

Energy Processor (Wired and Wireless)

User Guide

Information about features and functionality of the device.

11/2026



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The information provided in this document contains general descriptions, technical characteristics and/or recommendations related to products/solutions.

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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 manual 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 accompany this symbol to avoid possible injury or death.

DANGER

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

Failure to follow these instructions will result in death 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.

About the Document

Document Scope

This document provides information on the Energy Processor (wired and wireless), including its features, components, and functionality for monitoring electrical parameters in residential systems. It explains device architecture, current sensors, and measurement capabilities, along with wiring configurations and installation methods. The guide describes commissioning through the Pro-Install app, device configuration, and validation of circuits. It covers system integration with the Energy Intelligence Control Unit, communication methods, and data flow. It also details device operation, energy monitoring, usage insights, historical data access, LED indications, troubleshooting, and maintenance-related tasks for effective system management.

Validity Note

The characteristics of the products described in this document are intended to match the characteristics that are available on www.se.com. As part of our corporate strategy for constant improvement, we may revise the content over time to enhance clarity and accuracy. If you see a difference between the characteristics in this document and the characteristics on www.se.com, consider www.se.com to contain the latest information.

Environmental Data

Find and download comprehensive environmental data about your products, including RoHS compliance and REACH declarations as well as Product Environmental Profile (PEP), End-of-Life instructions (EOL) and much more.

<https://www.se.com/myschneider>



General information about Schneider Environmental Data Program

Click the link below to read about Schneider Electric's Environmental Data Program.

<https://www.se.com/ww/en/about-us/sustainability/environmental-data-program/>



Available Languages of the Document

The document is available in the following languages:

- English
- Canadian French
- Mexican Spanish

Information on Non-Inclusive or Insensitive Terminology

As a responsible, inclusive company, Schneider Electric is constantly updating its communications and products that contain non-inclusive or insensitive terminology. However, despite these efforts, our content may still contain terms that are deemed inappropriate by some customers.

Trademarks

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Meet Your Energy Processor (Wired / Wireless)



Commercial References

Energy Processor

CR Number	Product Name
SAH221101 	Energy Processor Wired
SAH221201 	Energy Processor Wireless

Energy Sensors

CR Number	Product Name
SAH222111 	Energy Sensor 60A
SAH222121 	Energy Sensor 225A
SAH222211 	Energy Sensor 80A
SAH222301 	Energy Sensor 200A
SAH242011	Energy Sensor 80A Pack

Cable Extension

CR Number	Product Name
SAH223001	Energy Sensor Cable Extension

Mounting Accessory

CR Number	Product Name
SAH223101	Energy Processor Mount

Overview

Energy Processor helps you understand, track, and optimize your energy usage in real time. Whether you are monitoring household appliances, solar power generation, or grid energy consumption, Energy Processor gives you a complete view of your home's electrical activity. It is an energy metering product, designed for residential and light commercial installations, the Energy Processor continuously measures key electrical parameters across your electrical circuits, helping you make informed decisions about energy usage and efficiency.

How Energy Processor works

The Energy Processor consists of two main components that are installed inside the load center (electrical panel).

- **Meter Module** - It is preferably installed at the bottom of the load center. It is the core unit of Energy Processor which measures the electrical parameters of the circuits through the connected Energy Sensors.
- **Energy Sensor**- Energy Sensors are installed in all the circuits (service entrance, branch circuits) of the load center. It measures the current of the circuit where it is installed.

What can you do with Energy Processor?

The Energy Processor communicates with the Intelligence Hub, enabling efficient monitoring and optimization of the overall energy consumption through the app.

- View the live power consumption of all connected devices.
- Review past energy consumption trends.
- Stay informed with customizable notifications, such as Energy usage limit alerts, Excess solar generation alerts.

Matter Compatibility

It complies with Matter 1.5 standard. Use your preferred Matter-enabled app to monitor and manage the device.

- Apple Home
- Google Home
- Amazon Alexa
- Samsung SmartThings

Feature Summary

Parameter	Energy Processor Wireless	Energy Processor Wired
Measurement mode	Direct measurement	Direct measurement
Accuracy class	Class 1	Class 1
Current: 9 channels	✓	✓
Voltage: 2 phases	✓	✓
Frequency (Hz)	✓	✓
Power: Active power (kW)	✓	✓

Energy (kWh)	Delivered (D) Received (R)	Delivered (D) Received (R)
RTC	✓	✓
Communication protocol	Matter	Matter
Weight (g)	184	186

Energy Processor Types

- **Energy Processor Wired**

The Energy Processor Wired supports Matter-over-Ethernet communication. In the wired setup, the Energy Processor communicates with Intelligence Hub by using Ethernet connection. Refer [Energy Processor - Wired architecture](#), page 20 for more information.

- **Energy Processor Wireless**

The Energy Processor Wireless supports Matter-over-Thread communication. In the Wireless setup, the Intelligence Hub communicates with Intelligence Hub by using Thread network. An external antenna must be positioned outside the load center to ensure stable Thread signal strength and effective network connectivity. Refer [Energy Processor - Wireless Architecture](#), page 23 for more information.

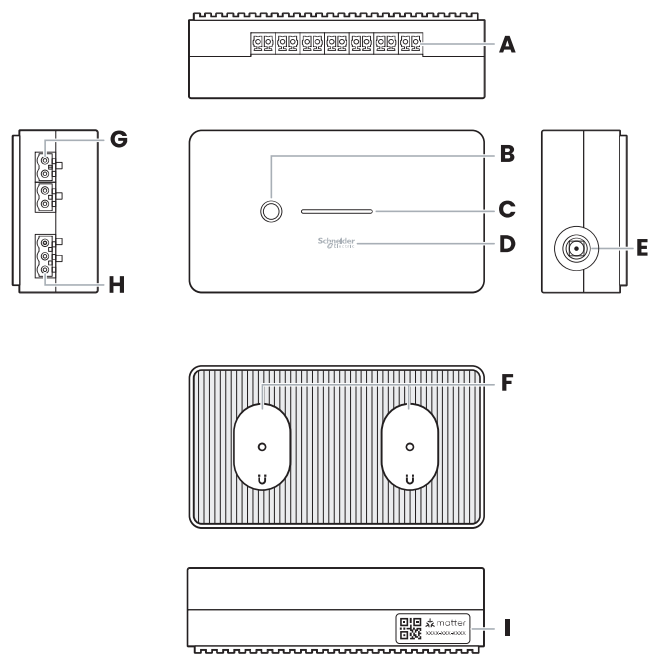
Energy Sensor Types

Energy Sensors are electrical sensors used to measure the amount of current flowing through any electrical circuit. Energy Sensors are connected to main service entrance circuits and other electrical circuits (L1–L2–N, L1–L2, L1–N). These sensors detect the electrical current from each circuit and send the measurement data to the Meter Module.

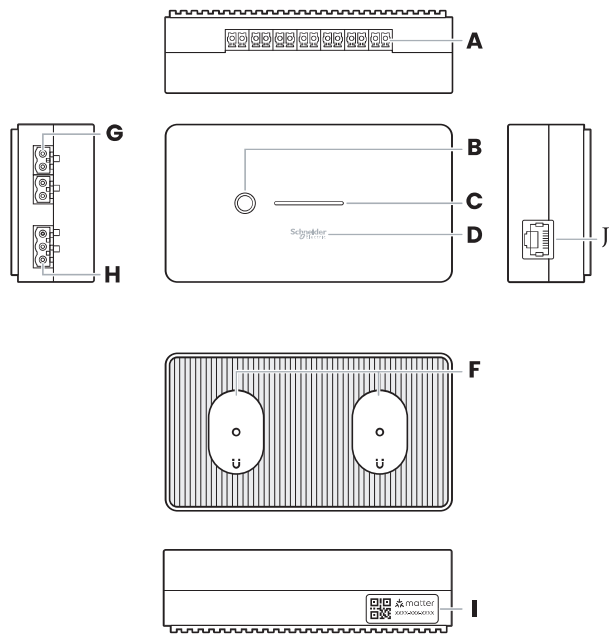
Energy Processor supports four different Current Sensors.

Energy Sensor	Usage
Energy Sensor 225A	Measures the current in service entrance circuit.
Energy Sensor 200A	Measures the current in CSED input voltage circuit.
Energy Sensor 60A	Measures the current in the branch circuits.
Energy Sensor 80A	Measures the current in the branch circuits.

Operating Elements



Energy Processor Wireless



Energy Processor Wired

A	Current signal Input port	To monitor the branch circuits (I3 –I9).
B	Push button	To enter ready for pairing mode or to initiate a factory reset.

C	LED indicator	To display the device status and ongoing operations
D	NFC tag position	To add the device via NFC setup.
E	Communication interface (Antenna)	To enable a wireless communication between Energy Processor Wireless and Intelligence Hub.
F	Magnet	To mount the device in the load center.
G	Current signal Input port	To monitor the main service entrance circuits (I1 – I2).
H	Voltage terminals	To provide the power to the device from the mains and to measure the mains voltage.
I	Matter QR code	To connect the device in any Matter controller.
J	Communication interface (RJ45 Ethernet port)	To enable a wired communication between Energy Processor Wired and Intelligence Hub.

For Your Safety

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.

DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

Safe electrical installation must be carried out only by skilled professionals. Skilled professionals must prove profound knowledge in the following areas:

- Connecting to installation networks.
- Connecting to several electrical devices.
- Laying electrical cables.
- Safety standards, local wiring rules and regulations.
- Install the device in accordance with operating temperature shown in this document.

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

CAUTION

HAZARD OF MISUSE

If a pacemaker or other implanted medical device is in use, keep a safe distance.

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



WARNING: This product can expose you to chemicals which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

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. Installation, wiring, testing and service must be performed in accordance with all local and national electrical codes

⚠ DANGER**HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

This equipment must only be installed and serviced by qualified electrical personnel. Check local wiring regulations before installation.

Turn off all power supplying the location where this device will be installed, maintained or replaced.

Product may use multiple voltage/power sources. Disconnect ALL sources before servicing.

Energy sensor secondaries must be shorted or connected to a burden at all times.

Always use a properly rated voltage sensing device to confirm power is off. DO NOT depend on this product for voltage indication.

Energy sensors marked "BASIC INSULATION" must be installed on insulated conductors only and maintained away from all live parts.

This product must be installed inside a suitable fire and electrical enclosure. This product is not intended for life or safety applications.

Replace all devices, doors and covers before turning on power to this equipment.

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

⚠ WARNING**RISK OF INJURY OR EQUIPMENT DAMAGE**

To reduce the risk of electric shock, always open or disconnect circuit from power distribution system (or service) of building before installing or servicing energy sensors or metering equipment.

The energy sensors may not be field installed in the wiring space of enclosures for switches or overcurrent devices if the area of all energy sensors, conductors, splices, taps, and equipment at any cross-section of the wiring space does not exceed 75% of the cross-sectional area of that space.

Do not apply energy sensors to circuits having a phase-to-phase voltage greater than their voltage rating unless adequate additional insulation is applied between the primary conductor and the energy sensors.

Not suitable for Class 2 wiring methods. Not intended for connection to Class 2 equipment.

Secure energy sensor and route conductors so that the conductors do not directly contact live terminals or bus.

Restrict installation of energy sensor in an area where it would block ventilation openings.

Restrict installation of energy sensor in area of circuit breaker arc venting.

Prior to installing the energy sensor, the end face of the magnetic core must be wiped clean and free of dust or foreign matter to prevent performance degradation.

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

Cybersecurity

General Cybersecurity Information

In recent years, the growing number of networked machines and production plants has seen a corresponding increase in the potential for cyber threats, such as unauthorized access, data breaches, and operational disruptions. You must, therefore, consider all possible cybersecurity measures to help protect assets and systems against such threats.

To help keep your Schneider Electric products secure and protected, it is in your best interest to implement the cybersecurity best practices as described in the [Cybersecurity Best Practices](#) document.

Schneider Electric provides additional information and assistance:

- [Subscribe to the Schneider Electric security newsletter.](#)
- [Visit the Cybersecurity Support Portal web page to:](#)
 - [Find Security Notifications.](#)
 - [Report vulnerabilities and incidents.](#)
- [Visit the Schneider Electric Cybersecurity and Data Protection Posture web page to:](#)
 - [Access the cybersecurity posture.](#)
 - [Learn more about cybersecurity in the cybersecurity academy.](#)
 - [Explore the cybersecurity services from Schneider Electric.](#)

Product Cybersecurity Information

At Schneider Electric, we have always regarded cybersecurity as a key requirement and are committed to providing more reliable, stable, and secure products to minimize potential cyber risks, thereby better protecting the lives, property, and environment of our customers.

Cybersecurity is designed to protect your systems, communication networks, equipment, etc., from possible damage, data tampering, or disclosure of confidential information. In addition to the suggestions for the Energy Data Processor series noted in this document, we strongly recommend that you follow Schneider Electric's defense-in-depth method to achieve network security.

Device Security

- Use validation techniques to ensure the integrity of important configuration, business data, etc., stored in the Energy Data Processor.
- Provide password-based access control to ensure that only authorized personnel can access and change meter configurations, etc.
- The debugging port is disabled when the meter leaves the factory to prevent attackers from reading or changing the firmware and configuration of the Energy Data Processor.

Access Control

The Energy Data Processor supports both local access and remote access via Matter. It is recommended to implement physical security measures (such as dedicated conduits) to protect communication cables from unauthorized access, disconnections, data leaks, and tampering. Additionally, regularly inspect the Matter communication cables to ensure there is no unauthorized access.

Local access:

It provides various opportunities for attackers to access and control the meter through local connections. The Energy Data Processor should be installed in a secure area, and access rules should be implemented and managed within that area. It is recommended that:

- The area is always locked.
- The area is equipped with an access control system, and only authorized personnel have keys or access codes.
- Communication ports entering the secure area, network cables, and connection ports on communication devices outside the room are protected.

Matter-based Remote Access :

When a computer running a Supervisory Control and Data Acquisition (SCADA) system connects to the Energy Data Processor via Matter, it can access and modify the Energy Data Processor's data and parameters. The following measures are recommended:

- **Physical Security:** Matter communication cables and all connection ports must be protected.
- **Access Control:** Ensure that computers accessing the Energy Data Processor via the Matter protocol require a username and password for login. Additionally:
 - **Password Policy:** Passwords must adhere to strong password rules (or a strong password policy).
 - **Screen Locking:** Configure the computer to lock the screen when idle or after a timeout period.
 - **System Hardening:** Harden the Operating System (OS) and install antivirus software, keeping the virus definitions up to date.
 - **Network Isolation:** The computer must not be directly connected to the Internet.

Firmware Upgrade

When firmware upgrade is required, contact a Schneider Electric Technical Support Engineer or a local agent to help you complete the upgrade.

Safety Disposal

When the equipment needs to be scrapped, it is recommended that it be destroyed through a secure channel to ensure that the equipment is not redeployed to your operating system or illegally exploited.

Cybersecurity Vulnerabilities / Incidents

You visit Schneider Electric Cybersecurity vulnerabilities portal (<https://www.se.com/ww/en/work/support/cybersecurity/vulnerability-policy.jsp>) to check the vulnerability management policy, or report potential network vulnerabilities or incidents.

Energy Processor Wired architecture

How the Energy Processor Wired System Works

The Energy Processor Wired solution helps you monitor your home's energy usage by collecting data from your electrical circuits and securely delivering it to the Intelligence Hub through an Ethernet connection.

System Components at a Glance

The system is organized into two main sections:

- **Load center-** The load center is where electrical power enters and is distributed throughout the home. Energy Sensors are installed on the electrical inputs (grid, solar, and major circuits). Energy Sensors are connected to the current signal inputs (I1–I2 for service entrance, I3–I9 for branch circuits) of the Energy Processor Wired.
- **Data panel-** The data panel houses the networking and communication equipment that enables the Energy Processor to connect with the Intelligence Hub and the SE App.

NOTE: The architecture shown above is provided as an example and may differ across installations.

Inside the Load Center:

Electricity from the grid and solar panels flows into the Load Center. Inside the load center, the following items can be installed:

- **Energy Sensors (ES)** - Energy Sensors monitor the current flowing through specific circuits and send the measurements to the Energy Processor
 - **ES-1 & ES-2**- These sensors measure:
 - Total electricity imported from the utility grid.
 - Total electricity exported back to the grid.
 - **ES-3 & ES-4** - These sensors measure:
 - Energy produced by the solar system.
 - Energy exported from or imported to solar-connected circuits.

This helps you understand how effectively your solar installation is performing.
 - **ES-5, ES-6, ES-7, ES-8** - These sensors track energy usage for specific loads, such as:
 - HVAC
 - Hot water tank
 - Pool pump
 - EV charger (EVC)

NOTE: The meter module supports up to 9 Energy Sensors.

 - 2 Energy Sensors for service entrance current measurement.
 - 7 Energy Sensors (at max) for branch circuit current measurement.
- **Energy Processor**
 - Receives current measurement data from all the connected Energy Sensors.
 - Sends energy data through an Ethernet connection to the Intelligence Hub located in the data panel.

Ethernet:

The Ethernet cable connects the Energy Processor to the Intelligence Hub, enabling reliable data communication for monitoring and optimizing overall energy consumption.

Inside the Data panel:

The Data Panel contains all the required networking and control devices that support communication, power distribution, and data transfer within the Intelligence Hub.

- **ISP Router** - The ISP Router connects your energy management system to the internet.
 - Provides internet connectivity to the system.
 - Connects to the Managed Network Switch through an Ethernet connection.
- **Managed Network Switch** - The Managed Network Switch acts as the communication hub for connected devices
 - Supplies power and data to connected devices.
 - Delivers both power and network connectivity to the Intelligence Hub and the Wireless Access Point.

- **Intelligence Hub** - The Intelligence Hub is the smart home system's intelligence and control center.
 - Receives energy measurement data from the Energy Processor via Ethernet.
 - Assists in optimization of the overall energy consumption through the app
- **Wireless Access Point** - The Wireless Access Point extends network connectivity throughout the home.
 - Powered by Managed Network Switch.
 - Creates network to communicate with all the wired and wireless devices in the smart home system.
- **Schneider Home app**
 - Communicates with the system through the home's Wi-Fi network.
 - Displays:
 - Real-time energy consumption
 - Solar production
 - Energy history for past years
 - Energy insights of all the devices

Energy Processor Wireless architecture

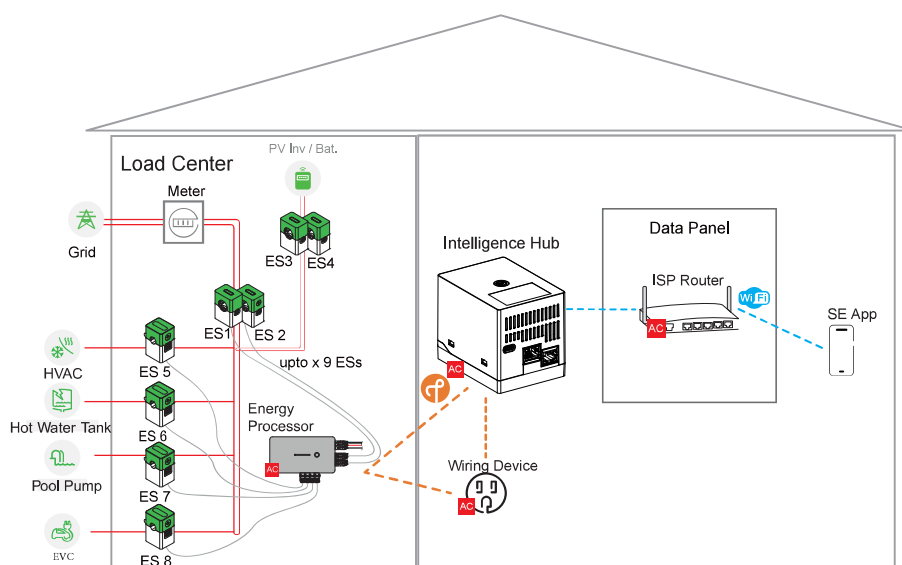
How the Energy Processor Wired System Works

The Energy Processor Wireless solution helps you monitor your home's energy usage by collecting data from your electrical circuits and securely delivering it to the Intelligence Hub through wireless thread connection.

System Components at a Glance

The system is organized into two main sections that are **Load center** and **Data panel**

- **Load center**- The load center is where electrical power enters and is distributed throughout the home. Energy Sensors are installed on the electrical inputs (grid, solar, and major circuits). Energy Sensors are connected to the current signal inputs (I1–I2 for service entrance, I3–I9 for branch circuits) of the Energy Processor Wireless.
- **Data panel**- The data panel houses the networking and communication equipment that enables the Energy Processor to connect with the Intelligence Hub and the SE App.



NOTE: The architecture shown above is provided as an example and may differ across installations.

Thread:

A wireless thread mesh network connects the Energy Processor to the Intelligence Hub. A 2.4 GHz external antenna should be installed outside the load center to create the wireless thread network.

Inside the Data panel:

The Data Panel contains all the required networking and control devices that support communication, power distribution, and data transfer within the Intelligence Hub.

- **ISP Router** - The ISP Router connects your energy management system to the internet.
 - Provides internet connectivity to the system.
 - Connects to the Managed Network Switch through an Ethernet connection.

- **Managed Network Switch** - The Managed Network Switch acts as the communication hub for connected devices
 - Supplies power and data to connected devices.
 - Delivers both power and network connectivity to the Intelligence Hub and the Wireless Access Point.
- **Intelligence Hub** - The Intelligence Hub is the smart home system's intelligence and control center.
 - Receives energy measurement data from the Energy Processor via Ethernet.
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- **Wireless Access Point** - The Wireless Access Point extends network connectivity throughout the home.
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- **Schneider Home app**
 - Communicates with the system through the home's Wi-Fi network.
 - Displays:
 - Real-time energy consumption
 - Solar production
 - Energy history for past years
 - Energy insights of all the devices

Install the Device

This section provides important installation-related information and references to help qualified installers complete the installation correctly and efficiently.

Refer to the following installation instruction supplied with this product.

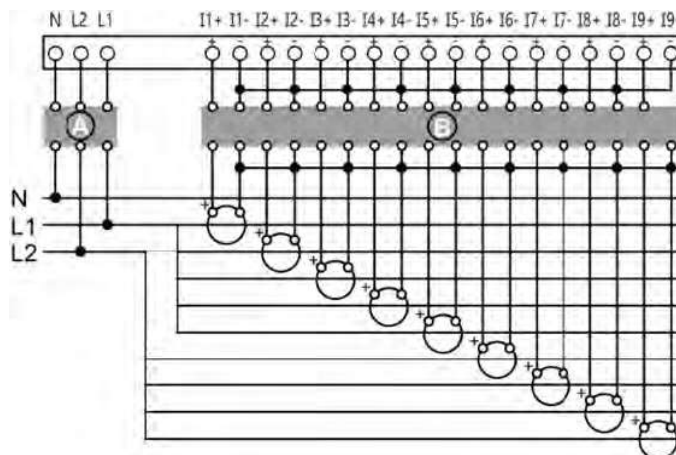
- Energy Processor
- Energy Sensor

Pay attention to the following installation related topics

- Wiring Configuration, page 26
- Energy Processor Mounting, page 27
- Energy Sensor Cable Extension, page 29
- Ethernet Cable Specification, page 30
- 400 A Service Entrance Load Center Wiring Configuration, page 31
- Load Center Knockout Requirements, page 33

Wiring Configuration

Use the following wiring configuration guidelines when connecting the Energy Processor and associated components.



- **Circuit Breaker Requirement (A):** In the diagram, (A) represents a non-current-limiting circuit breaker rated 120/240 V, 30 A. Include this circuit breaker in the Energy Processor voltage input (power supply) connection and install it near the Energy Processor to allow easy disconnection from the power distribution system.
- **Voltage Input Connections:** L1, L2, Neutral line (tinned copper) are required to connect to the meter voltage input / power supply.
- **Energy Sensor Lead Wires (B):** In area (B) of the diagram, the Energy Sensor lead wires may be cut to the required length.
- The Energy Processor does not require protective earthing.
- The voltage input of the meter are rated up to 144V L-N (Line-to-Neutral). The Energy Processor shall be powered by the power cable and connector supplied with the Energy Processor.
- No special ventilation requirements are required for this device.
- No additional sound level-related instructions are required for this device.
- The Energy Processor is designed for continuous operation. No specifications for intermittent operation limits are applicable.
- Use AWG 14 600 V copper wire (min. 105 °C temperature rating) to power the meter.
- Use AWG 22 600 V copper wire (min. 105 °C temperature rating) as CT signal output extension cable.

Energy Processor Mounting

The Energy Processor can be installed inside the main load center using either the integrated magnetic mounting feature or the optional Energy Processor Mount accessory. Follow the mounting instructions and installation requirements in this section to ensure secure installation, proper device operation, and ease of access for wiring and maintenance.

The Energy Processor is designed for installation inside the main load center. During installation, mount the Energy Processor in the main load center using one of the following methods.

- Magnetic mounting (default)
- Energy Processor Mount (this mounting accessory should be purchased separately.)

Magnet Mounting

The meter module uses a magnetic mounting mechanism that allows direct installation on iron or steel surfaces, such as indoor distribution panels and load centers. The meter module includes an integrated magnet located below the rubber pad on the rear side.

Prerequisites:

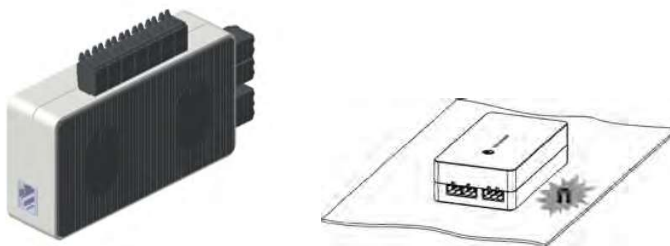
Before installation ensure the following:

- The installation position shall ensure a safe distance from high-voltage circuits, free from extrusion and strong vibration, and allow convenient wiring and reading.
- Ensure the mounting surface is clean, dry, free of oil, dust and rust.

Mounting:

Attach the magnetic back of the device firmly to the metal inner wall or door of the load center. The magnetic force holds the device in place and ensures stable mounting.

NOTE: This design eliminates the need for drilling or screws, simplifying installation while ensuring stable placement in the load center.



Energy Processor Mount

The Energy Processor Mount provides an alternative method for installing the meter module inside the load center.

Panel Board Requirements

Consider the following conditions before installing the Energy Processor Mount in the panel board.

Supported Panel Board Series:

The Energy Processor is compatible with the following Schneider Electric panel board series (rated 240 VAC, 225 A maximum):

- Type HOM

- Type CHOM
- Type QO
- Type CQO
- Type NQSE
 - Supported only when the main breaker rating is up to 400 A and two conductors are present on the line side.
- Type QONQ
 - Supported only when the main breaker rating is up to 400 A and two conductors are present on the line side.

The Energy Processor is not compatible with the following panel board types:

- Type NQSE with a main breaker rating greater than 400 A.
- Type QONQ with a main breaker rating greater than 400 A.

Drilling instructions :

Installers may drill, cut, or file the panel board enclosure under the following conditions:

- Such openings are indicated by drill points or breakouts on the enclosure. Drill points may be applied at the factory, by a template provided with the field-installed accessory, or other equivalent means, such that the location to be drilled can be determined by the installer.
- Prevent accumulation of metal debris inside the panel board during and after drilling or cutting

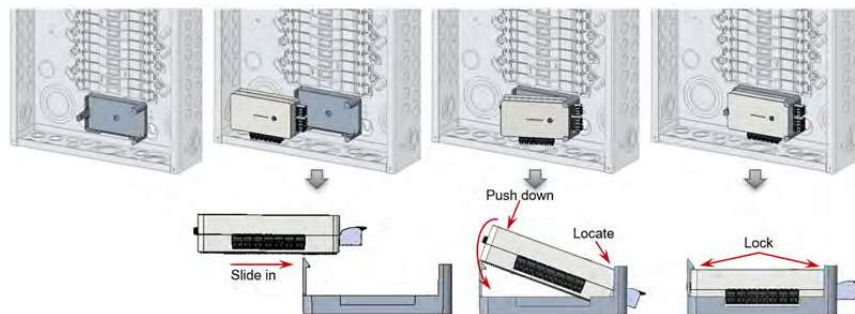
Wiring Space conditions:

- Do not install accessories in the wiring space if the conductors, splices, taps, and equipment at any cross-section exceed 75% of the wiring space cross-sectional area.
- Ensure that accessories do not obstruct enclosure ventilation openings.
- Ensure that accessories do not block circuit breaker arc vent openings.

Installation of Energy Processor Mount

- Install the Energy Processor Mount inside the load center, typically at the bottom.
- Install the meter module in separated plastic enclosure.
- Ensure the bottom of the meter module engages securely and sits firmly in the Energy Processor Mount.

NOTE: The Energy Processor Mount must be purchased by the customer.



Energy Sensor Cable Extension Installation

Use an Energy Sensor Cable Extension when Energy Sensors are installed in an outdoor service panel and the Energy Processor is installed in an indoor main load center. This section describes the application, installation requirements, and cable specifications to ensure reliable communication between the Energy Sensors and the Energy Processor.

In North American power distribution systems (PDS), dedicated outdoor panels (subpanels) are commonly used for specific loads, such as HVAC equipment, pool pumps, and other electrical loads, while the main load center is located indoors. When monitored circuits are located in an outdoor panel, the associated Energy Sensors are installed in that panel. To communicate with the Energy Processor installed in the indoor main load center, the Energy Sensors must be connected using an Energy Sensor Cable Extension.

Extension Installation

Use an Energy Sensor Cable Extension when the distance between the outdoor service panel and the indoor load center is within the supported extension cable length (10 m).

To install the cable extension with the Energy Sensor:

1. Remove the connector from the Energy Sensor cable.
2. Use the splice to connect the Energy Sensor cable to the extension cable.
3. Reconnect the Energy Sensor connector to the end of the extension cable.
4. Connect the Energy Sensor connector to the current signal input of the Energy Processor.

Non-SE Cable Extension Specification

If you use a non-SE extension cable, the cable must meet or exceed the following minimum requirements

Extension cable length	Less than 20 m
Wire gauge	22 AWG
Electrical rating	300 V
Thermal rating	105 °C
Stripping length	10 mm
Conductor type	Stranded, tinned copper
Lead wire colors	Blue and white
Sheath color	White
Mechanical performance	Cable pull force withstand: 156N.

Ethernet Cable Specification

Use an Ethernet cable when the Energy Processor and Intelligence Hub are installed on different floors of the building. This section describes the cable requirements for routing Ethernet communication between these devices and provides the specifications needed to ensure compliance with electrical codes and reliable system operation.

⚡⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

You must install a plastic protective device on the metal knockout opening used for routing the Ethernet cable outside the load center.

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

For the Energy Processor Wired, The Ethernet cable from Energy Processor may need to connect with the Intelligence Hub from the other floor.

It must meet the following requirements:

- The Ethernet cable **shall** be rated for **Riser installations (Communication Riser Cable)** in accordance to NEC (National electric code), Article 725 shall be applied for Ethernet connector and cable (circuits with voltages above 30V) and shall be a Class 2 circuit.
- A CMR cable (Communication Riser cable) is an Ethernet cable designed for vertical runs between floors in a building, with fire-resistant properties. It is typically constructed with **Flame Retardant PVC** outer jacket.
- It is advised to use CAT6 CMR category Ethernet cable to run vertically between floors.

NOTE: This CAT6 CMR Ethernet cable must be purchased separately.



400 A Service Entrance Energy Sensor Installation

400 A service entrance is used for large residential homes (more than 2500 sq.ft typ) with high load demand. it is being installed outside the home and main load is distributed to the load center located inside the building and the CSED (Combination Service Entrance Device) load center located outside of the building. Since the distance between main load center and the other load centers is big, it needs a special wiring configuration.

Connecting Two Energy Sensors in a a single Current Signal Input

Use two 225 A Energy Sensors connected in series to measure the current of a 400 A service entrance. perform the below wiring configuration in the main 400 A service entrance.

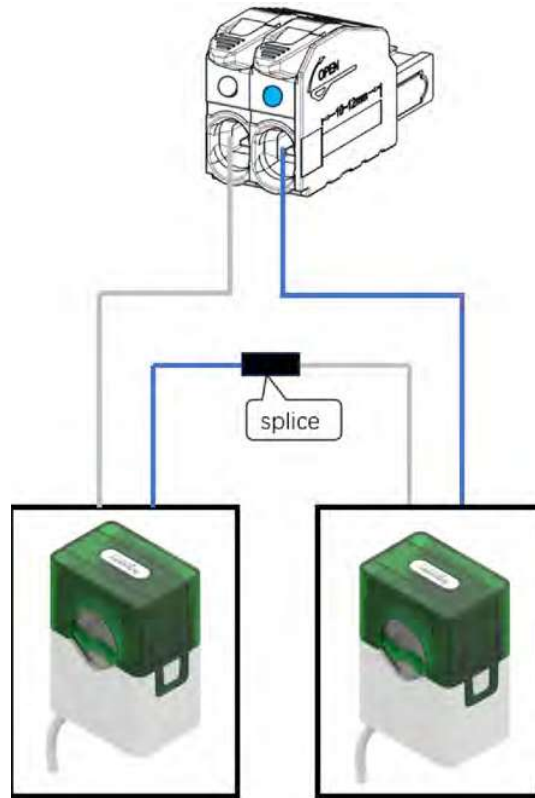
1. Turn off the main breaker in main incomer 400 A service entrance.
2. Connect two 4/0 cables per phase (L1 and L2) of 400 A service entrance.
3. Install one Energy Sensor with same rating on each 4/0 cable of the current .
 - Install two Energy Sensors on L1.
 - Install two Energy Sensors on L2.

Four Energy Sensors are required in total.

4. Connect the white wire from one Energy Sensor (L1) and the blue wire from other Energy Sensor (L1) to the mobile connector. Mobile connector has the provisions with indications (blue, white).
5. Splice the remaining wires from both Energy Sensors together.
6. Repeat the steps 4 & 5 for in L2.
7. Connect the mobile connectors from each phase (L1, L2) to current signal input ports on the Energy Processor .

NOTE:

- Use two Energy Sensors with the same current rating.
- Connect a maximum of two Energy Sensors in series per input to maintain measurement accuracy.
- Use series-connected Energy Sensors only for power lines derived from the same phase line, and ensure both Energy Sensors arrows point in the same direction.
- Neither Energy Sensor shall measure current exceeding its rated current value
- The Energy Processor reports only the combined current and power from the two Energy Sensor.



Load Center Knockout Requirements

The load center must include **pre-cut knockouts** to support the connection between the Energy Processor and the Intelligence Hub.

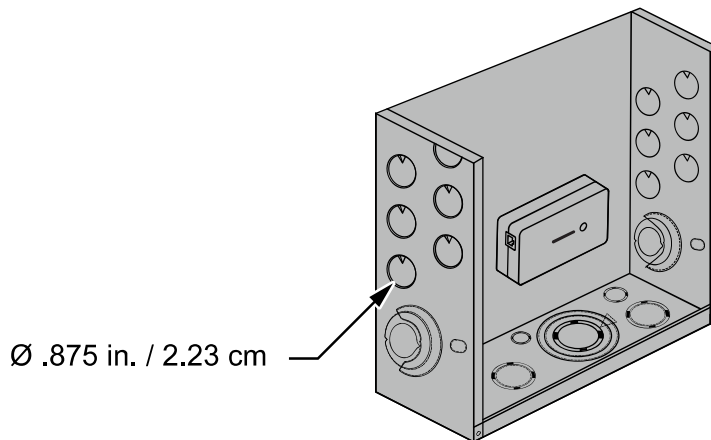
The required knockouts enable the following connections:

- **Ethernet connection** — Provides a wired communication path between the Energy Processor and the Intelligence Hub.
- **Antenna installation** — Allows the antenna to be installed outside the load center for wireless data transmission between the Energy Processor and the Intelligence Hub.

Knockout Specification

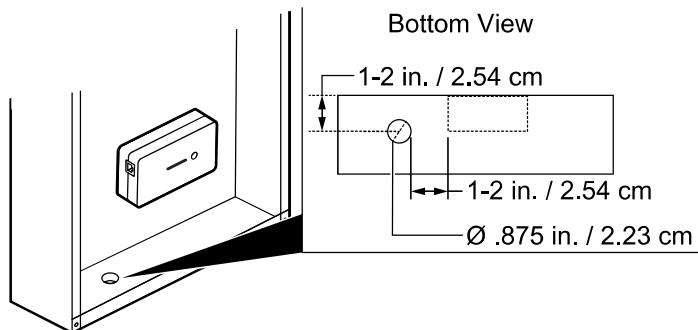
Pre-cut knockouts:

Use a pre-cut knockout with a diameter of **22.225 mm (0.875 inches)**.



Manual Knockout Creation

If pre-cut knockouts are not available or are unsuitable, the installer may determine an appropriate location and drill or cut the opening in the load center. Refer to the following diagram for the recommended drilling location for Ethernet or antenna routing.



NOTE: When creating a knockout manually, the installer must ensure that all metal **debris** and cuttings are **completely removed** from the interior of the load center. Leaving debris inside the enclosure may result in electrical hazards or equipment damage.

Energy Sensor Selection

A 400 A service entrance is typically used in residential installations with high electrical load demand. In this configuration, the main load is distributed between the outdoor Combination Service Entrance Device (CSED) and the indoor load center. When the distance between load centers is significant, a special current sensor wiring configuration is required.

The Energy Sensor supports the following North American residential power distribution systems (PDS):

- **Delta and Wye System-** Two phases and neutral (L1, L2, N) derived from a three-phase supply.
- **Split-Phase System-** A single transformer phase split into two phases and neutral (L1, L2, N).

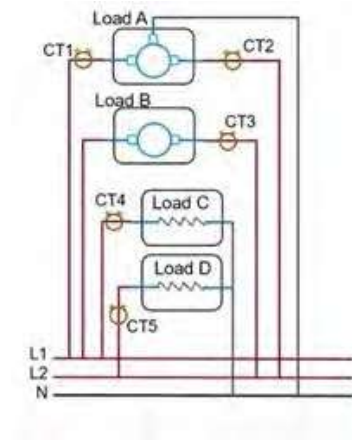
Based on the power distribution system, a residential building typically receives energy through the following circuit types:

- **L1–L2–N** - Service entrance circuit directly connected to the PDS and some high power branch circuits.
- **L1–L2**- Circuit used for high-power appliances without neutral.
- **L1–N or L2–N**- Circuit used for low-power appliances

NOTE: Install an Energy Sensor on each monitored circuit to ensure accurate current measurement.

Energy Sensor Usage

Each circuit type defines the required installation method for Energy Sensor to ensure accurate electrical measurement. Based on the circuit breaker rating associated with each circuit, you must select an appropriate Energy Sensor rating



Circuit type	Circuit description	Usage	Energy Sensortype	No of Energy Sensor inputs
A	L-L-N	Service Entrance	Energy Sensor 225A	2
			Energy Sensor 200A	
		PV Panel, high-power appliances	Energy Sensor 60A or Energy Sensor 80A	2
B	L-L	high-power appliances (heat pumps, HVAC).	Energy Sensor 60A or Energy Sensor 80A	1

C	L-N	Lighting, small appliances.	Energy Sensor 60A or Energy Sensor 80A	1
D	L-N	Lighting, small appliances.	Energy Sensor 60A or Energy Sensor 80A	1



Electrical Parameters Measurement

The Energy Processor measures the following key electrical parameters:

- **Voltage**
- **Current**
- **Power**
- **Power factor**
- **Energy**
- **Frequency**

These measurements enable accurate monitoring of building electrical consumption, load behavior, and overall system efficiency. The Energy Processor provides this data to the Intelligence Hub, which uses it to optimize the overall energy consumption.

Power Distribution System

The Energy Processor supports the following North American residential power distribution systems (PDS):

- **Delta and Wye System-** Two phases and neutral (L1, L2, N) derived from a three-phase supply.
- **Split-Phase System-** A single transformer phase split into two phases and neutral (L1, L2, N).

Based on the power distribution system, a residential building typically receives energy through the following circuit types:

- **L1–L2–N** - Service entrance circuit directly connected to the PDS.
- **L1–L2** - Circuit used for high-power appliances.
- **L1–N or L2–N** - Circuit used for low-power appliances

NOTE: Energy Sensor connect to each circuit to ensure accurate current measurement.

Voltage Measurement

For accurate electrical measurement, you must configure each Energy Sensor input with the correct phase line (L1 or L2) according to the Energy Sensor installation. The Energy Processor includes built-in hardware circuits that measure voltage directly. While each Energy Sensor input measures current, the system also need to associates the corresponding phase voltage with that input.

Voltage Measurement Range	Power Distrubution System (PDS)
• L1-N / L2-N: 120VAC $\pm 20\%$ • L1-L2 (120°): 208VAC $\pm 20\%$	Delta & Wye -2-phase, 1-neutral from Wye system: L1, L2, N.
• L1-N / L2-N: 120VAC $\pm 20\%$ • L1-L2 (180°): 240VAC $\pm 20\%$	Delta- 2-phase, 1-neutral from Wye system: L1, L2, N. Split-phase system- L1, L2, N).

Current Measurement

The Energy Processor measures current across nine Energy Sensor inputs. Accurate current measurement depends on the correct installation and physical presence of each Energy Sensor. Any Energy Sensor malfunction, such as disconnection or failure, results in incorrect current measurements and subsequently impacts power and energy calculations.

Current Measurement Grade	60A Split Core CT	80A Ringt Core CT	225A Split Core CT
Rated Current	60 A	80 A	225 A
I _{max} (1.2 * rated current)	72 A	96 A	270 A
I _{min}	0.2 A	0.3 A	0.8 A
I _{start}	0.02 A	0.03 A	0.08 A

Power and Energy Measurement

The Energy Processor measures instantaneous active power and cumulative imported and exported energy for each circuit. It performs these measurements using voltage and current values from the configured Energy Sensor inputs of each electrical circuit.

Active power- It represents the instantaneous power that the system consumes or generates at a given moment.

The following formula calculates active power: $P = U \times I \times \cos \phi$

Where,

- **P** – Active Power
- **u** – Root-mean-square (RMS) value of voltage
- **I** – Root-mean-square (RMS) value of current
- **cos ϕ** – Power factor, representing the phase angle between voltage and current.

NOTE: The phase angle ϕ defines the time shift between the voltage waveform and the current waveform in an AC circuit. If the current sensor (CS) direction is reversed relative to the connected phase, the phase angle ϕ shifts by 180°. The application automatically corrects this condition. For more information, refer to [Configure the Energy Processor](#).

Cumulative energy - It represents the total amount of energy imported from or exported to the electrical system over a specific period.

The following formula calculates cumulative energy: $E = P \times T$

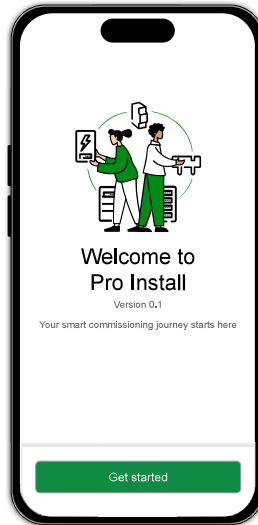
Where,

- **E** = Energy
- **P** = Power
- **T** = Time

Setup Your Energy Processor

Commission the Energy Processor

The Pro-Install App is a mobile application that enables professional installers to commission supported smart home devices in new homes and renovation projects. It supports fast and reliable device setup. Installers can complete a full smart home installation even when the site does not have internet service. Refer to the Pro-install user guide for more information.



Access Your Energy Processor in the Schneider Home App

The Schneider Home System brings energy intelligence to the home so everything works together for comfort, simplicity, and savings. After commissioning the Energy Processor using the Pro-Install app, connect your Intelligence Hub to the Schneider Home app. The app provides access to energy insights, system status, and device management features from a single interface.

For detailed instructions on setting up and managing the controller, see [Home Energy Management System \(HEMS\) User Guide](#).

Once you pair your Intelligence Hub with Schneider Home app, you can manage your device via app. For more information, see [Using the device](#), page 42 .

Pair with Other Apps

In addition to the Schneider Home app, your device supports pairing with other Matter-enabled controllers.

Pair Using NFC

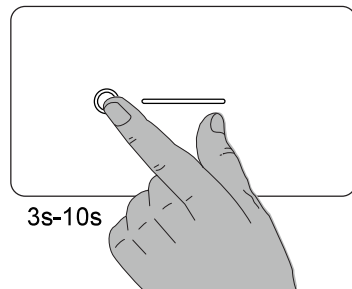
Before you start, make sure NFC is enabled on your phone.

1. Hold your phone close to the Energy Processor.
2. Follow the prompts in the app.

The Energy Processor enters pairing mode automatically and completes pairing

Pair Using Other Options

1. Press and hold the front push-button for 3–10 seconds.



The LED starts blinking green  indicating that Energy Processor is ready for pairing.

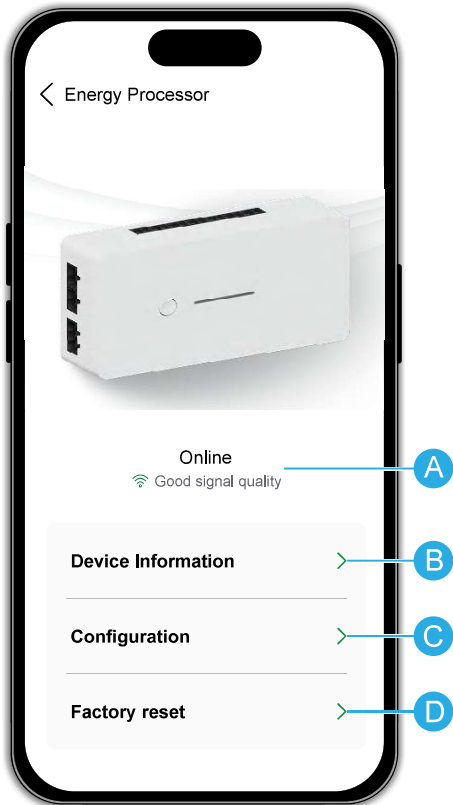
2. Open the third-party app.
3. Start the **Add device** or **Set up new device** flow.
4. Choose one of the following methods:
 - Scan the **QR code**.
 - Enter the **pairing code**.
5. Follow the steps in your app.

Use your Energy Processor

Use the Schneider Home app to view the status of your Energy Processor, check device information, manage Energy Sensor configurations, and perform a factory reset when needed.

1. On the Home screen, tap .

2. Tap **My home > Home details > Energy Processor**.
The Energy Processor screen displays the following information and options:



A	Device Status: View the current status of your Energy Processor. Energy Processor Wireless - Displays whether the device is Online or Offline. NOTE: When offline, the app displays the last time the device communicated with the system. - Shows the Thread signal quality as Good Normal Poor Online Good signal quality Online Normal signal quality Online Bad signal quality Offline No signal Last seen: Apr 8, 5:11 Energy Processor Wired - Displays whether the device is Online or Offline. NOTE: When offline, the app displays the last time the device communicated with the system. Online Offline Last seen: Apr, 5:11 pm
B	Device Information: