

InsightHome

Owner's Guide

990-91410B

March 2021



Copyright © 2021 Schneider Electric. All rights reserved. Microsoft, Windows, and Internet Explorer are owned by Microsoft. Chrome is owned by Google. Safari and Mac OS are trademarks of Apple Inc., registered in the U.S. and other countries. All other trademarks are owned by Schneider Electric Industries SAS or its affiliated companies.

Exclusion for Documentation

UNLESS SPECIFICALLY AGREED TO IN WRITING, SELLER|

(A) MAKES NO WARRANTY AS TO THE ACCURACY, SUFFICIENCY OR SUITABILITY OF ANY TECHNICAL OR OTHER INFORMATION PROVIDED IN ITS MANUALS OR OTHER DOCUMENTATION;

(B) ASSUMES NO RESPONSIBILITY OR LIABILITY FOR LOSSES, DAMAGES, COSTS OR EXPENSES, WHETHER SPECIAL, DIRECT, INDIRECT, CONSEQUENTIAL OR INCIDENTAL, WHICH MIGHT ARISE OUT OF THE USE OF SUCH INFORMATION. THE USE OF ANY SUCH INFORMATION WILL BE ENTIRELY AT THE USER'S RISK; AND

(C) REMINDS YOU THAT IF THIS MANUAL IS IN ANY LANGUAGE OTHER THAN ENGLISH, ALTHOUGH STEPS HAVE BEEN TAKEN TO MAINTAIN THE ACCURACY OF THE TRANSLATION, THE ACCURACY CANNOT BE GUARANTEED. APPROVED CONTENT IS CONTAINED WITH THE ENGLISH LANGUAGE VERSION WHICH IS POSTED AT <http://solar.schneider-electric.com/>.

Contact Information

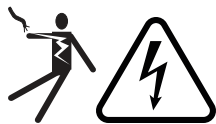
For country-specific details, please contact your local Schneider Electric Sales Representative or visit the Schneider Electric Solar Business website at: <http://solar.schneider-electric.com/>



Safety Information

Important Information

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 documentation 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.

WARNING

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

CAUTION

CAUTION indicates a hazardous situation which, if not avoided, **could result in** minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to physical injury.

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, installation, and operation of electrical equipment and has received safety training to recognize and avoid the hazards involved. For more information, see *Audience*.

Product Safety Information

DANGER

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

- Read all instructions, cautionary markings, and all other appropriate sections of this guide before installing, operating, troubleshooting or performing maintenance on the InsightHome.
- Exercise extreme caution at all times to prevent accidents.
- These instructions are for use by qualified installers only.

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

DANGER

HAZARD OF ELECTRIC SHOCK AND FIRE

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

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

NOTICE

EQUIPMENT DAMAGE

- All cables connected to the InsightHome must run indoors and not be susceptible to lightning strikes.
- Turn OFF all devices before connecting cables. The InsightHome does not have an ON/OFF switch.
- Do not connect an Ethernet cable from the InsightHome to the WAN/MODEM port on the network router.
- Do not connect an Ethernet cable plug into a Xanbus port on the InsightHome.
- Do not connect a Xanbus RJ-45 cable plug into the 10/100 Ethernet port of the InsightHome.
- Do not connect any port on the InsightHome to an outside line or to a public telecommunication network.
- Ensure that the device connected on the Xanbus network is in standby mode before changing settings. Do not change any settings unless you are familiar with the device.
- Changes to any TCP/IP-related settings should only be performed by a qualified IT professional.

Failure to follow these instructions can result in equipment damage or affect network performance.

NOTICE

EQUIPMENT DAMAGE

- Do not disassemble the InsightHome.
- See Warranty for instructions on obtaining service.
- The InsightHome contains no user serviceable parts. Attempting to service the InsightHome yourself will void your warranty.

Failure to follow these instructions can result in equipment damage.

NOTICE

EQUIPMENT DAMAGE

- Do not port-forward any InsightHome network ports via a router to the public internet. There is a security risk in port-forwarding unencrypted network traffic over a public network (Internet).
- Use a VPN or a secure tunnel to route InsightHome communication via the Internet.

Failure to follow these instructions can result in equipment damage.

Audience

This guide is intended for use by anyone who plans to install and operate the InsightHome communications device as part of their power plant system.

Installation instructions are meant for installers only. The installers have training, knowledge, and experience in:

- Installing electrical equipment.
- Applying all applicable installation codes.
- Analyzing and reducing the hazards involved in performing electrical work.
- Selecting and using Personal Protective Equipment (PPE).
- Changing any TCP/IP-related settings.

Configuration, servicing, and maintenance must be performed by authorized service personnel only. Authorized service personnel meet the requirements for an installer, plus they have received specific training from the manufacturer on servicing the InsightHome.

About

Purpose

The purpose of this Owner's Guide is to provide explanations and procedures for installing, operating, configuring, maintaining, and troubleshooting the InsightHome.

Scope

The Owner's Guide provides safety guidelines, planning, and setup information, procedures for installing the product, as well as information about troubleshooting the product. It does not include information on how to install, configure and use other Schneider Electric products.

Firmware Revision

Some InsightHome features and functions described in this Owner's Guide may be incorporated with later firmware versions. This Owner's Guide is valid for InsightHome Version 1.05 (always check the website for the latest firmware and user manual). To view the firmware version on your product, see the InsightHome Status Information in the web user interface.

Abbreviations and Acronyms

DHCP	Dynamic host configuration protocol
LED	Light emitting diode (used for indicator lights)
SELV	Safety extra low voltage
TCP/IP	Transmission control protocol/Internet protocol

Related Products

For more information about related products, refer to:

- *XW Pro Inverter/Charger Owner's Guide (part number: depends on configuration - see <http://solar.schneider-electric.com/>)*
- *Conext XW+ Inverter/Charger Owner's Manual (part number: depends on configuration - see <http://solar.schneider-electric.com/>)*
- *Conext Automatic Generator Start (AGS) Owner's Guide (part number: 975-0307-01-01)*
- *Conext System Control Panel (SCP) Owner's Guide (part number: 975-0298-01-01)*
- *Conext SW Inverter/Charger Owner's Guide (part number: depends on configuration - see <http://solar.schneider-electric.com/>)*
- *Conext MPPT 60 150 Solar Charge Controller Operation Guide (part number: 975-0400-01-01)*
- *Conext MPPT 80 and MPPT 100 Solar Charge Controller Operation Guide (part number: 990-6214)*
- *Conext Battery Monitor Owner's Manual (part number: 975-0691-01-01)*

Related Information

You can find more information about Schneider Electric's Solar products, as well as its services at <http://solar.schneider-electric.com/>.

Contents

Safety Information	2
Audience	5
About	6
Purpose	6
Scope	6
Firmware Revision	6
Abbreviations and Acronyms	6
Related Products	7
Related Information	7
Overview	10
Introduction	11
Compatible Xanbus™ Components	11
Material List	12
Physical Features	13
Power Button Operation	13
LED Indicators	13
12-pin Connector Pinouts	14
Types of InsightHome Networks	15
Power Sources for the InsightHome	15
InsightHome Web User Interface	16
Installation	18
Choosing a Location	19
Materials and Tools Required	20
Mounting the InsightHome	21
Connecting the InsightHome to the Xanbus Network	21
Connecting the InsightHome to the Internet	23
Turning On the InsightHome	25
Turning Off the InsightHome	26
Power Cycling	26
Getting Started	28
Using the InsightHome Web App via Wi-Fi Access Point (AP)	29
Enabling Wi-Fi Station	30
Web Security	31
Configuring the InsightHome	32
Logging in to the InsightHome Web Application	33
User Access Levels	34
Changing the Password	35

Changing InsightHome Settings	37
Plant Setup	37
Changing the Time	38
Import and Export Settings	38
Units	39
Install Package	39
Restarting the InsightHome	41
Upgrading Firmware	43
Installing InsightHome Upgrades From a USB Drive	43
Installing InsightHome Upgrades Remotely	43
Upgrading Other Device Firmware	44
Configuring Devices	46
Connecting and Configuring Modbus Devices	47
Modbus TCP Settings	48
Removing a Modbus Device	49
Changing Device Settings	50
Device Association	52
Cloud Settings	53
Configuring an AC-Coupled System	54
Configuring the Grid Code Region	55
Enabling California Rule 21	56
Monitoring	58
Monitoring the Power Plant	59
Troubleshooting	60
Events	61
Specifications	64
Electrical Specifications	65
Physical Specifications	65
Features	66
Regulatory	66
FCC Regulatory Compliance	66
ISED Regulatory Compliance	67
Simplified EU Declaration of Conformity	68
Schneider Electric Products that Work with the InsightHome	68
Dimensions	69
Installing the InsightHome Security Certificate	70
Root Certificates	71

1 Overview

What's in This Chapter?

Introduction	11
Compatible Xanbus™ Components	11
Material List	12
Physical Features	13
Power Button Operation	13
LED Indicators	13
12-pin Connector Pinouts	14
Types of InsightHome Networks	15
Power Sources for the InsightHome	15
InsightHome Web User Interface	16

Introduction

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

Note: Depending on your access level, you may not be able to see all of the screens described in this document. For more information, see *User Access Levels*

 **DANGER**

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

- Connect only to Safety Extra Low Voltage (SELV) circuits and limited power sources.
- 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 InsightHome to extremely high ambient temperatures 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.

Other features of the InsightHome include:

- Compatibility—connects directly to Xanbus-enabled devices
- Real-time clock—keeps time for the entire system
- Non-volatile memory—preserves the latest InsightHome settings if power is interrupted or network communication is disrupted.
- Firmware storage and upgrade capability—uses the InsightHome to upgrade or downgrade firmware for Xanbus-enabled devices on the network.
- Cloud storage capability—Save and synchronize settings with the InsightHome cloud service.

Compatible Xanbus™ Components

The InsightHome works with several Schneider Electric products including:

- XW Pro Inverter/Charger
- Conext XW+ Inverter/Charger

- Conext Automatic Generator Start (AGS)
- Conext System Control Panel (SCP)
- Conext SW Inverter/Charger
- Conext MPPT 60 150 Solar Charge Controller
- Conext MPPT 80 600 Solar Charge Controller
- Conext MPPT 100 600 Solar Charge Controller
- Conext Battery Monitor

For details on specific models supported, see *Electrical Specifications on page 65*. The InsightHome supports up to a maximum of 20 devices on a Xanbus network depending on the device types.

Material List

Figure 1 Material list



NOTE:

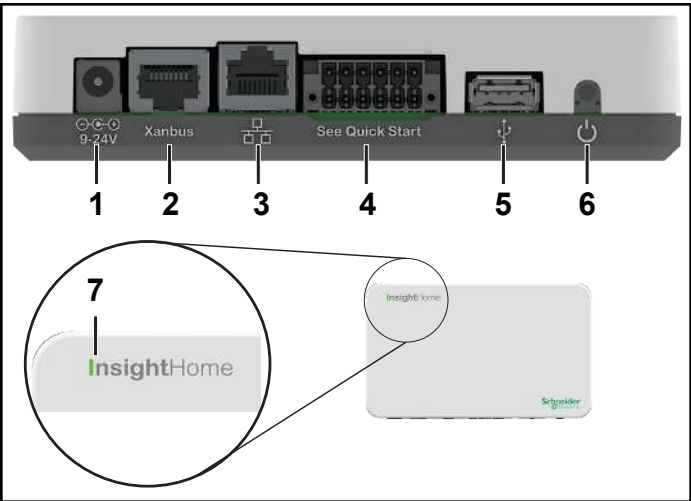
- Recycle the packaging box.
- The Wi-Fi password is printed on the InsightHome unit.

InsightHome unit	
not shown	• CAN terminator • 12-pin connector (see <i>12-pin Connector Pinouts on page 14</i>)
not supplied	Ethernet cable (CAT5e)
not supplied	Power adapter: Manufacturer: CUI P/N: SMI18-12-V-P5 Description: AC-DC Power Supply, 12Vdc Output Voltage, 1.6Adc Output Current

Physical Features

The following illustration shows the InsightHome. The tables in the following sections contain descriptions of the connectors, indicators, and data ports on the InsightHome.

Figure 2 Ports, buttons, and indicators



1	Power port	Use for connecting the AC/DC power plug.
2	Xanbus ports	Use for Xanbus communications
3	Ethernet port	Use to connect to the internet via an Ethernet cable.
4	12-pin port	Use for connecting the 12-pin connector.
5	USB port	Use for firmware updates only. Do not use to charge USB devices.
6	Power button	Press to enable/disable the InsightHome.
7	LED indicator	The "I" in InsightHome is an LED indicator used for signaling device status.

Power Button Operation

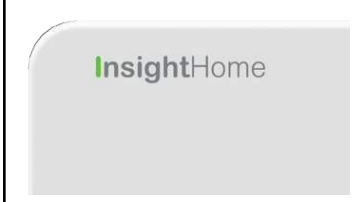
Table 1 Power button operation

Press and hold duration	Number of beeps	InsightHome operation
3 seconds	1	InsightHome will restart
6 seconds	2	InsightHome will shutdown
9 seconds	3	User settings will be reset and InsightHome will restart
12 seconds	4	Factory default settings will be reset and InsightHome will restart

LED Indicators

The "I" in InsightHome is an LED indicator used for signifying device status. During start-up the green LED blinks until the unit is fully powered on. This takes approximately two minutes.

Figure 3 LED indicators

	Green	Solid	The InsightHome is powered on.
	Green	Blink	Device is booting up or logging data to internal memory when flashing.
	Orange	Event	Devices on the Power system have events to report.

12-pin Connector Pinouts

Figure 4 12-pin connector

Top Row								Bottom Row	
1	Digital output (0-40VDC)	1	3	5	7	9	11	2	Digital input 1 (12VDC)
3	GND							4	Digital input 2 (12VDC)
5	Do Not Connect							6	Do Not Connect
7	GND ISO							8	GND ISO
9	RS485 A ISO							10	CAN L ISO
11	RS485 B ISO							12	CAN H ISO

Types of InsightHome Networks

The InsightHome can interface with different LAN devices using wired or wireless connections, so you can configure your Xanbus devices and monitor your power system performance.

- InsightHome on Xanbus
- InsightHome on Modbus (via the 12-pin connector)
- InsightHome on Local Area Network (LAN, via Ethernet or Wi-Fi)

When the InsightHome is part of a LAN, you can access the InsightHome web user interface from a computer on the same LAN via a wireless or wired LAN connection.

An Ethernet connection is required between the InsightHome and a router and computer for configuring the InsightHome.

Power Sources for the InsightHome

The InsightHome consumes an average of 2 W under most operating conditions and up to 10 W maximum. The power sources connected to the InsightHome must be capable of providing this power requirement.

There are three power sources for the InsightHome:

- AC/DC power adapter (not supplied)
Manufacturer: CUI
P/N: SMI18-12-V-P5
Description: AC-DC Power Supply, 12Vdc Output Voltage, 1.6Adc Output Current
- Xanbus-enabled device via CAT5 or CAT5e cable (Xanbus cable)
- 9–24 V DC power input connections on the 12-pin connector

All three sources can be used alone or simultaneously. Typically, the AC/DC power adapter is used as a primary source with either a Xanbus connection or the 12-pin connector as secondary sources. See *"Physical Features" on page 13* for connection locations.

DANGER

HAZARD OF ELECTRIC SHOCK AND FIRE

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

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

Safety Extra Low Voltage (SELV) is a designation that refers to a circuit in which the voltages within the circuit and from the circuit to ground have values that are not a shock hazard, under both normal and single fault conditions.

In the InsightHome, the SELV circuits and their intended connections are:

- The AC/DC power adapter connected to the power port of the InsightHome.
- Xanbus communications and power which come from SELV circuits on Xanbus-enabled Schneider products.
- 9–24 V DC power input connections which must be SELV and are connected to the InsightHome via the 12-pin connector.
- Ethernet circuits or Class 2 circuits (Class 2 is a 24V, 100VA limited circuit).

InsightHome Web User Interface

This section describes the elements of the web-based user interface for the InsightHome. This interface is used to check the status of the InsightHome, configure the communications options, monitor and log data for your network, and perform upgrades. The menu bar contains icons for going to the home screen or setup screen, linking to the Schneider Electric Web site, and closing or logging out of the web user interface.

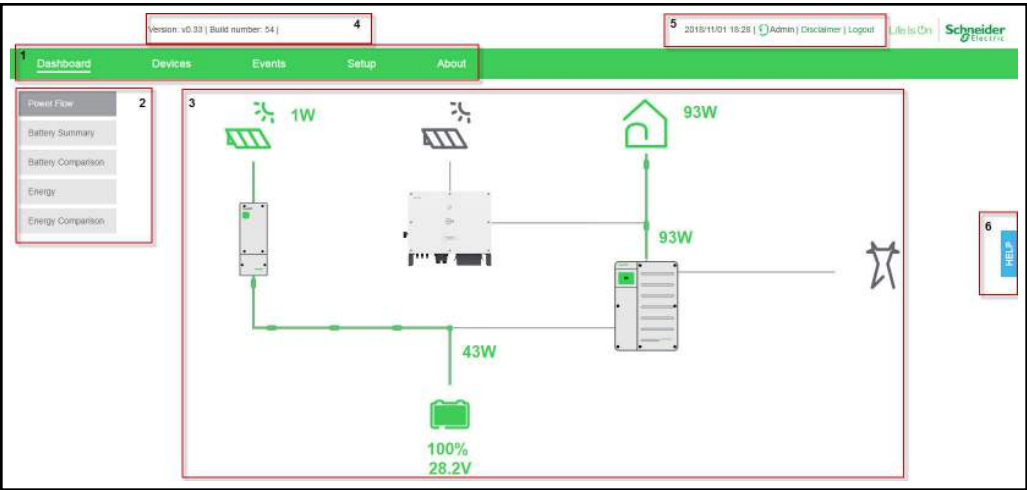
Correct operation of the web user interface has been verified with the following browsers:

- Google Chrome™ 78.x or later
- Microsoft® Windows® Internet Explorer® 11.476 or later
- Safari® 5.x or later

Important: JavaScript and cookies must be enabled in your Web browser for the interface to function.

To access the web user interface, log in with a user name and password. For more details see *Logging in to the InsightHome Web Application* on page 33.

Figure 5 Web user interface



1	Main menu bar – displays major menu items including the Dashboard, Devices, Events, and Setup commands. It includes About , which shows InsightHome device information.
2	Sub-menu tabs – displays sub-menu items expanding commands associated with the major menu items.
3	Main display area
4	Web app version and build number
5	Information bar – displays the system date, time, and user type. Also, contains a link to the Disclaimer page and Logout.
6	Floating Help tab

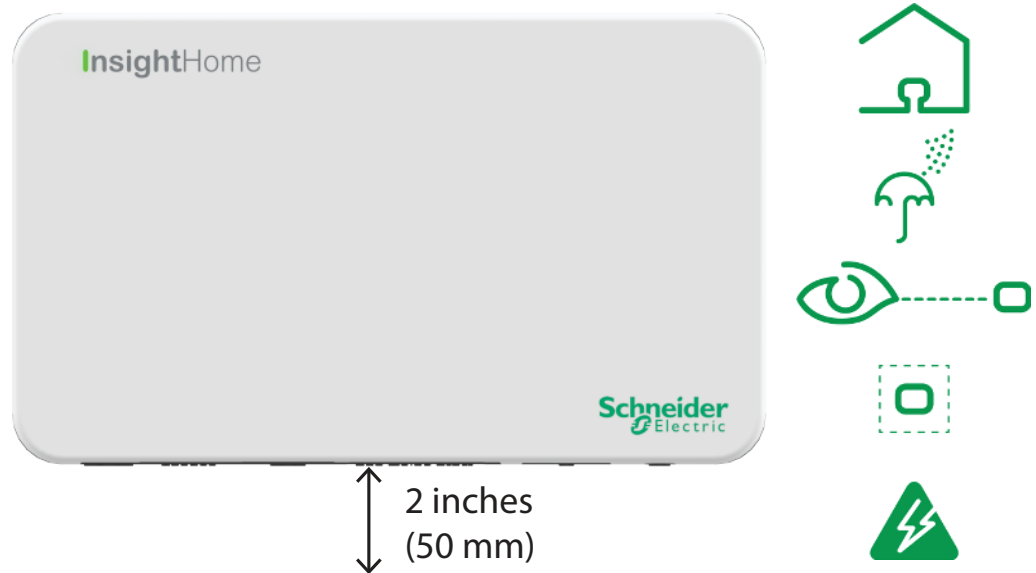
2 Installation

What's in This Chapter?

Choosing a Location	19
Materials and Tools Required	20
Mounting the InsightHome	21
Connecting the InsightHome to the Xanbus Network	21
Connecting the InsightHome to the Internet	23
Turning On the InsightHome	25
Turning Off the InsightHome	26
Power Cycling	26

Choosing a Location

Figure 6 Location choices



- Choose a clean, dry, easily accessible location indoors.
- If you mount the InsightHome on a wall, the recommended height is at eye-level so that you can clearly see the LED indicator and have easy access to the data and communication ports.
- All of the ports on the InsightHome are accessible from the bottom of the device when mounted on a wall. Clearance of at least 2 inches (50 mm) below the device is needed to allow for the bending radius of cables that connect to the InsightHome.
- You should not run cables through conduits that can be exposed to lightning strikes. The following are recommended maximum cable lengths in a InsightHome system:
 - 131 feet (40 m) Total Xanbus network
 - 328 feet (100 m) Router to InsightHome
 - 164 feet (50 m) Modbus Master (RS 485) to InsightHome

Materials and Tools Required

The following materials are supplied in the Conext InsightHome package:

- One InsightHome unit
- One InsightHome Quickstart Guide

The following materials and tools are not supplied but are required to complete the installation:

- CAT5e Ethernet cable(s)
- Modbus network cables(s)
- One AC/DC power supply adapter
Manufacturer: CUI
P/N: SMI18-12-V-P5Description: AC-DC Power Supply, 12Vdc Output Voltage,
1.6A dc Output Current
- One 12-pin connector
- Wire stripper
- Ferrules
- Screwdriver set
- Pliers
- Diagonal cutter or heavy duty scissors

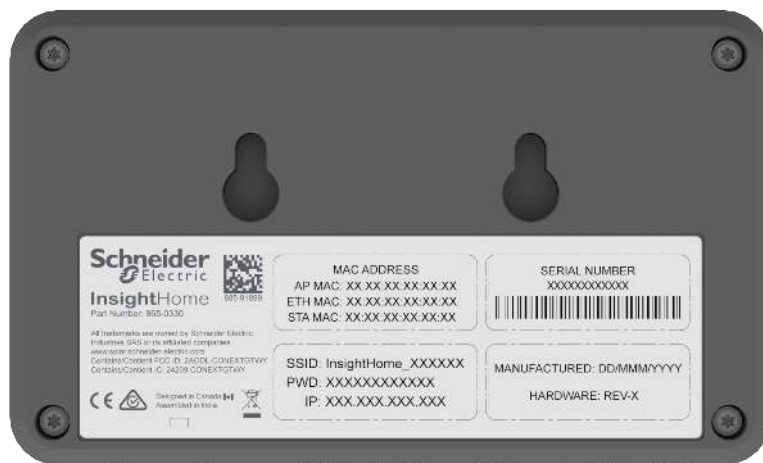
Mounting the InsightHome

To mount the InsightHome on a wall:

1. Choose the location for mounting the device.
2. Using the mounting diagram that shipped with your product, mark the mounting holes on the wall with a pencil.
3. The holes must be at the same height and 4 7/16 inches (112 mm) apart.
4. Insert the two anchors and mounting screws supplied in the marked locations on the wall, leaving a space of about ¼ inch (6 mm) between the wall and screw head.
5. If you are mounting the InsightHome on concrete, the supplied anchors and mounting screws are not suitable. Use two mounting screws that are equivalent to #6 screws.
6. Place the InsightHome on the mounting screws, and confirm a snug fit before going to the next step.

Note: Before placing the InsightHome, you may want to take a photograph of the label on the back, as it includes important password information.

7. Connect the wiring and cables.



Connecting the InsightHome to the Xanbus Network

To connect the InsightHome to the Xanbus network:

1. Connect the InsightHome to the Xanbus network using daisy chain configuration.
 - a. Xanbus components can be arranged in any order.
 - b. The InsightHome must be one end of the network. Do not connect two end devices together to form a closed loop configuration.
2. Use a network terminator at the non-InsightHome end of the network. See *Figure 7*.
3. Do not interconnect two separate Xanbus networks, meaning, do not daisy chain one Xanbus network with another.
 - a. Not intended to be used in two separate inverter systems.

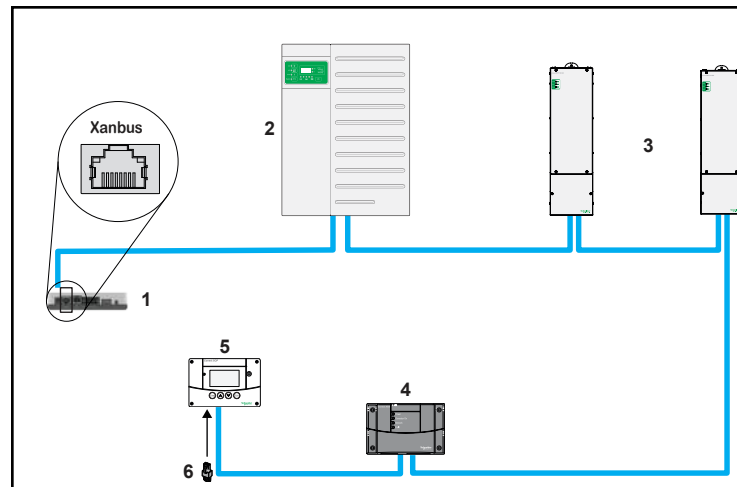
NOTICE

EQUIPMENT DAMAGE

- Do not connect a Xanbus cable plug into the Ethernet port on the InsightHome.
- Connect only to Xanbus ports and use a network terminator on the end device in the daisy chain.

Failure to follow these instructions can result in equipment damage.

Figure 7 Sample Xanbus network



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

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

Connecting the InsightHome to the Internet

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

- Microsoft® Windows® 7 or later
- Mac OS® X 10.4.8. or later
- Google Chrome™ 78.x or later
- Microsoft® Windows® Internet Explorer® 11.476 or later
- Safari® 5.x 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.

To connect the InsightHome to a Computer on an Ethernet Network:

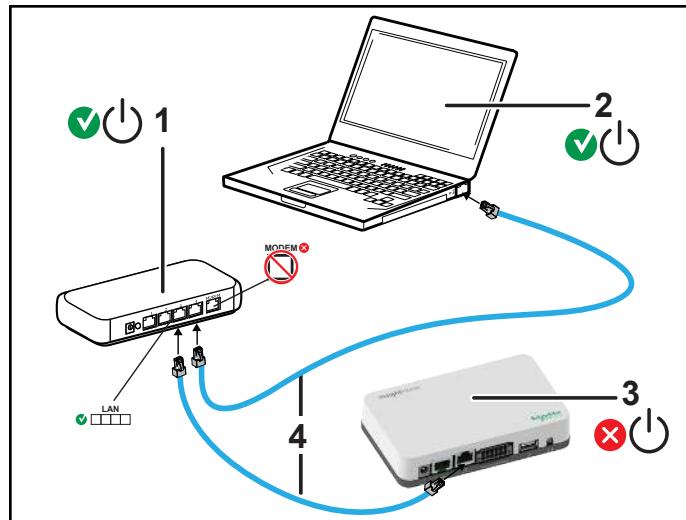
NOTICE

EQUIPMENT DAMAGE

- Do not connect an Ethernet cable from the InsightHome to the MODEM port on the network router.
- Do not connect an Ethernet cable plug into a Xanbus port on the InsightHome.

Failure to follow these instructions can result in equipment damage.

1. Make sure the computer and network router are turned on and the InsightHome is not turned on. Make sure the network router selected has DHCP enabled.
2. Connect one end of an Ethernet cable to the computer's network port.
3. Connect the other end of the Ethernet cable to a vacant Ethernet/LAN port on the network router.
4. Connect one end of the Ethernet cable (supplied) to the LAN port on the network router.
5. At this stage, the network router should be on, but the LED showing port activity on the router will not show any indication.
6. Connect the other end of the Ethernet cable to the InsightHome.
7. At this stage, the Ethernet cable should be the only cable plugged into the InsightHome.

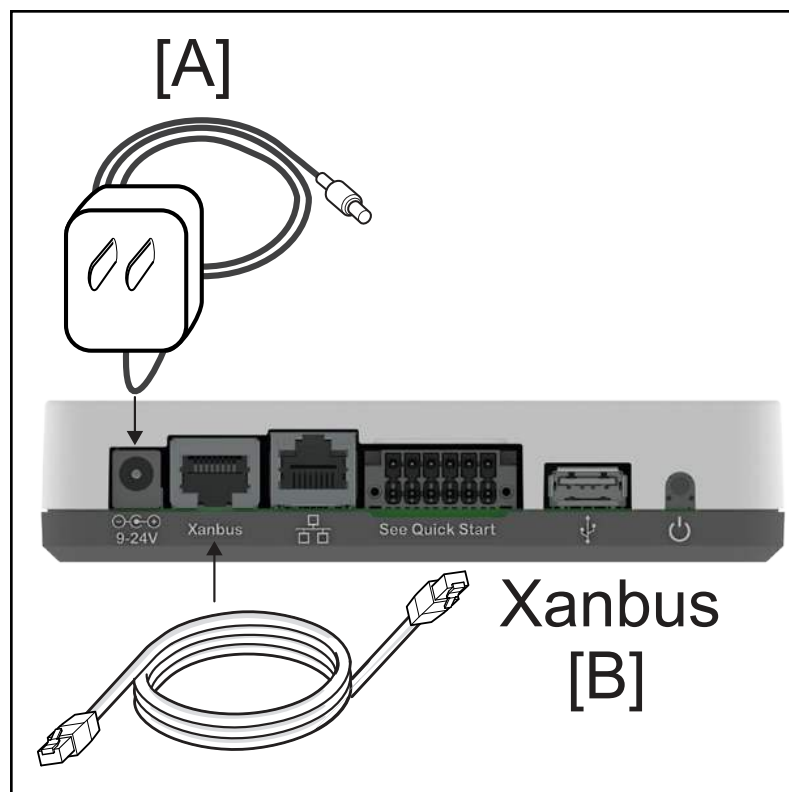
Figure 8 Ethernet connection (LAN)

1	Router/modem
2	Laptop
3	InsightHome unit
4	Ethernet cables

Turning On the InsightHome

Before turning on the InsightHome, you must connect it to a power source.

Figure 9 Power connections and button



To turn on the InsightHome:

1. Select a power source to the InsightHome. You can choose either of the following:
 - a. Plug an **(A)** AC/DC power adapter into the AC wall outlet (see *Material List* for specifications).
 - b. Connect the InsightHome to the Xanbus network **(B)** using Ethernet cables.

⚠ WARNING

UNINTENDED OPERATION HAZARD

Xanbus is a valid power source for the InsightHome, however, if you use Xanbus for the first time set-up the InsightHome 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 InsightHome clock and time zone before performing any other commissioning steps, refer to *Changing the Time* on page 38 for instructions.

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

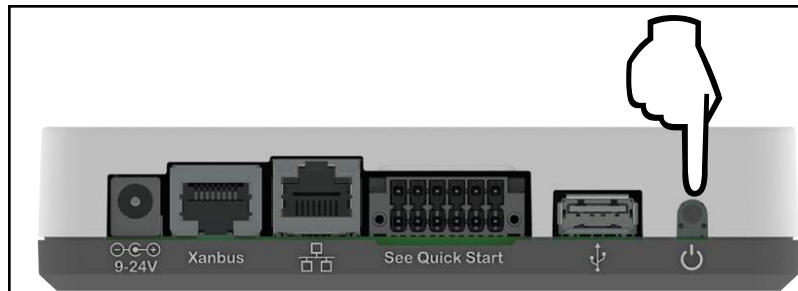
2. Connect **(A)** or **(B)**'s connector to InsightHome's Power port for **(A)** or Xanbus port for **(B)**, respectively.
3. Connect **(A)**'s power plug to an AC wall outlet or **(B)**'s other Xanbus cable connector to a Xanbus port on a Xanbus device.
4. Observe the LED indicator and wait for the LED to light up solid green. The InsightHome is now turned on.
5. Proceed to *"Logging in to the InsightHome Web Application"* on page 33.

Turning Off the InsightHome

To turn off the InsightHome:

- Press the Power button according to the settings in *Table 1 on page 13* or use the web user interface to shut down the unit and turn it off.

Figure 10 Power button



Power Cycling

To power cycle the InsightHome:

1. Turn the InsightHome OFF.
 - a. Press and hold the Power button according to the settings in *Table 1 on page 13* or use the web user interface.
 - b. Remove the power connections to the InsightHome.
2. Wait ten seconds before the next step.
3. Ensure that there is no USB thumb drive inserted in the USB Host port.
4. Turn the InsightHome ON.
 - a. Plug and connect the InsightHome to a power source.

3 Getting Started

What's in This Chapter?

Using the InsightHome Web App via Wi-Fi Access Point (AP)	29
Enabling Wi-Fi Station	30
Web Security	31
Configuring the InsightHome	32
Logging in to the InsightHome Web Application	33
User Access Levels	34
Changing the Password	35
Changing InsightHome Settings	37
Plant Setup	37
Changing the Time	38
Import and Export Settings	38
Units	39
Install Package	39
Restarting the InsightHome	41
Upgrading Firmware	43
Installing InsightHome Upgrades From a USB Drive	43
Installing InsightHome Upgrades Remotely	43
Upgrading Other Device Firmware	44

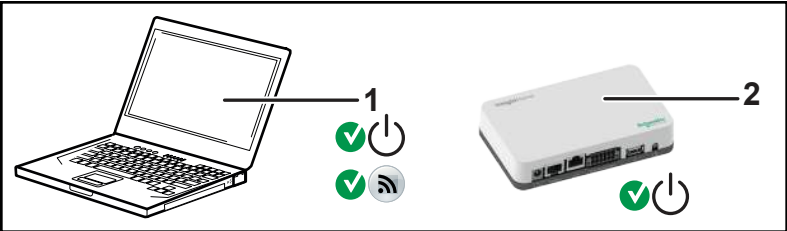
Using the InsightHome Web App via Wi-Fi Access Point (AP)

Wi-Fi Access Point allows you to connect your PC or tablet directly to the InsightHome. This is typically only used for fist-time configuration. **NOTE:** This procedure is not about connecting to a local area network (LAN) via Wi-Fi (for more information, see *Enabling Wi-Fi Station*).

It is possible to connect to the InsightHome web app via its Wi-Fi Access Point. 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
- JavaScript and cookies must be enabled in your web browser.

Figure 11 Wi-Fi connection requirements



1	Laptop
2	InsightHome unit. Wi-Fi password label is on the back panel.

To connect:

1. Make sure the laptop and InsightHome are turned on.
2. Verify that Wi-Fi is enabled on the laptop.
3. Open your laptop's Wi-Fi settings, then look for and connect to the InsightHome SSID. For example, you may look for something similar to **InsightHome_fe808b** below.



4. Enter the **Password** when prompted.
NOTE: The password is printed on a label on the back panel of the InsightHome unit.

5. Proceed to *Logging in to the InsightHome Web Application* (IP address: 192-168-100.1).

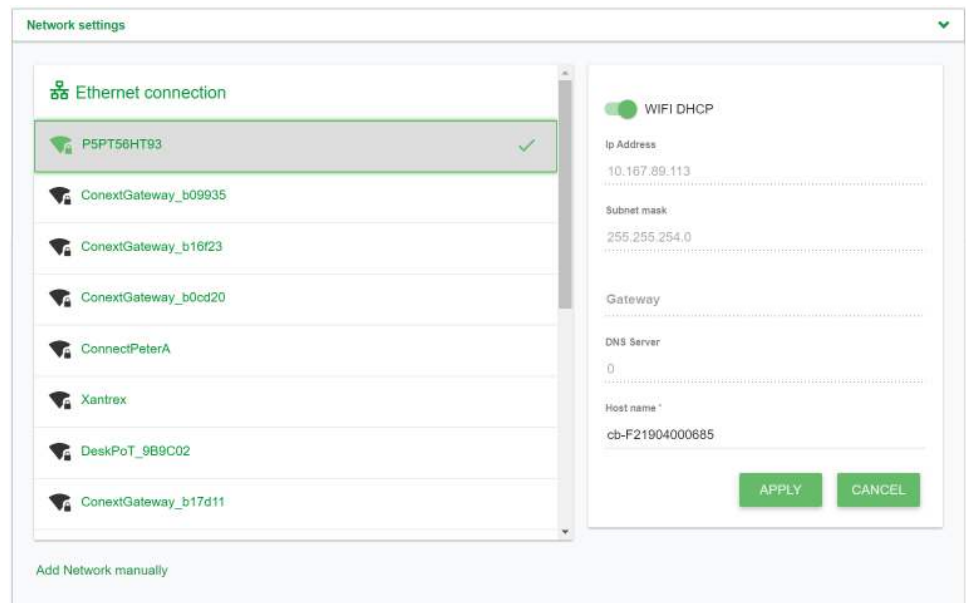
Enabling Wi-Fi Station

When the InsightHome is connected to a wireless router, it is in Wi-Fi Station mode. This procedure describes how to connect to your home Wi-Fi network through the InsightHome desktop app. Before proceeding, verify that you are connected to the InsightHome via the Wi-Fi Access Point instead of a cabled Ethernet (LAN) connection (see *Using the InsightHome Web App via Wi-Fi Access Point (AP)*). **NOTE:** Wi-Fi Station cannot be used unless the LAN cable is disconnected.

To enable Wi-Fi Station:

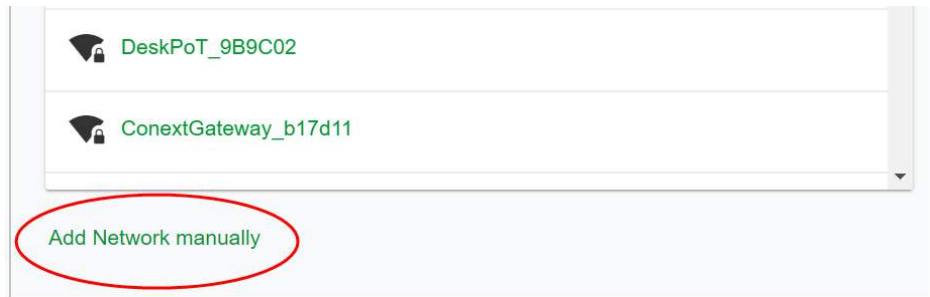
1. Go to **Setup > Network > Network settings**.
2. Select your network. If you do not see your network, go to step 4.
3. Enter the network password. When you enter the correct password, the network name and icon will turn green and move to the top of the list, and a green checkmark will appear beside the name. **NOTE:** If you have an Ethernet cable plugged in, the checkmark will remain beside **Ethernet connection**, and you will not be able to successfully connect to the network you selected in step 2. Unplug the Ethernet cable, connect your device via the Wi-Fi Access Point, and repeat the steps above.

Figure 12 Wi-Fi Station connection



4. If you do not see your network, add the network manually:
 - a. Below the list of networks, click **Add Network manually**.

Figure 13 Adding a network manually



- b. Enter the SSID (network name).
 - c. Enter the network password.
 - d. Click **Connect**.

Web Security

When you access the InsightHome web user interface you may see a warning stating that the web page is not trusted or the web page is not secure. See *"Installing the InsightHome Security Certificate" on page 70* for instructions on how to do this using the Chrome web browser on Windows. Other browsers will have similar mechanisms for installing the certificate.

Configuring the InsightHome

To complete InsightHome setup, you must successfully complete the procedures in *Installation on page 18*. Make sure the InsightHome is connected, the Power LED is on, and the Event LED is off. Your Xanbus devices should still be in standby mode.

When you initially log in to the web user interface, most of the setup information appears automatically with their default values. Some information must be changed (such as passwords), some information can be modified as needed, and some information can only be modified by a qualified IT professional.

The following items are part of the InsightHome configuration process:

Primary

1. Log in - see *"Logging in to the InsightHome Web Application" on the next page*
2. Change the password - see *"Changing the Password" on page 35*
3. Set plant site information - see *"Plant Setup" on page 37*
4. Set the system time - see *"Changing the Time" on page 38*

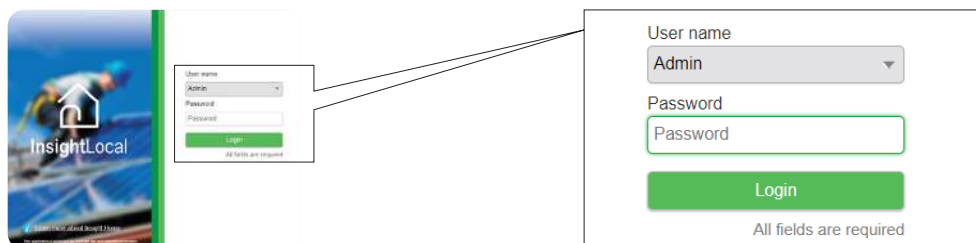
Optional/Occasional

1. Configure general device settings - see *"Changing Device Settings" on page 50*
2. Upgrade the device firmware - see *"Upgrading Firmware" on page 43*

Logging in to the InsightHome Web Application

1. If you have connected the InsightHome via Wi-Fi Access Point, go to the IP address <https://192.168.100.1> to access the web user interface.
2. If you have connected the InsightHome via Ethernet or Wi-Fi Station, use the following steps:
 - a. Insert a blank USB drive into the InsightHome USB port.
Ensure there are no firmware upgrade files on this USB drive.
 - b. After the InsightHome beeps twice, remove the USB drive.
 - c. Insert the USB drive into your laptop USB port.
 - d. Copy the HTML file to your laptop.
 - e. Remove the USB drive from your laptop.
 - f. Open the HTML file and click the link to the IP address of the InsightHome.
3. Bookmark this address. **Important:** The web address is a locally and privately assigned (LAN) device address.
4. Select your User Name. Select **Admin**.
5. Enter your Password. The initial password is **Admin123**.
6. **Important:** When prompted, change the initial password immediately to protect the device from unauthorized users and to enable changes to device settings.
Passwords must be at least 10 characters long, consisting of: one or more upper case characters; one or more lower case characters; one or more numbers; and one or more symbols.

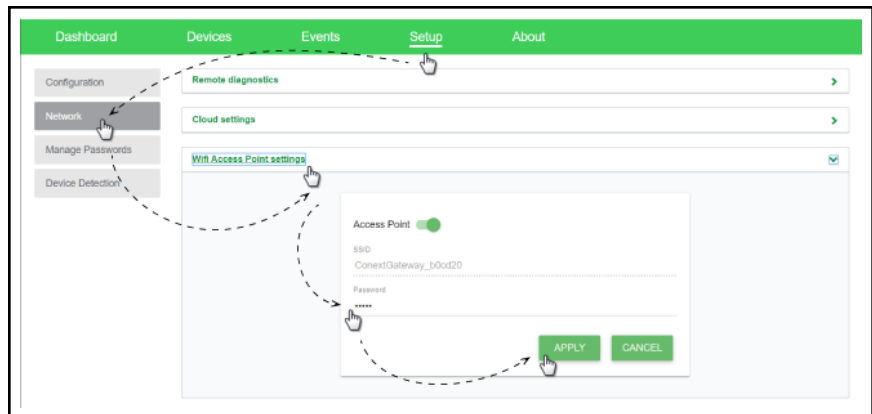
NOTE: To perform administrative functions such as a firmware update, set User Name to **Admin**. Settings are disabled until the initial password is changed.



The image shows the login interface for the InsightLocal web application. On the left is a small graphic with the text 'InsightLocal'. To its right is a login form with a 'User name' dropdown menu (showing 'Admin'), a 'Password' text input field, and a green 'Login' button. Below the button, it says 'All fields are required'. A callout box on the right provides a larger, more detailed view of the login form, showing the 'User name' dropdown, the 'Password' field, and the 'Login' button. Below the button, it states 'All fields are required'.

7. Change the InsightHome SSID and network password:

- a. Go to **Setup > Network > Wifi Access Point Settings**
- b. (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.
- c. Replace the current password under the **Password** field with your own password.
Important: Passwords must be at least 10 characters long, consisting of: one or more upper case characters; one or more lower case characters; one or more numbers; and one or more symbols.
- d. Click **Apply** to save the new password and/or SSID.



User Access Levels

The following types of user accounts are available:

Account type	Description	Accounts allowed/InsightHome
Admin	Can configure the InsightHome and attached devices.	2
User	Can view the InsightHome dashboard and the status of attached devices, but cannot configure the InsightHome or attached devices.	5
Guest	Can only view the InsightHome dashboard.	1

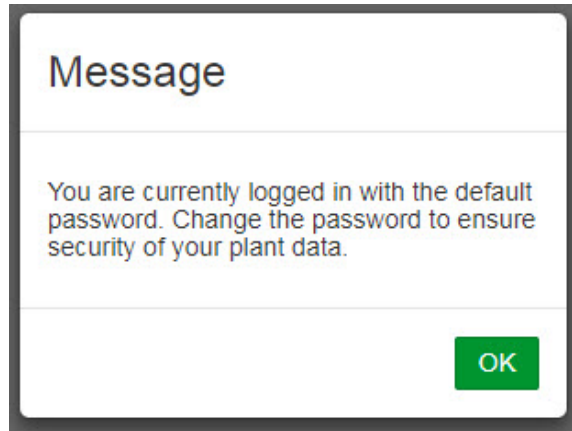
Changing the Password

What to expect when logging in for the first time:

- When logging in to the web application for the first time, either as **Admin** or **User** or **Guest**, the system will automatically ask you to change the password from the factory default **Admin123** or **User123** or **Guest123**, respectively.

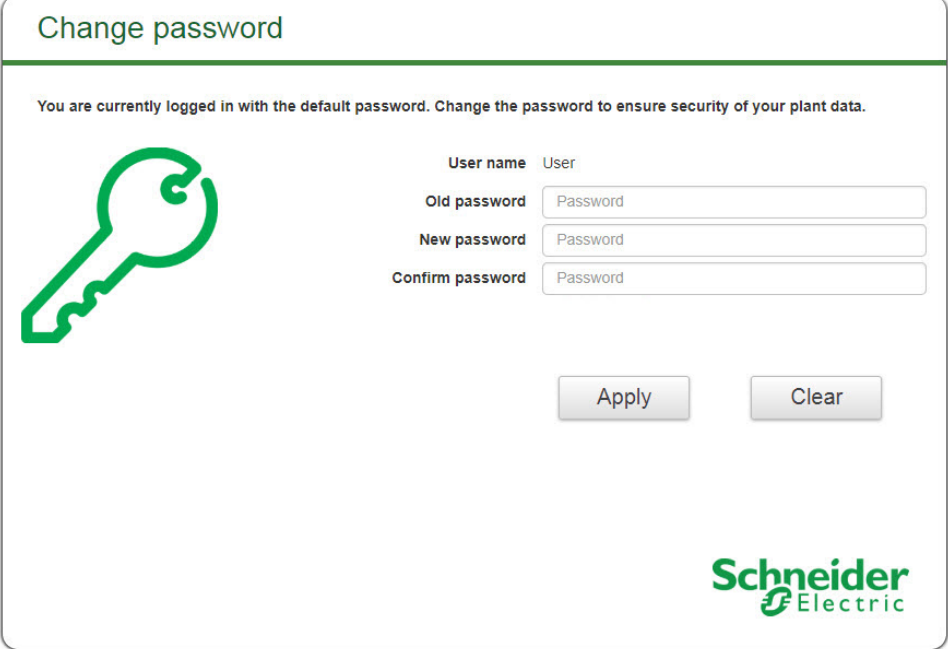
Important: To protect your privacy, change all default passwords when you login for the first time.

Figure 14 Message box to change password



- Click **OK** and follow the instructions to change the password. Passwords must:
 - Be at least 10 characters in length
 - Contain at least one upper case character
 - Contain at least one lower case character
 - Contain at least one digit
 - Contain at least one symbol

Figure 15 Password screen



Change password

You are currently logged in with the default password. Change the password to ensure security of your plant data.



User name: User

Old password:

New password:

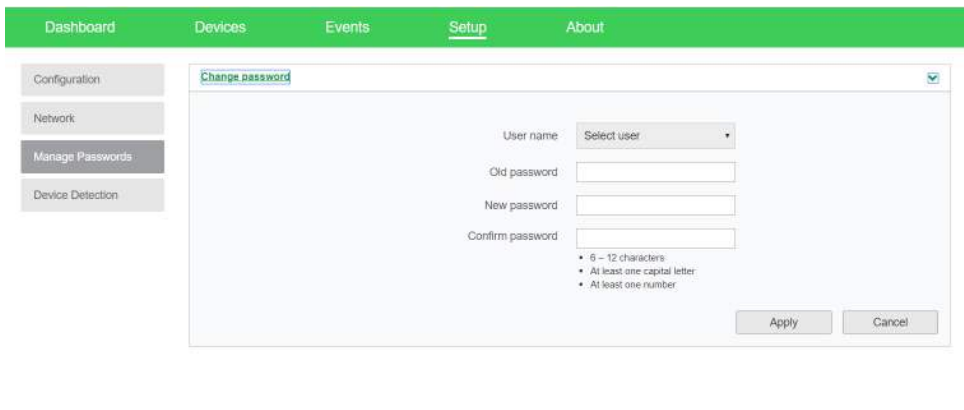
Confirm password:

Schneider Electric

- You may have to log in again after changing the initial password.

To change the password after the initial log in:

Figure 16 Change password setting



Dashboard | Devices | Events | **Setup** | About

Configuration | Network | **Manage Passwords** | Device Detection

Change password

User name: Select user

Old password:

New password:

Confirm password:

- 6 – 12 characters
- At least one capital letter
- At least one number

1. Click **Setup > Manage Passwords > Change Passwords**.
2. Select the **User name** type. **Note:** Admin-level can change all passwords. User-level can change User and Guest passwords. Guest-level cannot change any passwords.
 - Admin
 - User
 - Guest
3. Enter the **Old password**.
4. Enter the **New password**.

5. Enter the **Confirm password**.
6. Click **Apply**. Your settings will be immediately applied.

Changing InsightHome Settings

The procedures for configuring the other InsightHome Settings are described in the following sections.

To change InsightHome settings:

1. In the main menu bar, click **Setup > Configuration**.
The **Configuration** settings appear in the main display area.
2. Click any of the following settings.
 - Plant setup - see *Plant Setup on page 37*
 - Time setup - see *Changing the Time on page 38*
 - Import & export settings - see *Import and Export Settings on page 38*
 - Units - see *Units on page 39*
 - Modbus settings - see *Connecting and Configuring Modbus Devices on page 47*
 - Restart InsightHome - see *Restarting the InsightHome on page 41*
 - Install package - see *Install Package on page 39*
3. With only a few exceptions, you may save a setting by clicking **Apply** or ignore changes by clicking **Cancel**.
That portion of the window expands to display the change options for that setting. The size and content of the expanded window varies depending on the setting type.

Plant Setup

It is recommended to name the plant site to distinguish it from other installations in your power system.

Figure 17 Plant setup screen

To enter plant information:

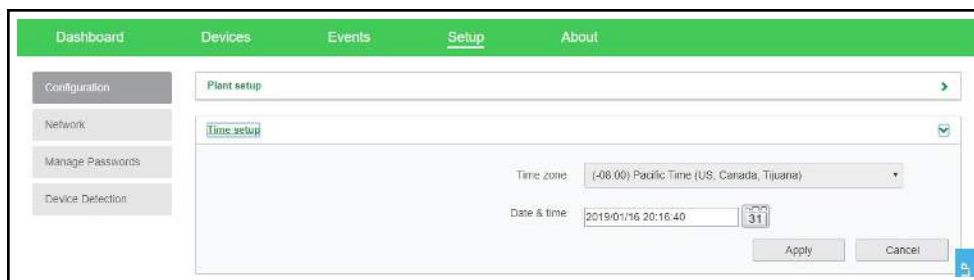
1. Click **Setup > Configuration > Plant setup**.
2. Enter a **Friendly name**. Choose a name that can easily identify the plant site to your customers.
3. Enter the **Installed AC capacity (kW)**.

4. Enter the **Installed year**.
5. Click **Apply**. Your settings will be immediately applied.

Changing the Time

In order for the Cloud interface to work properly, you must set the correct time and time zone. You can choose to use the network time for your system.

Figure 18 Time setup screen



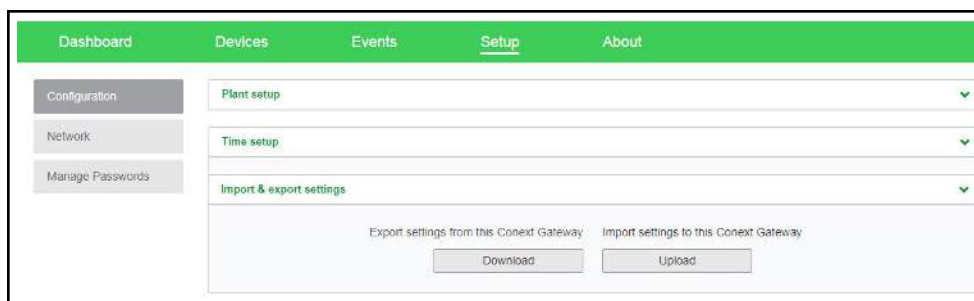
To change the InsightHome time:

1. Click **Setup > Configuration > Time setup**.
2. Select the **Time zone**. This time setting overrides settings on other devices in the system.
3. Select the **Date & time**.
4. Click **Apply**. Your settings will be immediately applied.

Import and Export Settings

This command setting allows you to either export the configuration of this InsightHome to another InsightHome unit or import the configuration of another InsightHome to supersede this InsightHome unit.

Figure 19 Import & export setup screen



To export settings:

1. In the main menu bar, click **Setup > Configuration**.
The **Configuration** settings appear in the main display area.
2. Click **Import & export settings**.
 - a. Click **Download**. The compressed configuration file *usersettings.zip* will be automatically saved to the **Downloads** folder of the browser.

- b. If necessary, you may copy this file to an external drive and later import it to a different InsightHome device.

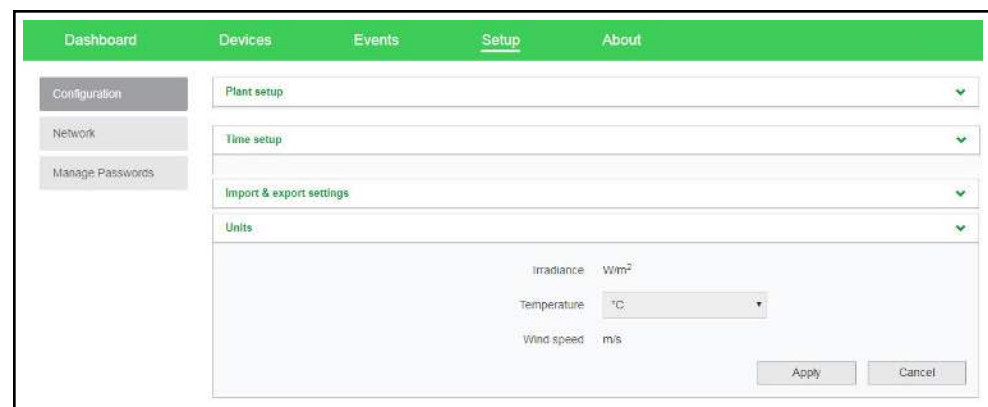
To import settings:

1. In the main menu bar, click **Setup > Configuration**.
The **Configuration** settings appear in the main display area.
2. Click **Import & export settings**.
 - a. Click **Upload**.
 - b. Locate the compressed configuration file *usersettings.zip* from a local directory or an external drive.
 - c. Click **Restart now** to finish the importing of the configuration file.

Units

This setting allows you to change the standard unit of measurement used in solar irradiance, temperature, and wind speed.

Figure 20 Units setup screen



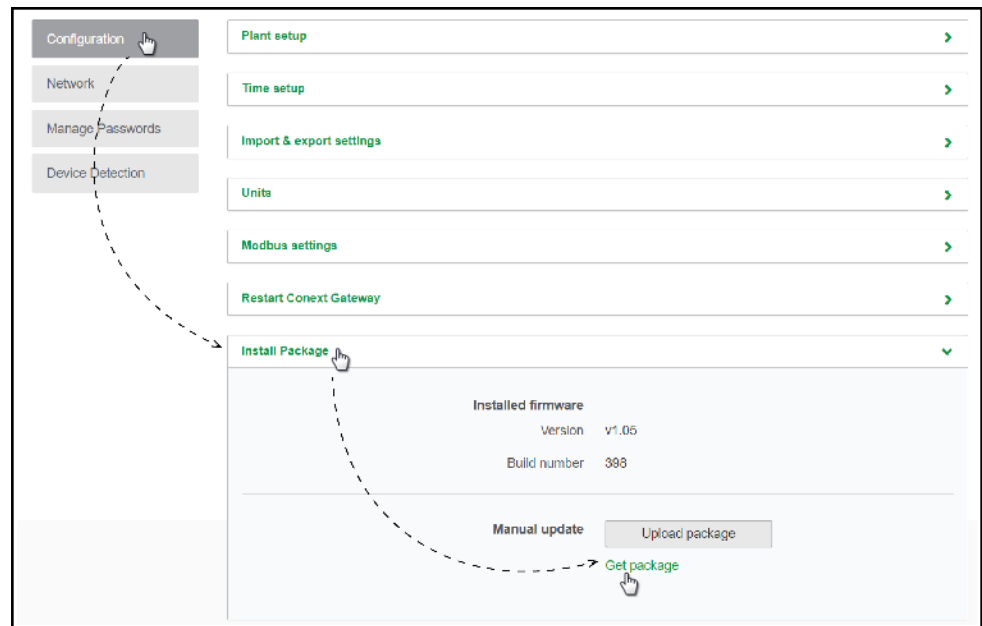
To change units:

1. In the main menu bar, click **Setup > Configuration**.
The **Configuration** settings appear in the main display area.
2. Click **Unit**.
Currently, only **Temperature** can be changed to either celsius or fahrenheit.
3. Save the settings by clicking **Apply**.
Alternatively, ignore the changes by clicking **Cancel**.

Install Package

To install a InsightHome upgrade remotely:

1. From the InsightHome Web Application home page, go to **Setup > Configuration > Install Package**.



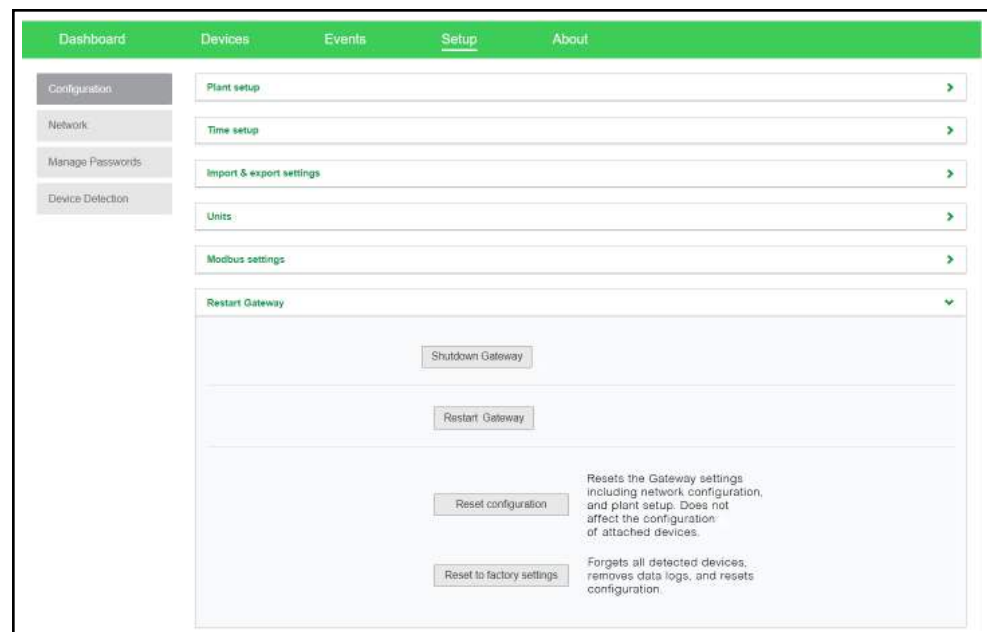
2. Download the firmware package.
 - a. Click **Get package**. This will take you to the InsightHome product webpage.
 - b. From the product webpage, go to **DOWNLOADS > Firmware**.
 - c. Search for the latest firmware package from the list and click it to begin downloading.
 - d. Save the .epkg file to a local directory.

3. Go back to the InsightHome Web Application.
4. Click **Upload package**.
5. Search and select the firmware package (.epkg file) you saved in a local directory from the InsightHome product webpage.
6. Click **Open** from the Windows dialog. The upgrade begins automatically.
7. As the firmware package is transferred to the InsightHome, progress is indicated in percentage, and a message screen indicates when the file transfer has been completed successfully.
8. When prompted, reboot the InsightHome. See *Restarting the InsightHome on page 41*.

Restarting the InsightHome

You are allowed to restart, reset the configuration, or return the InsightHome to all of the original factory settings remotely from the web user interface or by pressing and holding the Power button according to the settings in *Table 1 on page 13*.

Figure 21 Restart InsightHome screen



Choose what to do in the web user interface:

1. Click **Setup > Configuration > Restart InsightHome**.
2. Click any of the action buttons depending on the kind of reset you want to perform.
 - **Restart InsightHome** – will execute a soft restart of the InsightHome unit.
 - **Reset configuration** – will execute a reset of InsightHome settings, including network configuration, and plant setup. This action does not affect the configuration of connected devices.
 - **Reset to factory settings** – will execute a complete return to factory settings

including forgetting all detected devices, removing data logs, removing event logs, and resetting all configuration.

3. Follow the succeeding instructions.

Upgrading Firmware

You can perform firmware upgrades for your InsightHome and Xanbus-enabled devices when they are available for download.

There are three upgrade procedures, namely:

- *"Installing InsightHome Upgrades From a USB Drive" below*
- *"Installing InsightHome Upgrades Remotely" below*
- *"Upgrading Other Device Firmware" on the facing page*

Installing InsightHome Upgrades From a USB Drive

Follow the procedure below to change the InsightHome firmware to an updated version.

To update the firmware:

1. Using a laptop computer, format a USB drive and open a web browser.
 2. Go to <http://solar.schneider-electric.com> and download the latest InsightHome firmware version (contained in a ZIP file).
 3. Navigate to **Products > Battery Based Inverters > Accessories > InsightHome**
 4. Click **DOWNLOADS > Firmware > FWYYYYMMDD-InsightHome VX.XX BNXXXX (865-0330).ZIP**
 5. Pick the firmware version (V) with a higher number and also a higher build number (BN). The ZIP file is approximately 35 MB.
 6. Extract the .epkg file from the ZIP file into the root directory of the USB drive (supplied with the unit).
 7. To initiate the update to the firmware:
 - a. Insert the USB drive into the port on the InsightHome.
 - b. The InsightHome will beep once and the LED will blink while the the firmware is copied to the InsightHome and the upgrade is performed. This can take 5–10 minutes.
 - c. If the update takes more than 10 minutes, make sure that the .epkg file is copied correctly into the root directory.
- Important:** Once the USB drive is inserted, Do not turn off the InsightHome.
8. Once the firmware upgrade is done, the InsightHome emits two beeps. and the LED indicator stops blinking.
 9. Remove the USB drive.
 10. Manually reboot the InsightHome using the power switch to complete the firmware upgrade process.

Installing InsightHome Upgrades Remotely

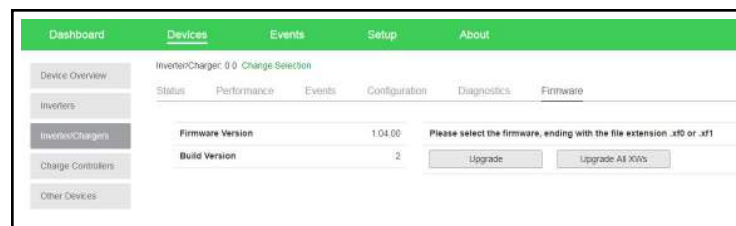
For full instructions, see *"Install Package" on page 39.*

Upgrading Other Device Firmware

It is possible to upgrade a device's firmware through the InsightHome web application.

<i>NOTICE</i>
RISK OF EQUIPMENT DAMAGE ■ Consult the device's Owner's Guide when changing the device's settings. ■ Make sure the device connected on the Xanbus or Modbus network is in Standby mode before changing settings. ■ Do not change any settings unless you are familiar with the device. Failure to follow these instructions can result in equipment damage.

Figure 22 Sample Device Overview screen - List display



To obtain the firmware package:

1. From a laptop computer, open a web browser.
2. Go to <http://solar.schneider-electric.com> and download the latest version of the correct device firmware (contained in a ZIP file).
3. Navigate to the appropriate product page.
4. Click **DOWNLOADS > Firmware > FWYYYYMMDD-Product NameVX.XX BNXXXX (Product Number).ZIP**.
5. Pick the firmware version (V) with a higher number and also a higher build number (BN). The ZIP file is approximately 6 MB.
6. Extract the .xf0 file from the ZIP file into a folder on the local drive.

To upgrade a device firmware:

1. In the main menu bar, click **Devices**.
2. Put the device in to Standby mode first (if the device is an inverter, this will stop power production).
 - a. Click a device you want to put in to Standby mode.
 - b. Click **Configuration > Controls**.
Note that **Controls** may be called differently such as **AGS Control**.
 - c. Search for the control setting **Operating Mode**.
 - d. Select **Standby**.
 - e. Click **Apply**.

3. Click **Firmware** .
4. Click **Upgrade**.
5. Follow the step-by-step upgrade instructions.
6. To upgrade all similar devices in the network, click **Upgrade All**.
7. Follow the step-by-step upgrade instructions.
8. Use the **Operating Mode** menu to put the device back into normal operating mode.

4 Configuring Devices

What's in This Chapter?

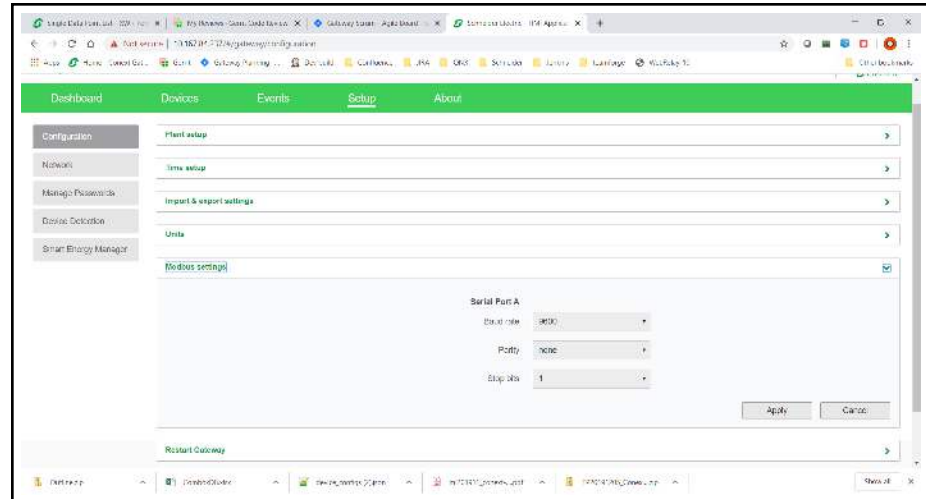
Connecting and Configuring Modbus Devices	47
Modbus TCP Settings	48
Removing a Modbus Device	49
Changing Device Settings	50
Device Association	52
Cloud Settings	53
Configuring an AC-Coupled System	54
Configuring the Grid Code Region	55
Enabling California Rule 21	56

Connecting and Configuring Modbus Devices

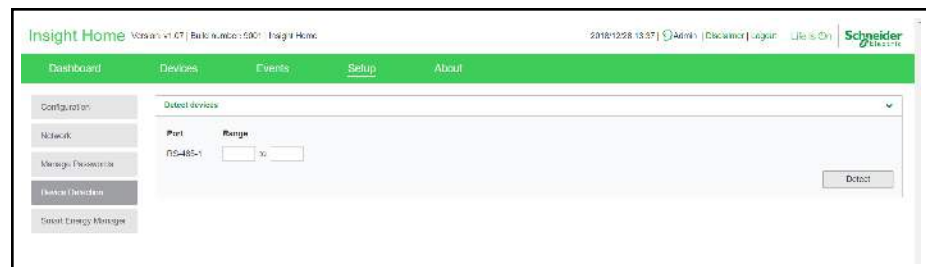
NOTE: For Modbus map information, contact Schneider Electric.

Connect Modbus wires to pins 16, 18, and 20 (see *Physical Features*), and then complete the following steps in the InsightHome web application:

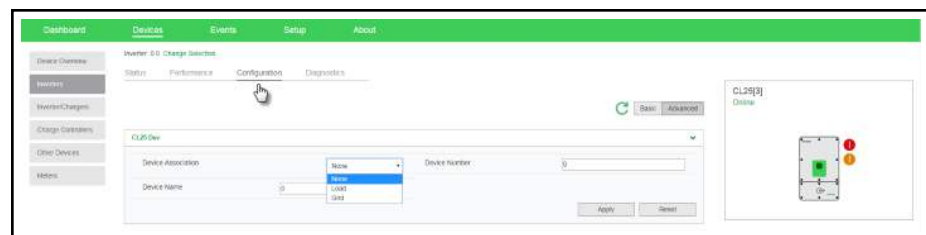
1. Go to **Setup > Configuration > Modbus Settings**.
2. Complete the **Serial Port** setup and then click **Apply**.



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



5. Go to **Devices** and then select a device.
6. Go to **Configuration** and configure the device. Repeat steps 5 and 6 for each device.



Modbus TCP Settings

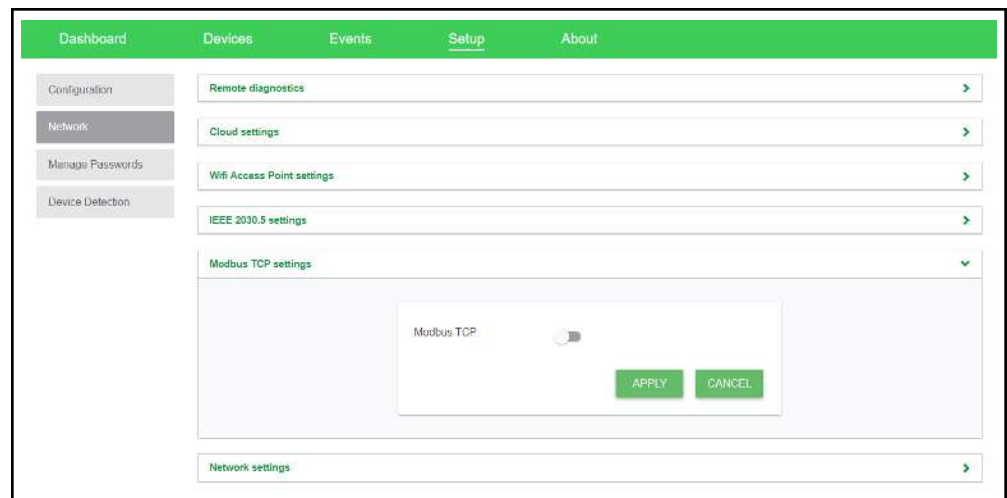
Modbus TCP allows an external controller to communicate with the InsightHome and perform monitoring and control activities.

Important: The Modbus TCP protocol is not secure. **DO NOT** route this protocol over an untrusted public or private network. Ensure adequate cybersecurity protections are enforced on your network. Maintain appropriate firewalls and physical access restrictions.

To enable Modbus TCP:

1. Go to **Setup > Network > Modbus TCP settings**.
2. Slide the toggle switch to the right.
3. Click **Apply**.

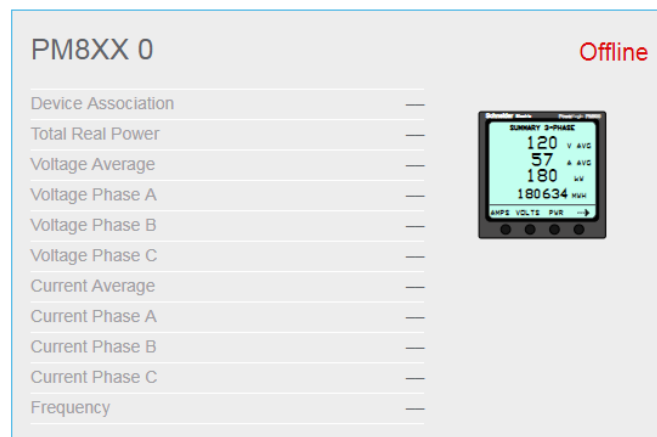
Figure 23 Modbus TCP settings



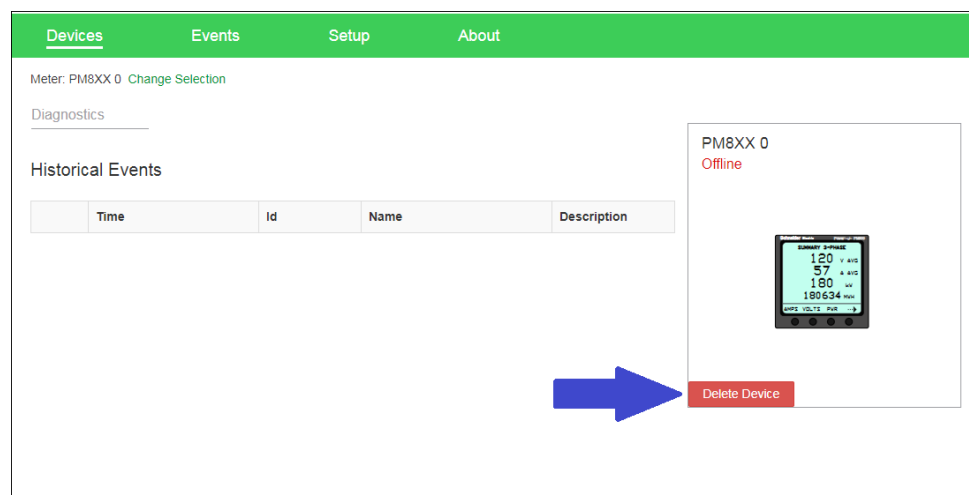
Removing a Modbus Device

To remove a Modbus device from InsightHome:

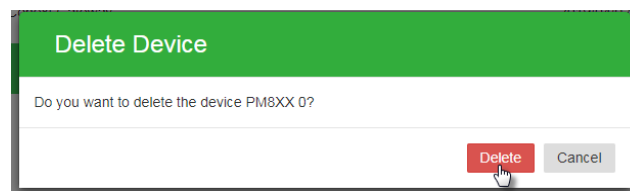
1. Disconnect the device from the bus.
2. Log in to the InsightHome web application.
3. Select the **Devices** tab and then navigate to the Modbus device that you want to remove.
4. Verify that the device is "Offline" and then click on the device.



5. Click **Delete Device**.



6. In the *Delete Device* dialog, click **Delete**.



7. Restart your InsightHome (recommended).

Changing Device Settings

Before making any changes, familiarize yourself thoroughly with the effects of changing the settings of another device.

NOTICE

RISK OF EQUIPMENT DAMAGE

- Consult the device's Owner's Guide when changing the device's settings.
- Make sure the device connected on the Xanbus or Modbus network is in Standby mode before changing settings.
- Do not change any settings unless you are familiar with the device.

Failure to follow these instructions can result in equipment damage.

Figure 24 Sample Device Overview screen - Icons display

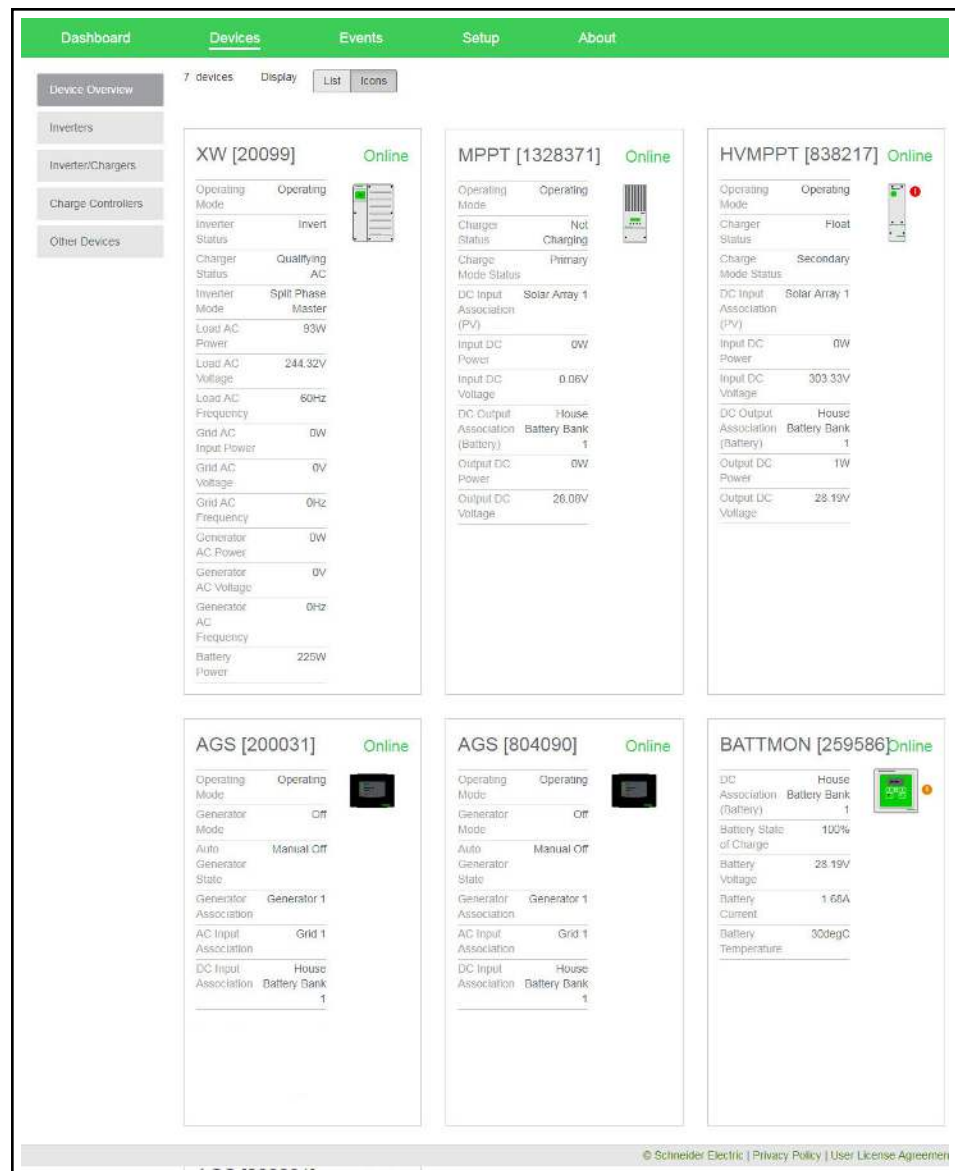


Figure 25 Sample Device Overview screen - List display

Device type	Device Id	Status
XW	20099	Online
QT	830209	Online
HVMPT	538217	Online
MPPT	1328371	Online
AGS	804090	Online
BATTMON	259086	Online
AGS	200031	Online

To change a device setting:

1. In the main menu bar, click **Devices**. See *Figure 24* for a sample of the default display of all connected devices.
2. If you want a shorter list of devices, switch to a List display. See *Figure 25*.
3. Put the device in to Standby mode first.
 - a. Click a device you want to put in to Standby mode.
 - b. Click **Configuration > Controls**.
Note that **Controls** may be called differently such as **AGS Control**.
 - c. Search for the control setting **Operating Mode**.
 - d. Select **Standby**.
 - e. Click **Apply**.
4. Click **Configuration**
5. Choose either **Basic** or **Advanced** settings.
6. Click a device setting category. For example, **Inverter Settings** in the case of an inverter device.
7. Change a specific setting by selecting from a drop down list, toggling a switch, or entering a different value.
8. Click **Apply** to save the changes.
9. Use the **Operating Mode** menu to put the device back into normal operating mode.

Device Association

This procedure describes how to set device associations from the InsightHome web application.

To associate devices:

1. In the main menu bar, click **Devices** and then select the device type from the left menu.
2. Select a device.
3. On the device page, select **Configuration** and then click **Advanced**.
4. Click **Associations** to expand the section.

5. Select the correct association(s) from the drop-down menu(s).
6. Click **Apply**.
7. To verify the associations, select the **Status** tab and confirm that all associations are correct.

Inverter/Charger: XW8548-61 3 [Change Selection](#)

Status	Performance	Events	Configuration	Diagnostics	Firmware
--------	-------------	--------	---------------	-------------	----------

Inverter Status

Inverter Disabled

Charger Status

Charger Disabled

Modbus Address	0	Device Present	Active (data valid)
Inverter Enabled Status	Enabled	Charger Enabled Status	Enabled
Sell Enabled Status	Disabled	Device State	Safe Mode
Inverter Status	Inverter Disabled	Charger Status	Charger Disabled
Active Faults	No Faults	Active Warnings	No Warnings
Battery Association	House Battery Bank 1	DC Voltage	54.7 V
DC Current	0 A	DC Power	0 W
Battery Temperature	N/A	Charge Mode Status	Secondary
AC1 Association (Grid)	Grid 1	AC1 Power	0 W
AC1 L1 Voltage	0 V	AC1 L1 Current	0 A
AC1 L2 Voltage	0 V	AC1 L2 Current	0 A
AC1 Voltage Qualified	Not Qualifying	AC1 Frequency Qualified	Not Qualifying
AC1 Qualified Duration	0 s	AC2 Association (Generator)	None
AC2 Voltage	31.5 V	AC2 L1 Voltage	31.5 V
AC2 L2 Voltage	0 V	AC2 Frequency	0 Hz
AC2 Power	0 W	AC2 L1 Current	0 A
AC2 L2 Current	0 A	AC2 Voltage Qualified	Not Qualifying
AC2 Frequency Qualified	Not Qualifying	AC2 Qualified Duration	0 s
AC Output Association (Loads)	AC Load 1	AC Load Frequency	0 Hz
AC Load Power	0 W	AC Load L1 Voltage	0 V
AC Load L1 Current	0.1 A	AC Load L2 Voltage	0 V
AC Load L2 Current	0 A		

Cloud Settings

To use InsightCloud for remote monitoring and configuration, you must configure the Cloud connection for your InsightHome. The **Cloud settings** screen can be used to check your Cloud connectivity.

To configure the Cloud connection for your InsightHome:

1. Go to **Setup > Network > Cloud settings**.
2. Beside “Cloud enable”, select the **Enable** radio button.

The screenshot shows the 'Cloud settings' interface. The 'Cloud enable' option is set to 'Enable'. The 'Proxy enable' option is set to 'Disable'. The 'Proxy URL' field is empty. The 'Proxy port' field contains '0'. The 'Proxy user name' field is empty. The 'Proxy password' field contains 'xxxx'. The 'Allow remote firmware upgrade' option is set to 'Enable'. The 'Cloud connection status' is indicated by a green dot. The 'Number of transmitted messages' is 101. The 'Number of received messages' is 0. The 'Number of messages failed to send' is 0. The 'Last data transfer time from cloud' is 2019-10-07T22:53:38+0000. The 'Cloud Disconnection Events' count is 3.

3. If you are setting up the InsightHome on your home network, a proxy is likely not required. However, if you are using a corporate, or other externally managed network, then proxy settings may be required. To use proxy settings:
 - a. Enter the proxy URL and port number.
 - b. If required, enter the proxy username and password.
 - c. Set “Proxy enable” to **Enable**.
4. Click **Apply**.

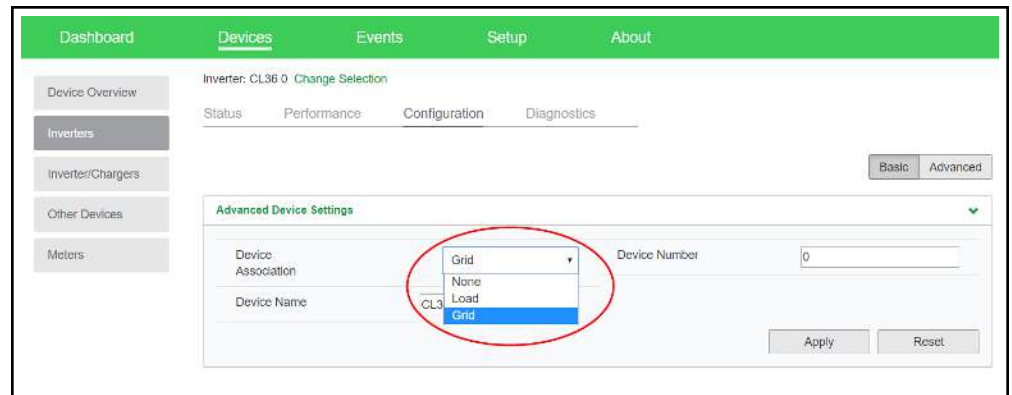
Once the InsightHome is connected to the Cloud, the “Cloud connection status” indicator will change from red to green, and the “Number of transmitted messages” will start to increase. You can also check the “Last data transfer time from cloud” to check the last time your InsightHome sent a message to the Cloud. This information can be helpful to troubleshoot connectivity issues.

Configuring an AC-Coupled System

This procedure describes how to associate a PV inverter's point of coupling in an AC-coupled system.

To configure an AC-coupled system:

1. In the main menu bar, click **Devices** and then select the device type from the left menu.
2. On the device page, select **Configuration** and then click **Advanced Device Settings**.
3. From the drop-down menu, select either **Load** or **Grid** (depending on how your system is set up).

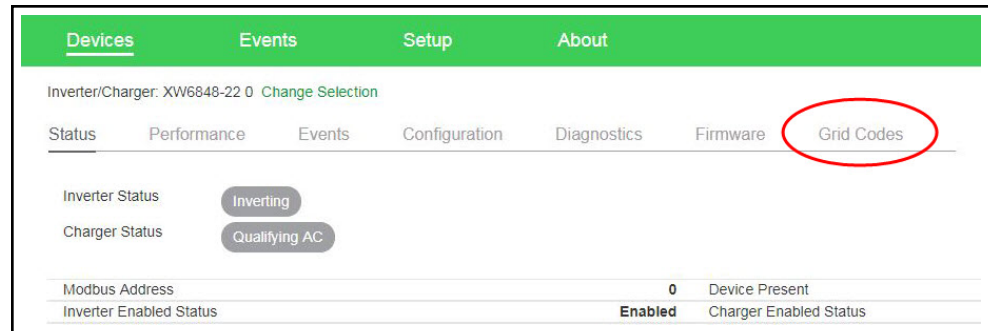


Configuring the Grid Code Region

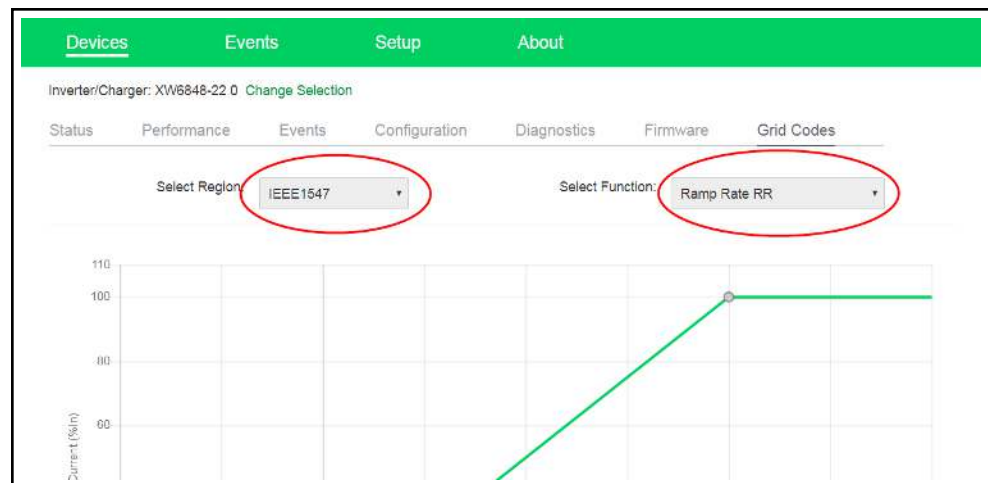
Note: This procedure is for authorized personnel only.

To configure the grid code region:

1. Log in to the InsightHome web application.
2. Go to **Devices > Inverter/Chargers**, and then select the XW Pro Inverter.
3. Select **Grid Codes**.



4. Type in the password.
5. Press **Submit**.
6. Select a region from the **Select Region** drop-down menu.



7. Go through the options in the **Select Function** drop-down menu and configure the settings below the graph.
8. Click **Apply**.

Enabling California Rule 21

- Source Requirements Document: RULE 21 Generating Facility Interconnection - Smart Inverter Generating Facility Design and Operating Requirements - Section Hh - Effective July 30, 2017

Instructions for Rule 21 Compliance

To be California Rule 21 compliant, and for CEC compliance, upgrade your unit firmware to Version 1.0 or later, and update the Grid Code region in the InsightHome desktop app.

Note: This procedure is for authorized personnel only.

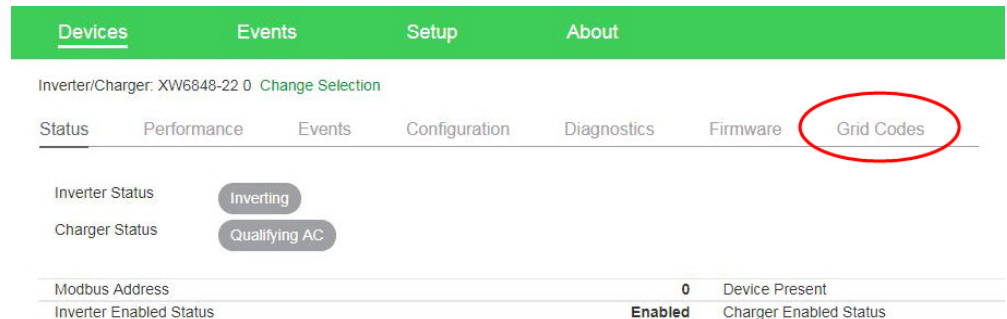
NOTICE
INCOMPATIBLE FIRMWARE DO NOT use the InsightHome firmware upgrade package to update the firmware on the Conext XW+. The InsightHome firmware is not compatible with the Conext XW+. Failure to follow these instructions can result in equipment damage.

To update firmware:

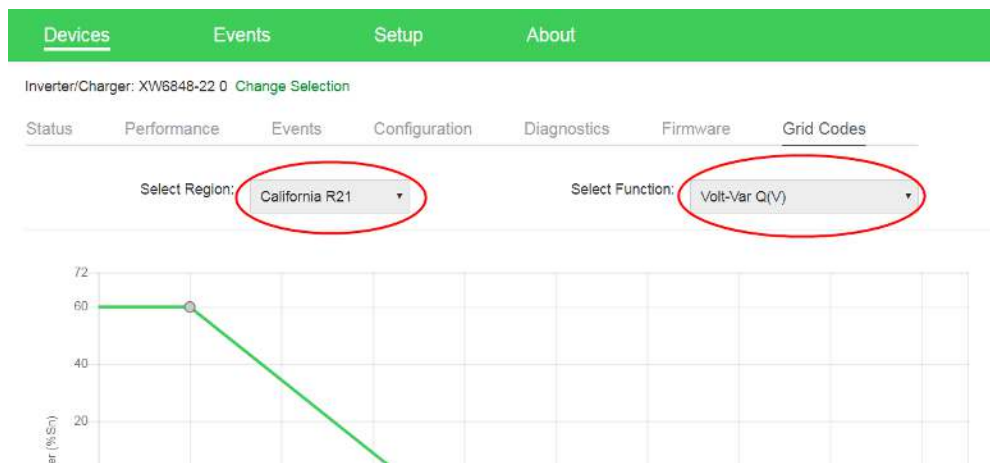
- Follow the instructions in *Upgrading Other Device Firmware on page 44*.

To update the Grid Code region in InsightHome:

1. Go to **Devices > Inverter/Charger**, and then select the XW Pro Inverter.
2. Select **Grid Codes**.



3. Type in the password and then click **Submit**.
4. Select California R21 from the **Select Region** drop-down menu.



5. Go through the options in the **Select Function** drop-down menu and configure the settings below the graph.
6. Click **Apply**.

5 Monitoring

What's in This Chapter?

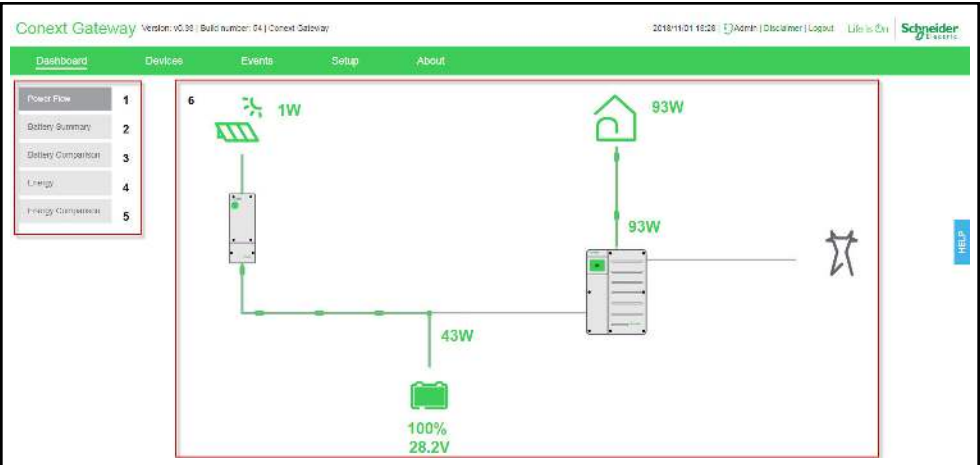
Monitoring the Power Plant 59

Monitoring the Power Plant

You can view the current state of the power plant by viewing the InsightHome dashboard.

With the **Dashboard**, you can view power flow between the connected devices, battery information, and energy production and consumption.

Figure 26 Dashboard



1	Power flow tab – shows an interactive and graphical view of the power plant with its different connected devices.
2	Battery summary tab – shows a historical line graph of four battery metrics such as current, volts, temperature, and state-of-charge (SOC). It shows one battery at a time.
3	Battery comparison tab – shows a historical and comparative line graph of the four battery metrics against all the different batteries.
4	Energy tab – shows a chronological summary of energy that is produced by three sources; solar, grid, and battery. Also shows a chronological summary of energy that is output to four energy consumers; load, grid, battery, and generator.
5	Energy comparison tab – shows a comparative graph between energy input and output.
6	Main display board – shows the different graphical elements of the power plant, the devices, battery, and energy information.

To view the dashboard:

1. After successfully logging in, the very first view to show on the main display board is the **Dashboard - Power Flow**.
2. Click each of the tabs on the left to switch to different views.

6 Troubleshooting

What's in This Chapter?

Events	61
---------------------	-----------

Events

The events detected and monitored by InsightHome vary in type. The types of events are categorized into warnings and detected faults. Warnings are displayed as orange icons with an exclamation point. Detected faults are displayed as red icons with an exclamation point.

When devices detect an event that usually resolves by itself, it is still reported to InsightHome and logged. It is logged under **Historical** (see *Figure 28*). However, events that happen repeatedly escalate to a fault or sometimes the device detects a fault, such as a ground fault. When a fault is detected, it is also reported to InsightHome and logged. If service intervention is required, it is logged under **Active** (see *Figure 27*). It remains there until service is performed. Also, if user intervention is required, such as remotely resetting a device, the event is logged under **Active** and remains there until the user is able to perform the necessary action.

Figure 27 Active events

2018/11/01 21:46 | [Admin](#) | [Disclaimer](#) | [Logout](#) | [Life Is On](#) | 

Dashboard

Devices

Events

Setup

About

Debug Log

Active

Historical

Event Type ▾	Time ▾	Device Type ▾	Device Id ▾	Id ▾	Name ▾	Description ▾
!	2018/08/25 06:47:09 +0100	HVMPPT	838217	82	Network Power Supply Fault	The Network Power Supply has failed. Solution:
!	Not Available	GT	835209	54	APS Off	PV Voltage is zero, and grid voltage is within limits (240V AC). Solution:

CSV

HELP

Figure 28 Historical events

2018/11/01 21:48 | Admin | Disclaimer | Logout | Life Is On | Schneider Electric

Dashboard

Devices

Events

Setup

About

Debug Log

Active

Historical

Event Type	Time	Device Type	Device Id	Id	Name	Description
!	2018/10/30 00:54:39 +0000	HVMPPT	838217	4	Battery Over Temperature Warning	Cause: The battery is too hot. Solution:
!	2018/10/25 07:14:23 +0100	HVMPPT	838217	4	Battery Over Temperature Warning	Cause: The battery is too hot. Solution:
!	2018/10/15 21:34:48 +0100	HVMPPT	838217	4	Battery Over Temperature Warning	Cause: The battery is too hot. Solution:
!	2018/10/15 08:05:59 +0100	HVMPPT	838217	4	Battery Over Temperature Warning	Cause: The battery is too hot. Solution:
!	2018/10/03 02:03:53 +0100	HVMPPT	838217	4	Battery Over Temperature Warning	Cause: The battery is too hot. Solution:
!	2018/10/02 19:14:09 +0100	HVMPPT	838217	4	Battery Over Temperature Warning	Cause: The battery is too hot. Solution:
!	2018/10/01 14:57:11 +0100	HVMPPT	838217	4	Battery Over Temperature Warning	Cause: The battery is too hot. Solution:
!	2018/09/28 18:48:48 +0100	HVMPPT	838217	4	Battery Over Temperature Warning	Cause: The battery is too hot. Solution:
!	2018/09/28 03:46:12 +0100	MPPT	1328371	71	DC Over-current shutdown	Cause: DC output current is too high. Solution:
!	2018/09/28 03:46:12 +0100	HVMPPT	838217	71	DC Over-current shutdown	Cause: DC output current is too high. Solution:

First

Previous

1

2

3

4

5

6

7

8

9

10

Next

Last

CSV

HELP

© Schneider Electric | Privacy Policy | User License Agreement

To view Events:

1. In the main menu bar, click **Events**.
The **Active** events are displayed first in the main display board.

2. Click **Historical** to view events that have been logged and/or resolved.
3. To download a copy of the events, click the **CSV** icon on the lower right hand corner of the main display board.

7 Specifications

What's in This Chapter?

Electrical Specifications	65
Physical Specifications	65
Features	66
Regulatory	66
FCC Regulatory Compliance	66
ISED Regulatory Compliance	67
Simplified EU Declaration of Conformity	68
Schneider Electric Products that Work with the InsightHome	68
Dimensions	69

Electrical 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+ or MPPT 80 600 providing network power
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)

Physical Specifications

NOTE: Specifications subject to change without prior notice.

Weight (device only)	337 g (0.74 lb)
Dimensions (device only) (W × H × D)	132 x 75 x 41 mm (5.2 × 3 × 1.6 inches)
Shipping package dimensions	158 × 158 × 188 mm (6.2 × 6.2 × 7.4 inches)
Shipping package weight	920 g (2 lbs)
Housing/Mounting system	ABS Plastic / 35-mm DIN rail clip
IP rating / Mounting Location	IP 20, NEMA 1, Indoor only
Status Display	1 x LED
Temperature	Operating: 32 to 113 °F (0 to 45 °C) Storage: -40 to 185 °F (-40 to 85 °C) Maximum case temperature: 140 °F (60 °C)
Humidity	Operating: < 95%, non-condensing Storage: < 95%

Features

NOTE: Specifications subject to change without prior notice.

Programmable dry contact relay	Screw 3-terminal, 16-24 AWG, NC-Com-NO, Form: Class 2, 24 V DC, 4 A max SELV input only
Web-based user interface	Google Chrome 78.x or later, Microsoft Windows Internet Explorer 11.476 or later, Safari 5.x or later Microsoft Windows 7 or later, Mac OS X 10.4.8. or later
Remote firmware upgrades	Yes (InsightHome and connected Xanbus devices)

Regulatory

NOTE: Specifications subject to change without prior notice.

Safety	EN 62368-1		
EMC emissions	EN61000-6-3	EN 55032	EN 62311
	EN 300 328	EN 301 489-1, -17	
	FCC part 15B	ICES-003	
EMC immunity	EN61000-6-1	EN 55035	
	EN 301 489-1, -17		
Substances / environmental	RoHS		
FCC ID	Contains 2AODL-CONEXTGTWY		
IC ID	Contains 24209-CONEXTGTWY		
Model number	865-0330		

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.

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.

Supplier's Declaration of Conformity

47 CFR § 2.1077 Compliance Information

Unique Identifier:

Trade Name: InsightHome

Model No.: 865-0330

Responsible Party – U.S. Contact Information

Schneider Electric Solar Inverters USA, Inc.

Suite 318 8700 Turnpike Rd Westminster, CO 80031

<https://solar.schneider-electric.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.

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)

Simplified EU Declaration of Conformity

Hereby, Schneider Electric declares that the radio equipment type 865-0329 is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address:

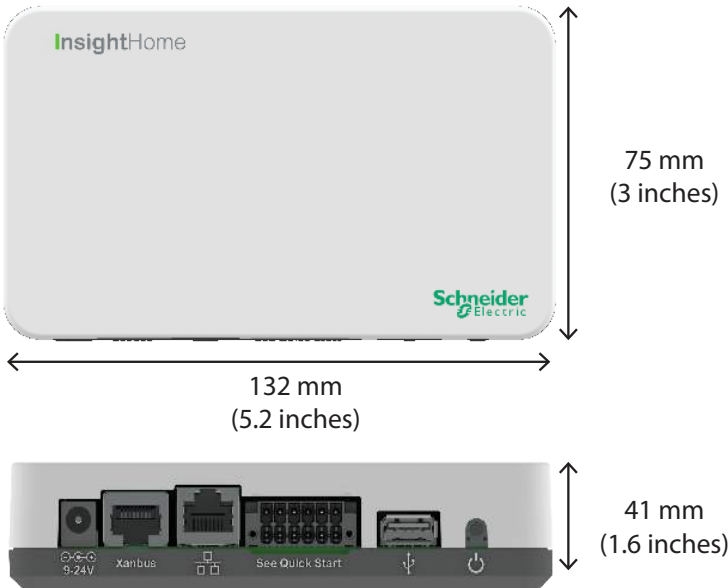
<https://solar.schneider-electric.com/>

Schneider Electric Products that Work with the InsightHome

- XW Pro Inverter / Charger:
 - XW Pro 8548 Product No. 865-8548-55
 - XW Pro 6848 NA Product No. 865-6848-21
- Conext XW+ Inverter / Chargers:
 - Conext XW+ 7048 E Product No. 865-7048-61
 - Conext XW+ 8548 E Product No. 865-8548-61
 - Conext XW+ 5548 NA Product No. 865-5548-01
 - Conext XW+ 6848 NA Product No. 865-6848-01
- Conext SW Inverter / Chargers:
 - SW 2524 120/240 Product No. 865-2524
 - SW 4024 120/240 Product No. 865-4024
 - SW 2524 230/240 Product No. 865-2524-61
 - SW 4024 230/240 Product No. 865-4024-61
- Conext MPPT 60 150 Solar Charge Controller: Product No. 865-1030-1
- Conext MPPT 80 600 Solar Charge Controller: Product No. 865-1032
- Conext MPPT 100 600 Solar Charge Controller: Product No. 865-1034
- Conext System Control Panel (SCP): Product No. 865-1050-01
- Conext Automatic Generator Start (AGS): Product No. 865-1060-01
- Conext Battery Monitor: Product No. 865-1080-01

Dimensions

NOTE: Specifications subject to change without prior notice.



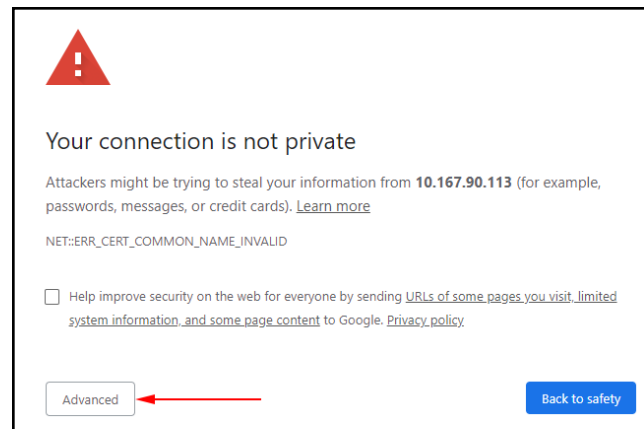
A Installing the InsightHome Security Certificate

What's in This Chapter?

Root Certificates	71
-------------------------	----

Root Certificates

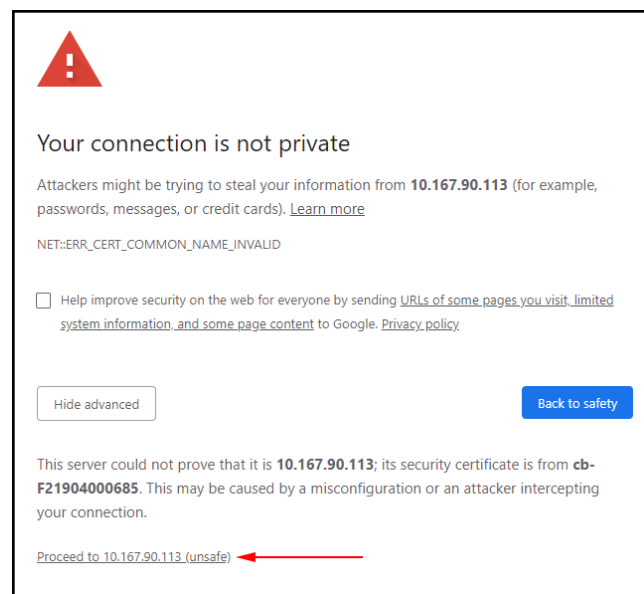
InsightHome does not support 3rd party root certificates as it is a server on your local area network with a potentially dynamic IP address and no public server name. As a result, web browsers will pop up a warning message similar to the one shown below¹:



In order to connect to the InsightHome local web page you must confirm the warning and tell the browser that it is ok to connect to the gateway. The exact procedure for this will be slightly different depending on the browser version you are using.

In this example¹, follow these steps:

1. Click the **Advanced** button in the bottom left of the window to view more data.
2. Click **Proceed to <IP address>** in the bottom left of the window to navigate to the InsightHome web page.



¹ Examples shown are applicable to Chrome Version 86.0.4240.111 (Official Build) (64-bit)

Schneider Electric

As standards, specifications, and designs change from time to time, please ask for confirmation of the information given in this publication.

For other country details please contact your local Schneider Electric Sales Representative or visit the Schneider Electric Solar Business website at: <http://solar.schneider-electric.com/>

© 2021 Schneider Electric. All Rights Reserved.