



Quick Start Guide



- Installing electrical equipment
- Installing and configuring batteries
- Selecting and using Personal Protective Equipment (PPE)
- Analyzing and reducing the hazards involved in performing electrical work
- Applying applicable installation codes
- Connecting communication devices into a network

The following special messages may appear throughout this document 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.



This symbol alerts you to read the manual, including the InsightFacility Owner’s Guide (document number: 990-91411) for additional information

⚠ DANGER

DANGER indicates a hazardous situation which, if not avoided, **will result in death or serious injury**.

⚠ WARNING

WARNING indicates a hazardous situation which, if not avoided, **could result in death or serious injury**.

1.0 Introduction

The InsightFacility is a multi-function communication device that provides an overall view of system performance for residential and commercial power monitoring systems. It also provides a communications gateway between a network of Xanbus™-enabled devices and Modbus devices. Operators can configure the InsightFacility system and monitor performance with third party software packages and building management systems.

⚠⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, AND FIRE

- All wiring must be done by qualified personnel to ensure compliance with all applicable installation codes and regulations.
- For Indoor Use Only.
- Do not disassemble. No user serviceable parts inside.
- Do not dispose of the internal battery in a fire or hot oven. Do not crush or cut the internal battery. Follow proper disposal procedures as outlined by your local codes.
- Do not subject the InsightFacility to extremely high ambient temperature or extremely low air pressure as flammable liquid or gas may leak from the battery.

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

⚠⚠ WARNING

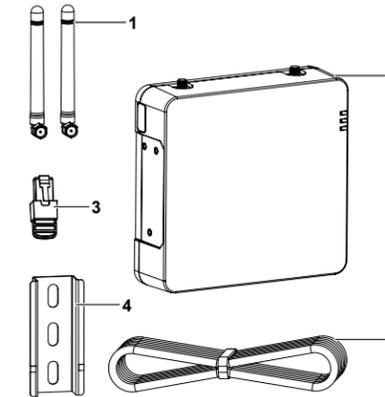
HAZARD OF ELECTRIC SHOCK AND FIRE

Connect only to Safety Extra Low Voltage (SELV) circuits and limited power sources.

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

Other features of the InsightFacility include: compatibility, a real-time clock, a non-volatile memory, firmware storage and upgrade capability, and cloud storage capability. For more information, see the Owner’s Guide (go to <https://solar.schneider-electric.com> > **InsightHome and InsightFacility Edge Devices > Downloads**).

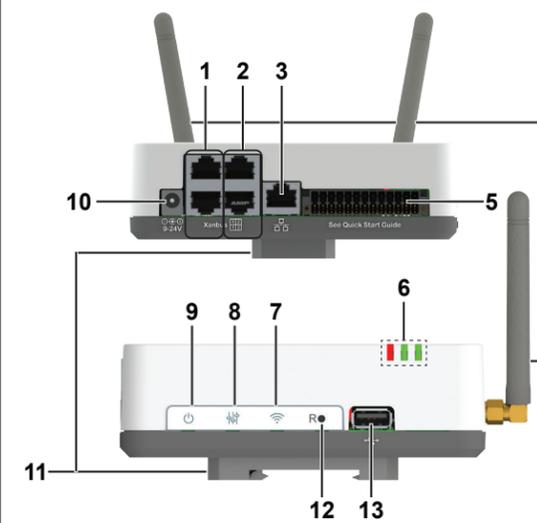
2.0 Material List



	Item
1	Removable antennas
2	InsightFacility unit
3	Network terminator
4	75 mm DIN rail
5	Ethernet cable (CAT5e)
not shown	<ul style="list-style-type: none"> • BMS CAN terminator • 26-pin connector (see 26-Pin Connector Pinouts on page 2)
not supplied	Power adapter: Manufacturer: CUI P/N: SMI18-12-V-P5 Description: AC-DC PowerSupply, 12Vdc Output Voltage, 1.6Adc Output Current

NOTE: • Do not discard the packaging box. • The Wi-Fi password is printed on the unit. • Install the antennas before turning on the unit.

3.0 Physical Features



	Item
1	1st pair Xanbus ports
2	2nd pair Xanbus ports
3	Ethernet port
4	Antenna
5	26-pin port (see 26-Pin Connector Pinouts)
6	LED indicators*
7	Wi-Fi button
8	Settings button
9	Power button
10	Power port
11	DIN rail clip (detachable)
12	Reset pinhole button
13	USB port

Contact Information

Schneider Electric
 70 Mechanic Street Foxborough, Massachusetts 02035 United States

Contact your local Schneider Electric Sales Representative or visit the Schneider Electric website at: <https://se.com/>

⚠⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, ARC FLASH, AND FIRE

This document is in addition to, and incorporates by reference, the relevant product manuals for InsightFacility. Before reviewing this document, you must read the relevant product manuals. Unless specified, information on safety, specifications, installation and operation is as shown in the primary documentation received with the product. Ensure you are familiar with that information before proceeding.

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

Important Safety Information

Read and Save These Instructions. Do NOT discard.

This Guide is intended for any qualified personnel who need to install, operate, configure, and troubleshoot the InsightFacility. Certain configuration tasks should only be performed by qualified personnel in consultation with your local utility and/or an authorized dealer. Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. Qualified personnel have training, knowledge, and experience in:

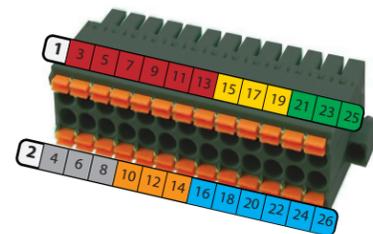
*See LED Indicators

3.1 LED Indicators



Icon	Color	LED	Description
	Green	Power	The InsightFacility is powered on.
	Green	Memory	Device is logging data to internal memory when flashing.
	Red	Event	Devices on the Power system have events to report.

3.2 26-Pin Connector Pinouts

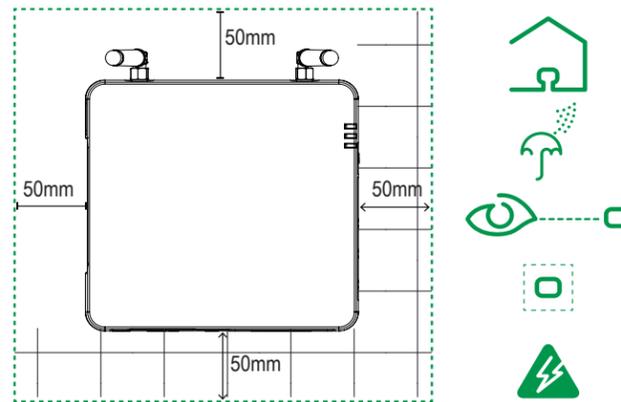


PIN	Description of bottom row	PIN	Description of top row
2	9–24VDC power input	1	GND
4	GND	3*	0–10VDC analog input 1
6*	12VDC digital input 1	5*	0–10VDC analog input 2
8*	12VDC digital input 2	7	GND
10	ISO1 CAN GND	9*	4–20mA input 1
12	ISO1 CAN L	11*	4–20mA input 2
14	ISO1 CAN H	13	GND
16	ISO2 RS485 GND	15*	Relay 1 NO
18	ISO2 RS485 1A	17*	Relay 1 COM
20	ISO2 RS485 1B	19*	Relay 1 NC
22	ISO2 RS485 GND	21*	Relay 2 NO
24	ISO2 RS485 2A	23*	Relay 2 COM
26	ISO2 RS485 2B	25*	Relay 2 NC

* These pins are currently reserved for future functionality, check <https://se.com> for updates.

NOTE: Pin wire size 16–24 AWG

4.0 Choosing a Location

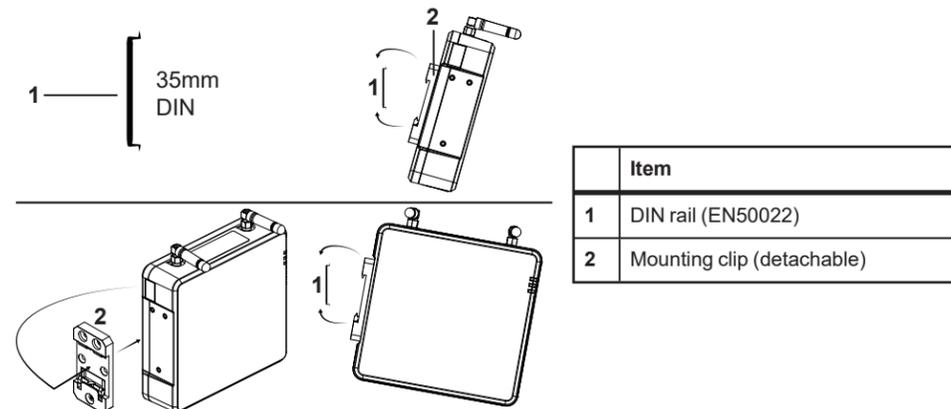


- You should not run cables through conduits that can be exposed to lightning strikes. The following are recommended maximum cable lengths in a InsightFacility system:
 - 131 feet (40 m) Total Xanbus network
 - 328 feet (100 m) Router to InsightFacility
 - 164 feet (50 m) Modbus Master (RS 485) to InsightFacility

- Choose a clean, dry, easily accessible location indoors.
- If you mount the InsightFacility on a wall, the recommended height is at eye-level so that you can clearly see the LED indicators and have easy access to the data and communication ports.
- All of the ports on the InsightFacility are accessible from the sides of the device when mounted on a wall or DIN rail. Clearance of at least 2 inches (50 mm) around the device is needed to allow for the bending radius of cables that connect to the InsightFacility.

5.0 Mounting the InsightFacility

- Use a standard 35-mm “top hat” DIN rail (EN50022).
- You may choose to move the mounting clip to the side as shown.
- Attach the InsightFacility to the DIN rail. Hook the bottom catch of the clip onto the rail, pull up a little to retract the bottom catch and hook the top catch of the clip onto the rail.
- Connect the wiring and cables.



6.0 Connecting the InsightFacility to the Xanbus Network

6.0.1 Network Sizing Guidelines

	InsightFacility
Xanbus Networks	2
Maximum Total Connected XW Pro Units and MPPT Charge Controllers*	18

* Xanbus Installation Rules:

- When using InsightFacility with more than six total XW Pro units and MPPT charge controllers, then all XW Pro units must be connected on one network and all MPPT charge controllers on the other network.
- The Automatic Generator Starter and Battery Monitor can be added to any system and must be connected on the same Xanbus network as the XW Pro.
- The maximum number of XW Pro inverters is four (4) for single-phase or split-phase, and six (6) for three phase.

Example configuration:

4 XW Pro connected to InsightFacility on network 1, and 8 MPPT connected to InsightFacility on network 2.

- Connect the InsightFacility to the Xanbus network using daisy chain configuration.
- Xanbus components can be arranged in any order.
- Use a network terminator at both ends of the network. Do not connect two end devices together to form a closed loop configuration. See illustration in the next column.
- Do not interconnect two separate Xanbus networks, meaning, do not daisy chain one Xanbus network with another. Use only one pair of Xanbus ports for the daisy chain. If you only have one Xanbus network use *Xanbus 1*. If you have two separate Xanbus networks connect the second network to *Xanbus 2*. See Figure 1 for *Xanbus 1* pair of ports - one top and one bottom.

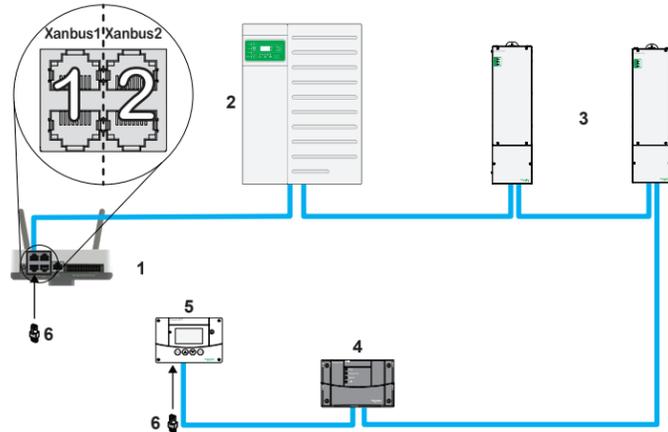
NOTICE

EQUIPMENT DAMAGE

- Do not connect a Xanbus cable plug into the ethernet port on the InsightFacility.
- Connect only to Xanbus ports and use the network terminators to each end device in the daisy chain.

Failure to follow these instructions can result in equipment damage.

Figure 1 Sample InsightFacility network



NOTE: This Xanbus 1 network is for illustration purpose only.

1	InsightFacility unit	4	Connext AGS (automatic generator start)
2	XW Pro	5	Connext SCP (system control panel), discontinued
3	MPPT 80 600	6	Network terminators

7.0 Connecting the InsightFacility to the Internet

Before connecting a computer and router to the InsightFacility, make sure it meets the following prerequisites.

- Microsoft® Windows® 7 or later, Mac OS® X 10.4.8. or later
- Internet Explorer® 11.476 or later, Google Chrome™ 78.x or later, Safari® 5.x or later, Firefox 110.0.1 (64-bit) or later
- JavaScript and cookies must be enabled in your web browser.
- Router - the network router must be able to supply DHCP addresses automatically to connected devices. If your network router does not support automatic DHCP, refer to your network router's user guide or contact your system administrator.

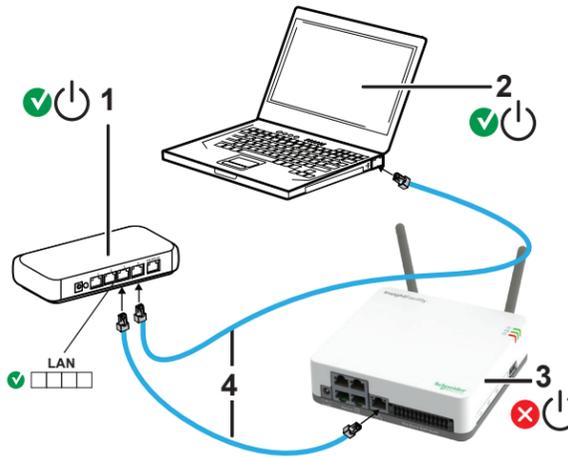
NOTICE

EQUIPMENT DAMAGE

- For a complete list of prerequisites, see the Owner's Guide.
- Do not connect an ethernet cable from the InsightFacility to the MODEM port on the network router.
- Do not connect an ethernet cable plug into a Xanbus port on the InsightFacility.

Failure to follow these instructions can result in equipment damage.

1. Make sure the computer and network router are turned on and the InsightFacility is not turned on. Make sure the network router selected has DHCP enabled.
2. Connect an ethernet cable between the computer's network port and a LAN port on the router.
3. Connect an ethernet cable between a LAN port on the router and the Ethernet port on the InsightFacility.



Item
1 Router/modem
2 Laptop
3 InsightFacility unit
4 Ethernet cables

8.0 Turning the InsightFacility On (or Off)

Before turning on the InsightFacility, you must connect it to a power source - either:

- by using the (A) AC/DC adapter (not supplied),
- by connecting it to a (B) Xanbus network, or
- by connecting a (C) 26-pin connector to the 26-pin terminal block.

NOTE: An external power supply is not needed if the InsightFacility is connected to a Connext XW+, XW Pro, SW, or CL inverter, or an MPPT-80 or MPPT-100 device.

⚠ WARNING

UNINTENDED OPERATION HAZARD

Xanbus is a valid power source for the InsightFacility, however, if you use Xanbus for the first time set-up the InsightFacility clock will override the other Xanbus devices' clocks and could trigger unintentional time-based events, such as a generator starting.

Ensure that you set the InsightFacility clock and time zone before performing any other commissioning steps, refer to the Owner's Guide for instructions.

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

⚠ WARNING

HAZARD OF ELECTRIC SHOCK AND FIRE

Connect only to Safety Extra Low Voltage (SELV) circuits and limited power sources.

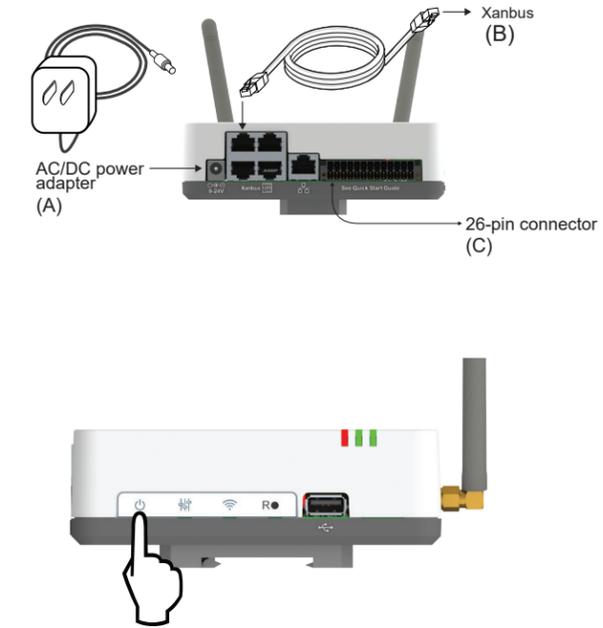
Failure to follow these instructions can result in death, serious injury, or equipment damage.

NOTICE

EQUIPMENT DAMAGE

Do not power the unit without first installing the supplied antennas.

Failure to follow these instructions can result in equipment damage.



NOTE: In the 26-pin connector, pin 1 connects to a 9-24VDC source and pin 2 connects to GND. See 26-Pin Connector Pinouts.

9.0 Using InsightLocal via Wi-Fi Access Point (AP)

NOTE: This procedure is not about connecting to a local area network (LAN) via Wi-Fi.

In order to establish a user interface with InsightFacility, a direct Wi-Fi connection is necessary.

The following are the pre-requisites:

- Laptop with Microsoft® Windows® 7 or later, Mac OS® X 10.4.8. or later
- Wi-Fi setting for the laptop is enabled
- Web browser such as Google Chrome™ 78.x or later, Microsoft® Windows® Internet Explorer® 11.476 or later, Safari® 5.x or later, Firefox 110.0.1 (64-bit) or later
- JavaScript and cookies must be enabled in your web browser.

To connect:

1. Make sure the laptop and InsightFacility are turned on.
2. Enable Wi-Fi on the laptop, if not already.
3. Open Wi-Fi Settings, then look for and connect to the InsightFacility SSID. For example, you may look for something similar to **InsightFacility_XXXXXX**
4. Enter the **Password** when prompted.
NOTE: The password is printed on a label on the back panel of the InsightFacility unit.
5. Proceed to Logging in to InsightLocal.



1	Laptop	2	InsightFacility unit. Wi-Fi password label is on the back panel.
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10.0 Logging in to InsightLocal

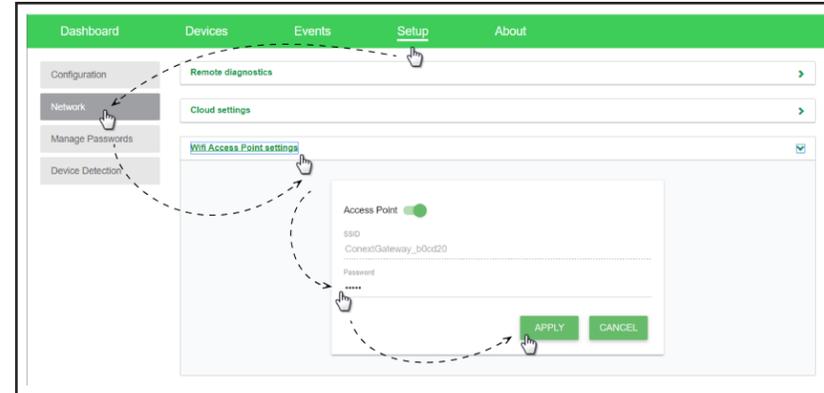
Note: The gateway device's internal wireless access point uses the 192.168.100.x subnet. If the local area network uses the same subnet, a conflict will occur when trying to access the Internet.

- If you have connected the InsightFacility via Wi-Fi Access Point, go to the IP address <https://192.168.100.1> to access InsightLocal.
- If you have connected the InsightFacility via ethernet or Wi-Fi Station, use the following steps:
 - Insert a blank USB drive into the InsightFacility USB port. Ensure there are no firmware upgrade files on this USB drive.
 - After the InsightFacility beeps twice, remove the USB drive.
 - Insert the USB drive into your laptop USB port.
 - Copy the HTML file to your laptop.
 - Remove the USB drive from your laptop.
 - Open the HTML file and click the link to the IP address of the InsightFacility.
- Bookmark this address. **Important:** The web address is a locally and privately assigned (LAN) device address that is also protected by a firewall.
- Select your User Name. Select **Admin**.

NOTE: A maximum of two Admin users can be logged in to one InsightFacility at the same time. For more information, see *InsightFacility Owner's Guide (document number: 990-91411)*.
- Enter your Password. The initial password is **Admin123**.
- Important:** When prompted, change the initial password immediately to protect the device from unauthorized users and to enable changes to device settings.

NOTE: To perform administrative functions such as a firmware update, set User Name to **Admin**. Settings are disabled until the initial password is changed.
- Change the InsightFacility SSID and network password:
 - Go to **Setup > Network > Wifi Access Point Settings**
 - (Optional) Replace the current Wi-Fi network name under the **SSID** field with an appropriate name. You are limited to 64 alphanumeric characters including symbols.
 - Replace the current password under the **Password** field with 10 to 12 alphanumeric characters, including symbols.

d. Click **Apply** to save the new password and/or SSID.

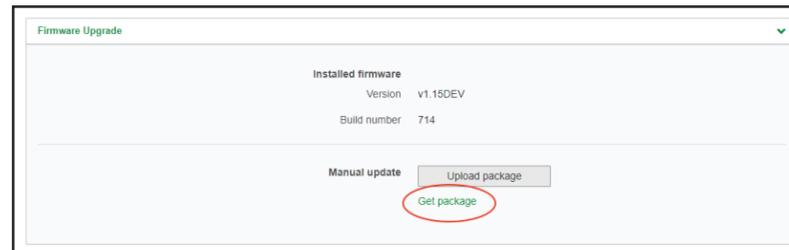


11.0 Using InsightMobile and InsightCloud

Refer to the Owner's guide for information about using InsightCloud or connecting to your system with the InsightMobile App.

12.0 Installing Upgrades Remotely

1. Go to **Setup > Configuration > Firmware Upgrade**.



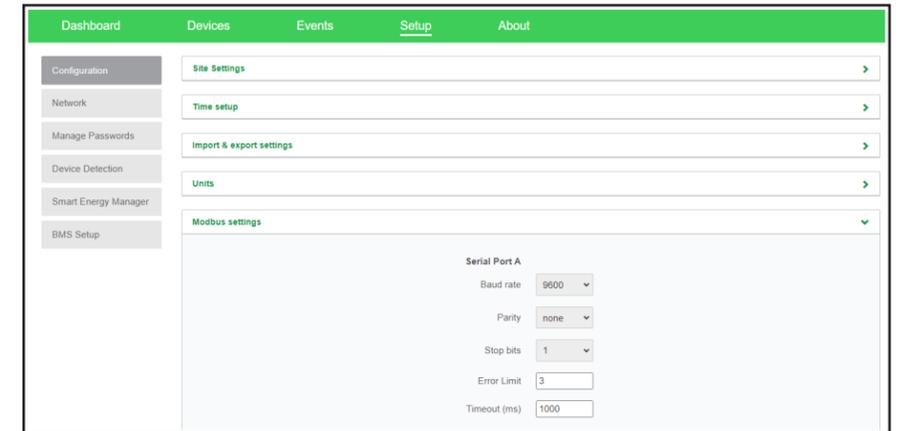
- Download the firmware package.
 - Click **Get package**. This will take you to the InsightFacility product webpage.
 - From the product webpage, go to **DOWNLOADS > Firmware**.
 - Search for the latest firmware package from the list and click it to begin downloading.
 - Unzip the firmware package.
 - Save the `.epkg` file to a local directory.
- Go back to **Setup > Configuration > Firmware Upgrade**.
- Click **Upload package**.
- Search and select the firmware package (`.epkg` file) you saved in a local directory from the InsightFacility product webpage.
- Click **Open** from the Windows dialog. The upgrade begins automatically.
- As the firmware package is transferred to the InsightFacility, progress is indicated in percentage, and a message screen indicates when the file transfer has been completed successfully.
- When prompted, restart the InsightFacility.

13.0 Connecting and Configuring Modbus Devices

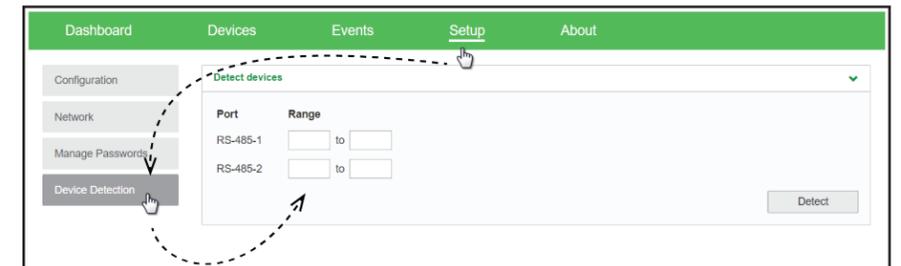
NOTE: For Modbus map information, contact Schneider Electric.

Connect Modbus wires to pins 16, 18, and 20 (see 26-Pin Connector Pinouts), and then complete the following steps in InsightLocal :

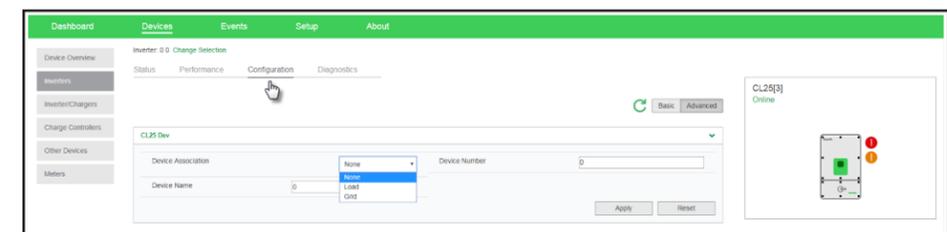
- Go to **Setup > Configuration > Modbus Settings**.
- Complete the **Serial Port** setup and then click **Apply**.



- Go to **Home > Setup > Device Detection**.
- Under **Range**, enter a Modbus address range and then click **Detect**.



- Go to **Devices** and then click the device image to select the device.
- Go to **Configuration** and configure the device settings under **Basic** and **Advanced**. Each device type will have different settings to configure. Refer to the device's Installation and Operation manuals for configuration information. Repeat steps 5 and 6 for each device.



14.0 Specifications

NOTE: Specifications subject to change without prior notice.

Power Consumption	2 W average / 10 W peak
AC/DC adapter	Input: 100-240 V AC, 50-60 Hz, 0.48 A, Output: 12 V DC, 1.6 A, 5.5 mm outer, 2.1 mm center-positive jack. NOTE: Required when used with the Conext SW.
Xanbus	When connected to XW Pro, XW+, Conext SW, or MPPT providing network power
9–24 V on 26-pin connector	9–24 V DC, 1 A max input only through pins 1 and 2 Accepts 16–24 AWG pin wire size, wire length should meet local regulations
Operation Frequency	2412–2472 MHz (Europe), 2414–2462 MHz (N. America)
Max. radio frequency power transmitted	17.06 dBm (E.I.R.P., Declaration for EU)
Weight (device only)	330 g (0.73 lb)
IP rating / Mounting Location	IP 20, NEMA 1, Indoor only
Status Display	3 x LEDs
Temperature	Operating: -4 to 122 °F (-20 to 50 °C) Storage: -40 to 185 °F (-40 to 85 °C) Maximum case temperature: 140 °F (60 °C)
Humidity	Operating: < 95%, non-condensing Storage: < 95%
EMC immunity	EN61000-6-1, EN 55035, EN 301 489-1, -17
EMC emissions	EN61000-6-3, EN 55032, EN 301 489-1, -17 FCC part 15B, ICES-003
Substances / environmental	RoHS
FCC ID	Contains 2AODL-CONEXTGTWY
IC ID	Contains 24209-CONEXTGTWY
Part number	865-0335
Web-base user interface	Internet Browser
Remote firmware upgrades	Yes (InsightFacility and connected Xanbus devices)
Safety	EN 62368-1

14.1 FCC Regulatory Compliance

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Note: changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

14.1.1 RF Exposure Compliance

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

14.1.2 Supplier's Declaration of Conformity

47 CFR § 2.1077 Compliance Information

Trade Name/Model Number: InsightFacility

Part No.: 865-0335

Responsible Party – U.S. Contact Information

Schneider Electric

70 Mechanic Street

Foxborough, Massachusetts 02035

United States

<https://se.com>

FCC Compliance Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

14.2 ISED Regulatory Compliance

This device contains licence-exempt transmitter(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s).

Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

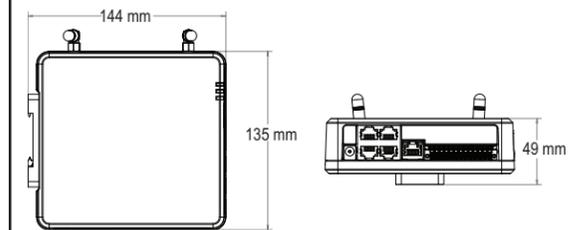
1. L'appareil ne doit pas produire de brouillage;
2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body.

Cet équipement est conforme aux limites d'exposition aux radiations IC CNR-102 établies pour un environnement non contrôlé. Cet émetteur ne doit pas être situé ou fonctionner conjointement avec une autre antenne ou un autre émetteur. Cet équipement doit être installé et utilisé avec une distance minimale de 20 cm entre le radiateur et votre corps.

CAN ICES-3 (B)/NMB-3(B)

15.0 Dimensions



LEGAL INFORMATION

TO THE EXTENT PERMITTED BY APPLICABLE LAW, NO RESPONSIBILITY OR LIABILITY IS ASSUMED BY SCHNEIDER ELECTRIC AND ITS SUBSIDIARIES FOR ANY ERRORS OR OMISSIONS IN THE INFORMATIONAL CONTENT OF THIS MATERIAL OR CONSEQUENCES ARISING OUT OF OR RESULTING FROM THE USE OF THE INFORMATION CONTAINED HEREIN.

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