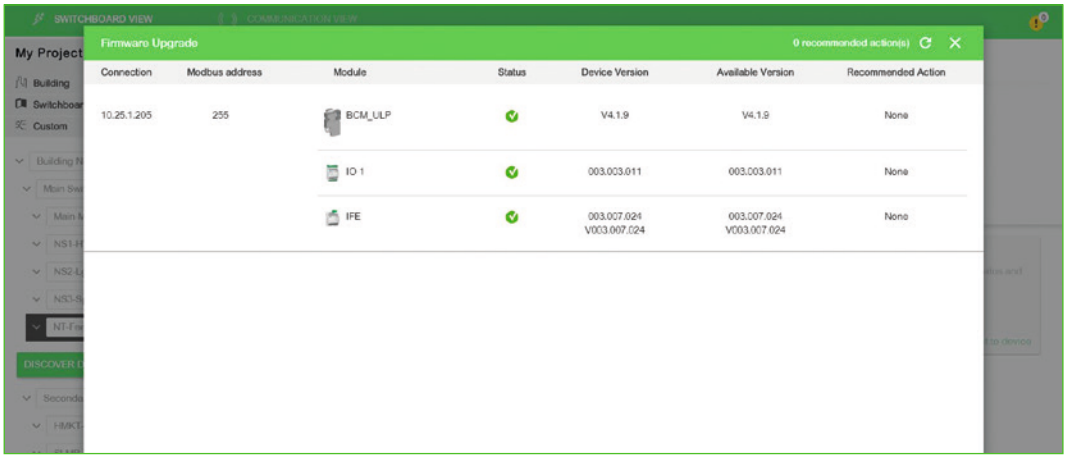
In this case, contact your Schneider Electric Partner to replace the obsolete module.



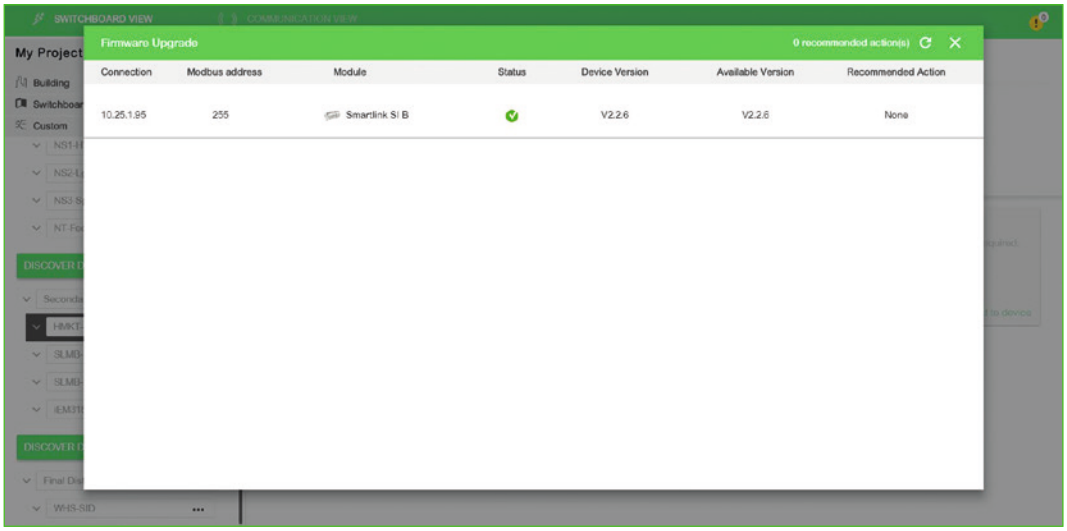
Firmware upgrade of IFE / IO / ComPact NSX

SUMMARY

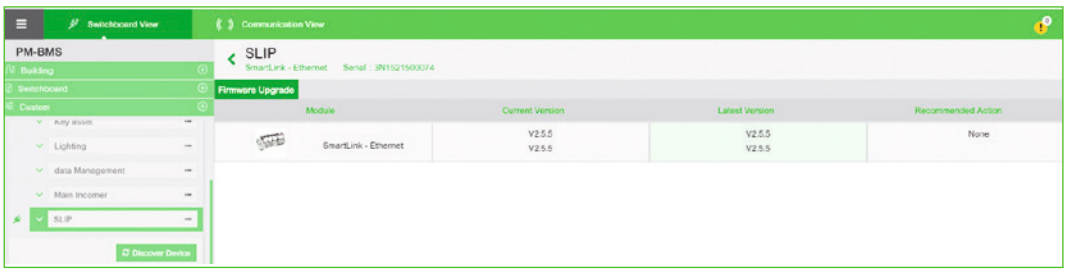
Troubleshooting



Firmware upgrade of IFE / IO / MasterPact NT



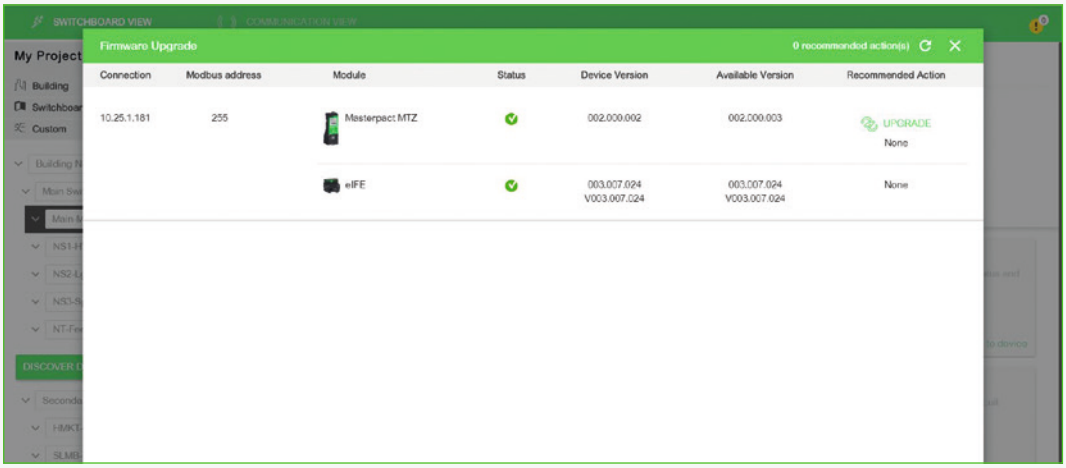
Firmware upgrade of Acti9 SmartLink SI B



Firmware upgrade of Acti9 SmartLink Ethernet

Note that in this last screenshot, upgrade is not offered to the user as the “Current Version” is equal to the "Latest Version".

SUMMARY



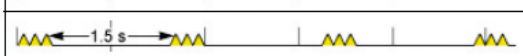
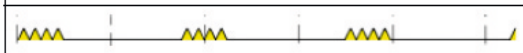
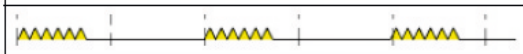
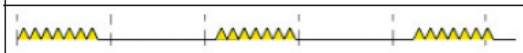
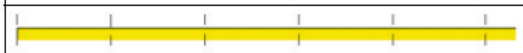
Firmware upgrade of MasterPact MTZ

Firmware upgrade Acti9 Smartlink Modbus.

> see How to upgrade the firmware of my Acti9 Smartlink

ULP system

Each Enerlin'X product using the ULP system provides a ULP LED diagnostic status. The tables below provide the ULP LED blink code pattern and associated Mode/Action:

ULP LED	Mode	Action
	Nominal	None
	Conflict	Remove extra ULP module
	Degraded	Replace ULP module at the next maintenance operation
	Test	None
	Non-critical firmware discrepancy	Upgrade firmware at the next maintenance operation
	Non-critical hardware discrepancy	Replace ULP module at the next maintenance operation
	Configuration discrepancy	Install missing features
	Critical firmware discrepancy	Upgrade firmware
	Critical hardware discrepancy	Replace ULP module
	Stop	Replace ULP module
	Power OFF	Check power supply

ULP system LED diagnostic status

SUMMARY

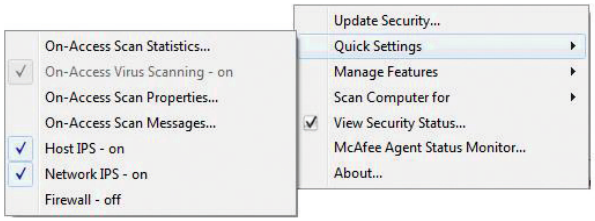
Ethernet network

On some computers, DPWS is blocked by the firewall. If your firewall blocks the ping, it should be temporarily disabled. Alternatively, request support from your local IT service to enable the DPWS service:

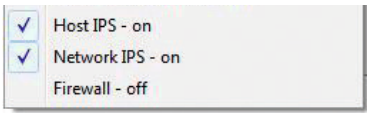
- In the Windows notification area, right-click on the firewall icon (example with McAfee):

Windows task bar

- Open the 'Quick Settings' menu and uncheck the 'Firewall' item:



- Open the 'Quick settings' menu again and check that the 'Firewall' item is disabled:



Deactivation of the firewall

Procedure to connect to Enerlin'X devices with a computer running Windows XP:

DPWS is not supported by Windows XP or previous versions of Windows OS.
If Windows XP is being used, a connection can be made to the Enerlin'X devices with Ethernet.
The steps to manually change the IP address of the computer in order to reach the device webpages are outlined below:

Step	Action
1	Disconnect your local computer from the local area network (LAN) and switch off Wi-Fi.
2	Connect an Ethernet cable from the computer to the Enerlin'X IFE or Acti9 Smartlink Ethernet.
3	Start Internet Explorer 8+, Mozilla Firefox 15+, Chrome 24+ or later versions. **Note:** the computer should automatically use the default IP address 169.254.#.# (# = 0...255 and the default subnet mask 255.255.0.0.
4	In the address text box, type 169.254.YY.ZZ where YY and ZZ are the last 2 bytes of the IFE MAC address (found on the IFE side label) or Smartlink Ethernet IP address (found on the Smartlink Ethernet top label), then press Enter. The home page opens in your browser. For example: for an IFE with MAC address 00-B0-D0-86-BB-F7, or 0-176-208-134-187-247 in decimal, type 169.254.187.247 in the address text box.
5	Press Enter. The login page automatically opens in your browser.
6	Type user name and password. The home page automatically opens in your browser.

Com'X acts as a DHCP server on the Ethernet 2 port by default. Connect the computer via LAN to the E2 in the Com'X and type 10.25.1.1 in the address text box to access the Com'X.

In both cases, the computer should use DHCP and not a static IP address.

To verify the setting, open a DOS command shell (Start\All Programs\Accessories\Command Prompt) and type the "Ipconfig" command line.

SUMMARY

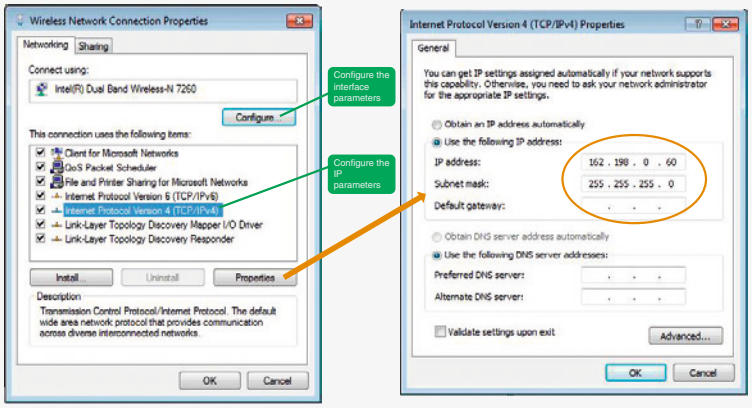
Click "Enter" keyboard. The following information should be displayed (language will vary based on your OS settings):

```
Wireless LAN adapter Wireless Network Connection:

   Connection-specific DNS Suffix  . :
   Link-local IPv6 Address . . . . . : fe80::4c62:277a:273d:7ea6%12
   IPv4 Address. . . . . . . . . . . : 10.196.157.46
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . : 10.196.157.1
```

IPconfig DOS command

Verify that the IP address is the default one (e.g. static addressing is not enabled). If the parameters are not correct, force an IP address directly in your network configuration using the steps below:



SUMMARY

Ethernet communication network

Communication network separation

Com'X enables to separate the Ethernet communication network of the electrical devices from IT communication network of the building.

Ethernet device discovery: DPWS (Device Profile for Web Services)

Devices connected to the Ethernet network are automatically detected and identified, thanks to DPWS (device profile for web services) embedded in Microsoft, Windows 7 and Windows 10.

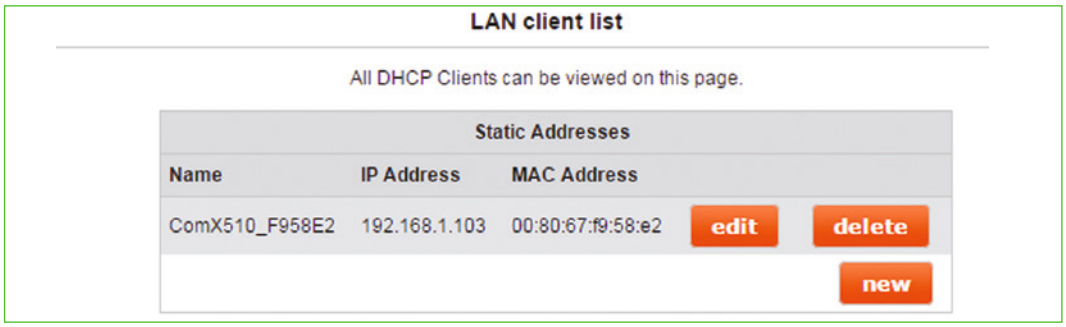
Connect your computer to the Smart Panels Ethernet network or directly to a device. Open Windows Explorer and click on "Network".

Double click a device to access its webpages.

Note: Connection via routers is not compatible with the DPWS feature: a router stops this kind of web service. In this selected architecture, the connection to the local Ethernet network enables DPWS discovery.

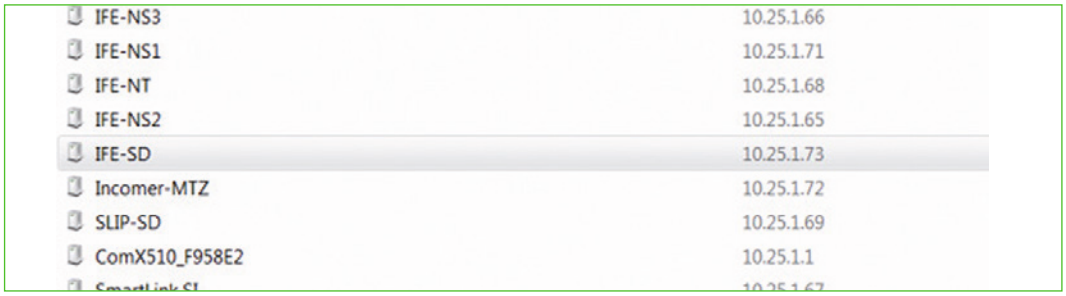
IP addressing

An Internet router is used to connect the electrical installation to EcoStruxure™ Facility Expert. The Internet router provides an Ethernet DSL connection and delivers the IP addresses of the Com'X (E1 Ethernet port).



Internet router DHCP setting

Then IP addresses of electrical devices are provided in DHCP mode by the Com'X (E2 Ethernet port) to Enerlin'X Acti9 Smartlinks and IFEs devices.



IP addressing table

Modbus communication network

The Enerlin'X devices ensure auto-adaptation of the Modbus communication parameters, except for the setting of the Modbus address.
The table below shows the Modbus addresses used in this guide:

Device type	Name	Modbus address
IFE	Breaker 2	255
IFM	Breaker 3	1
IFM	Breaker 1	2
eIFE	GeneralBreaker	255
Smartlink SI B	Smartlink SI B - 5B14	255
iEM 3150	Energy Meter	1
Smartlink Modbus	Smartlink Modbus	2
PowerLogic PowerTag	PT150	150
PowerLogic PowerTag	PT151	151
PowerLogic PowerTag	PT152	152
PowerLogic PowerTag	PT153	153
PowerLogic PowerTag	PT154	154
PowerLogic PowerTag	PT155	155
PowerLogic PowerTag	PT156	156

SUMMARY

Appendix

Glossary

This section explains certain words or acronyms which might be unclear to a reader who does not know the system or the environment.

Term	Description
ACB	Air Circuit Breaker - MasterPact
Acti9 Smartlink	Modular communication system for final distribution
BMS	Building Management System
DHCP	Dynamic Host Configuration Protocol
DPWS	Devices Profile for Web Services
DSP	Digital Service Platform
EcoStruxure Power Commission	Configuration software for LV circuit breaker (MasterPact - ComPact NS - ComPact NSX) and for Acti9 system
EMC	Electromagnetic Compatibility
EMS	Energy Management System
Enerlin'X	Name of the range of digital product in Schneider Electric
IT service	Information Technology service, manage the computers and network
LV	Low Voltage
MCB	Miniature Circuit Breaker - Acti9
MCCB	Molded Case Circuit Breaker - ComPact NSX - ComPact NS
Modbus	Serial line protocol, also known as Modbus RTU
SMTP	Simple Mail Transfer Protocol
TCP/IP	Ethernet protocol
Ti24 connector	Prefabricated connector in the Acti9 system
WAGES	Water Air Gas Electricity Steam
EcoStruxure™ Facility Expert	Cloud based software for energy and asset management

Reference documents

The table below outlines the reference documents that provide further information as required.

Document title	Reference
Smart Panels eBrochure	998-20135902_GMA-US
Enerlin'X catalog	LVCATENLX_EN
Smart Panels Digitized switchboards design and assembly guide	ESXP1G003EN
IFE - Instruction sheet	HRB49218-01
IO module - Instruction sheet	HRB49217-00
FDM128 - Instruction sheet	HRB45777-00
Acti9 Smartlink Mobus - Product Data Sheet	A9XMZA08
Acti 9 Smartlink Ethernet - User guide	DOCA0073EN
Circuit Breaker on line selector	Product Selector
Com'X 200 / Com'X 210 / Com'X 510 Instruction sheet	5406AD005
MasterPact MTZ - Cybersecurity Guide	DOCA0122EN
EcoStruxure™ Facility Expert - User Guide (for asset management)	ESXUG001EN
Smart Panel plug'in SBO - TVDA	LVTVDABMS
PowerTag M63 - Wireless Communication Energy Sensor for Acti9 and Multi9 modular equipment ranges - Instruction Sheet	EAV31628-04

SUMMARY

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