Schneider Home Energy System

Homeowner's Guide

schneiderhome.com

Schneider Electric

Legal Information

Contact Information

For country-specific details, please contact your local Schneider Electric Sales Representative or visit the Schneider Electric website at: schneiderhome.com

Document Number: TME43597A **Date:** November 2024

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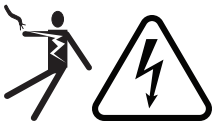
Safety Information

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 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.

Stored energy hazard and discharge time

Fire hazard

Hot surface

⚠ 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.

Product Safety Information

READ AND SAVE THESE INSTRUCTIONS - DO NOT DISCARD

⚠ DANGER

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

- The Schneider Home system equipment must only be installed, serviced, and disassembled by qualified personnel.
- Do not attempt to open, disassemble, repair, tamper with, or modify the battery. The battery cells are not replaceable.
- Do not drop, deform, impact, cut or spear the battery with a sharp object. Damage to this equipment may cause electrolyte leakage.
- Do not dispose of the Schneider Home system equipment in a fire or with general household waste. Always follow local guidelines for recycling and disposal.
- Do not immerse the Schneider Home system equipment or its components in water or other fluids.

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

Audience

This document is intended for use by homeowners of a Schneider Home system. Installation, servicing, and maintenance must be performed by qualified personnel.

1 Introduction

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Introduction to Your Schneider Home System

The Schneider Home system allows you to harness energy from the sun by converting the DC power from solar panels into AC power for your home. You can monitor and control your energy usage down to specific devices installed in your home to create a personalized energy system that suits your needs. In addition to powering your home, the Schneider Home system enables you to sell excess power your home produces back to the grid, allowing you to make money while enjoying the comforts of your solar-powered home.

Schneider Home System Overview

Note: System configurations and installed equipment will vary. The image shows an example system including the Pulse CSED smart panel, Boost battery, and inverter. For more information about our products, go to shop.se.com.

*The Schneider Home app supports Android 7.0 and above, and iOS 13 and above.

Schneider Home System Components

Schneider Inverter

The Schneider Inverter connects solar panels and the Schneider Boost to your home's power system and the electrical grid. It controls, transforms, and optimizes the electricity from these devices.

Schneider Boost

The Schneider Boost stores energy from solar or the grid and automatically powers your home during an outage and when electricity rates are high.

Schneider Pulse

The Schneider Pulse is a smart electrical panel for monitoring and optimizing energy consumption. Configurations with the Backup Controller allow the Schneider Boost and Schneider Inverter to provide backup power during a grid outage.

Components continue on next page.

Schneider Energy Monitor

The Schneider Energy Monitor can be used with the Schneider Home app to monitor and manage your energy usage and reduce your electricity costs.

Schneider Home

Schneider Home manages everything from solar to grid power. The app allows you to manage battery backup during an outage, energy usage, and more.

Schneider X Series wiring devices

Schneider X Series wiring devices include connectivity and monitoring options that help you save energy. Use your phone to control lights and other appliances that are connected to X Series devices.

2 Component Introduction

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Component Introduction

Schneider Inverter

(HY8K1NA1)

Power your home with sunshine and save money on electricity bills. The Schneider Inverter allows flexible solar system sizing and includes integrated MPPT optimization for maximum power output. It can be upgraded with Schneider Boost batteries for home backup power or to maximize self-consumption of your solar energy.

Flexible and Efficient Solar

- Supports solar arrays sizes up to 15.4 kW
- Integrated MPPT optimization for maximum power output
- Supports complex solar array orientations on multiple roof surfaces
- Monitor energy in real time from anywhere, with the easy-to-use Schneider Home app
- Compatible with Schneider Home solutions: Simple, smart and sustainable solutions for home energy management
- 10 year warranty

Optional Home Backup Power

- Add the Schneider Boost battery to store solar energy and power your home when the grid is out
- Save money by using your battery when electricity rates are high
- More reliable backup power with the inverter's 15.4 kW surge power capability
- High system efficiency with fewer steps of power conversion

Schneider Boost

(BAT10K1)

Schneider Boost maximizes the use of solar energy and provides power to your home when electricity rates are high. When installed with a Pulse Backup Controller, Boost automatically powers your home during an outage. The Boost battery's stackable architecture allows flexible system design to power critical appliances or back up your entire home.

High Performance

- 10 kWh capacity each, expandable to 30 kWh (3 batteries)
- 7.7 kW continuous power during a grid outage
- 15.4 kW surge rating for more reliable backup power
- High system efficiency with fewer steps of power conversion
- Recharge from solar or grid (where allowed)
- Whole home or partial home backup power
- Rated for outdoor or indoor installation
- 10 year warranty

Smarter Energy Management

- Save money by using your battery when electricity rates are high
- Automatically power your home during a grid outage when installed with a Pulse Backup Controller
- Extend battery runtime with optional load control by controlling which appliances can use battery power during a grid outage
- Real-time energy monitoring with the Schneider Home app

Schneider Pulse CSED

(CC18X18M200PCY; CC18X18M200PCZ; BC200A1NAWM)

Schneider Pulse CSED is the 200 A electrical panel that works as the heart of the electrified home by connecting various energy sources to the grid. The Pulse CSED automatically uses the most cost-efficient source of energy to reduce your electricity usage. Paired with Schneider Boost, the Pulse CSED can keep your home powered for longer during outages by choosing what to power and when on the fly.

Integrated Backup Controller

- 200 Amp grid input
- Configurable as service equipment
- 12-space integrated QO Breaker Panel
- Rated for indoor or outdoor use

Easy Installation

- Flexible for whole-home or partial-home backup
- Integrated metering for grid import/export and home consumption
- Reduces need for separate critical load subpanels
- Compatible with Square D Plug-on Neutral breakers
- Optional load control to extend battery runtime and eliminate need for utility service upgrades

Schneider Energy Monitor

(SEMONITOR)

The Schneider Energy Monitor helps you manage the electricity usage in your home, from the circuit to the plug level, all from your fingertips using the Schneider Home app. This gives you meaningful insight so you can take control of your energy usage and learn how you can reduce your electric bill.

Control Energy Usage

- 24/7 real time access to your home energy usage, savings, and energy goals to find ways to reduce your electricity costs
- Monitor and manage what's powered on in your home at any time and from anywhere with the Schneider Home app
- Integrate the Schneider Inverter, Schneider Boost, Schneider Pulse Backup Controller, and connected devices into the Schneider Home app

Schneider X Series Wiring Devices

Schneider X Series wiring devices are a modern take on a classic design. X Series offers sleek interchangeable wall plates that adapt to any home décor without the hassle of rewiring. Connected models allow you to remotely control appliances and monitor energy usage with your phone.

Control Connected Devices

- Monitor and control devices throughout your home from your phone
- Schedule when devices automatically turn off or on based on your preferences
- Create custom lighting scenes to fit any situation
- Control X Series wiring devices through major smart home appliances, such as Google Home and Alexa

1 Operation

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System Monitoring and Management

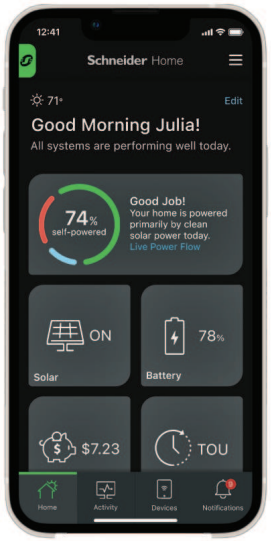
Schneider Home is a mobile app that provides an overall view of system performance for residential power monitoring systems. It is a virtual hub for monitoring, remotely controlling, and optimizing the Schneider Home system in real time. You can monitor and control the energy usage of connected devices, manage battery backup during an outage, switch between different energy modes, track savings based on energy rates, and more.

Note: Ensure that the Schneider Home system is connected to the internet so status updates are available and accurate in the app.

Getting Started

Download Schneider Home, and then follow the on-screen instructions to create and activate your Schneider Home account.

Schneider Home App



The mobile application is available for both iOS and Android devices. You can install the latest version of Schneider Home from the Apple App Store or Google Play Store.

To learn more about Schneider Home, go here: https://shop.se.com/us/en/app.

Download on the App Store

GET IT ON Google Play

Modes of Operation

Table 1 Modes of Operation

Name	Type	Description
Self Consumption	Standard	Solar and storage are used to minimize energy consumption from the grid.
Time of Use (ToU) Savings	Standard	Solar and storage are used to minimize energy consumption from the grid. The battery is used to support the home's loads when electricity rates are highest.
Max Backup Reserve	Standard	The battery(ies) are kept charged to 100% in order to maximize run time when there is a grid outage.
Storm Mode	Temporary	Temporary mode that charges the battery(ies) to 100% and overrides the normal mode of operation to prepare for a potential grid outage.
Low Power Mode	Temporary	Puts the home in low power mode by turning off designated devices. This mode: ■ Is independent of the Schneider Inverter ■ Can be set in addition to the other modes

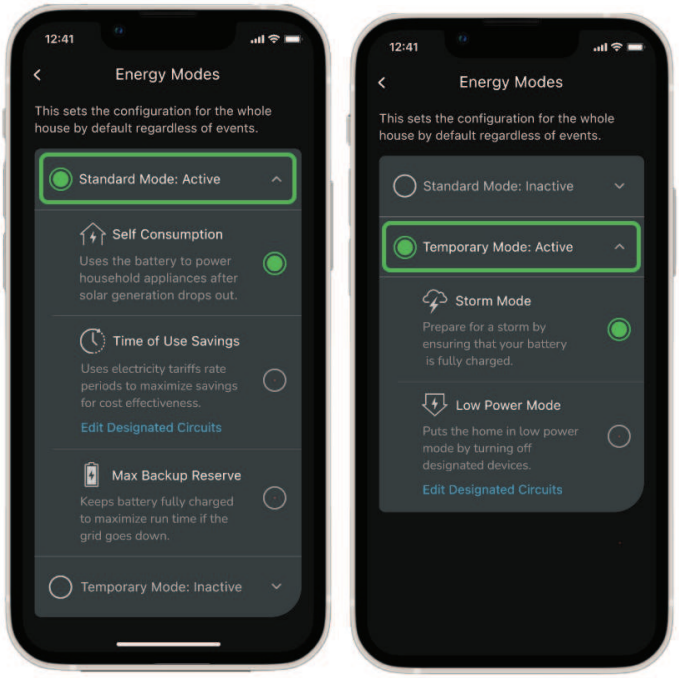
To set the mode of operation in the Schneider Home app:

1. From the **Home** tab, select **Energy Mode**.

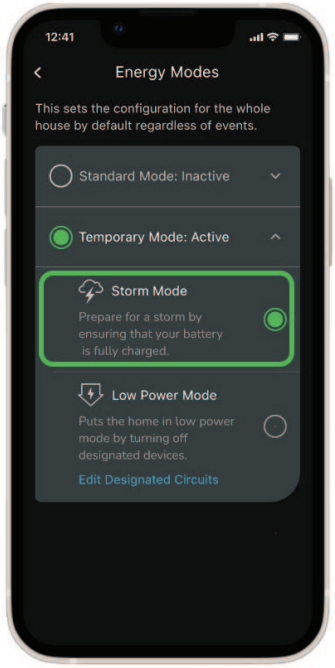
1	Home tab
2	Energy Mode

Procedure continues on next page.

2. Select **Standard Mode** if choosing a standard mode of operation, or select **Temporary Mode** if choosing a temporary mode of operation. See "Modes of Operation" on the previous page to see if a mode of operation is standard or temporary.



3. Select the desired mode of operation.



Schneider Inverter Operation

Schneider Inverter LED Display

The LED on the front of the Schneider Inverter indicates the inverter status.

LED	LED behavior	Meaning
	Green (solid)	Indicates that the inverter is enabled and operating as expected.
	Green (fast blinking)	Indicates that the inverter is on standby.
	Amber (solid)	Indicates that there is an alert.
	Amber (slow blinking)	Indicates that there is a firmware upgrade in progress.
	Red (fast blinking)	Indicates that there is an alarm that needs addressing, OR that communication is lost with one or more installed devices. Troubleshoot as needed (see *Troubleshooting*).
	Red (fast pulsing)	Indicates a RSD (rapid shutdown device) activation.
	Off	The inverter is not enabled or is switched off.

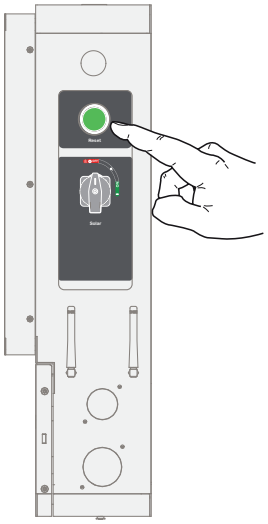
Standby and Reset Modes

⚠ ⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, AND FIRE

Turning the Solar or Battery disconnect switches on the Schneider Inverter to the **OFF** position will NOT isolate the electrical connections to the inverter. To de-energize the inverter, qualified personnel must de-energize, lock-out, and tag-out all power sources.

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



User Action	Function
One short press (1 second)	Clear Inverter events*
One long press (> 6 seconds)	Change system state (Automatic/Standby)
Two short presses	Enable Wi-Fi Access Point (AP) Mode
Three short presses	Network reset

* Except AFD events. To clear AFD events after troubleshooting, call 1-877-SEHOME1 for technical support.

Standby mode (long press)

In Standby mode, the Schneider Inverter stops charging and inverting. However, the unit remains powered and present on the network. Lastly, in Standby mode, basic and advanced settings can be changed and put into effect.

Network Configuration and Reset

The network can be reset using the push button on the Schneider Home system. For other network settings, customers can use the Schneider Home app. Use the network reset function to:

- Disconnect the inverter from the Wi-Fi network (if you do not want to reconnect to the network anymore)
- Disconnect the inverter from the Wi-Fi network and use an ethernet cable to connect to a network router instead
- Change the inverter's network access from one Wi-Fi Access Point (AP) to another one

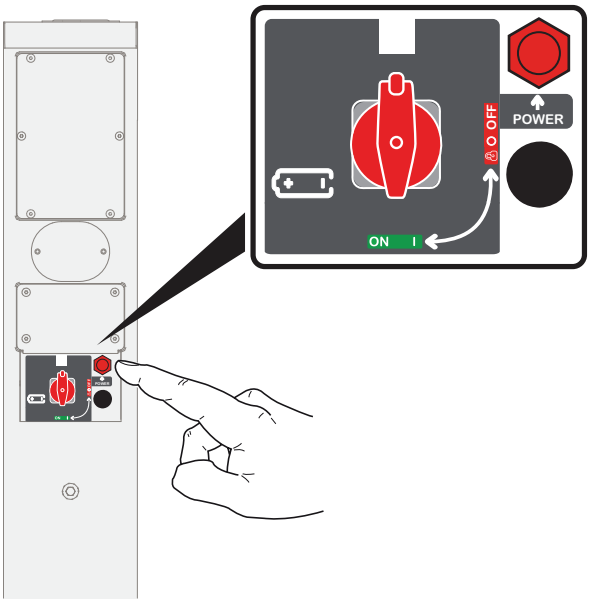
Procedure continues on next page.

To edit network settings using Schneider Home:

1. From the home screen, tap the menu ☰ at the top right.
2. Go to **Hardware** > **Schneider inverter** > **Wi-Fi Configuration**
3. Follow the on-screen prompts.

Schneider Boost Operation

Black Start



In most cases, the battery will automatically self-recover when there is an available energy source. However, the black start procedure may be required after an extended period without a charging source.

When to Use Black Start

Black start can be used:

- To start commissioning the system. **Note:** Grid power is required to complete commissioning.
- For system recovery, if a charging source is present and the system has not automatically resumed operation.

How to Use Black Start

To use Black Start:

1. On all connected batteries:
    a. Turn the disconnect switch to the OFF O position.
    b. Wait 10 seconds.
    c. Turn the disconnect switch to the ON I position.
    d. Wait 10 seconds.
2. On all connected batteries, press the Power button for 0.5 seconds (press all Power buttons within 30 seconds).
3. Wait one minute for the battery(ies) to start up.
4. On the primary battery, press the Power button for three seconds.

    Note: The inverter's Communication card takes about seven minutes to start up.

5. After seven minutes, use the Installer Portal or the Schneider Home app to verify that the inverter is back online and that all batteries are providing power.

    Note: The Installer Portal and Schneider Home app can only be used for monitoring if the system has been commissioned (using eSetup). If the system has not been commissioned yet, monitor the inverter's LED for the status of the system.

Schneider Pulse Backup Controller Operation

The Pulse Backup Controller (BC200A1NAWM) or Backup Control Module (BC200A1NAPM) provides a way to island a solar or storage solution from the grid. When the Pulse Backup Controller or Backup Control Module detects a grid outage, it will communicate with the Schneider Inverter to enable Backup Power mode. When grid power is restored, the Pulse Backup Controller or Backup Control Module detects the grid and communicates with the inverter to synchronize and reconnect in Grid-Tied mode.

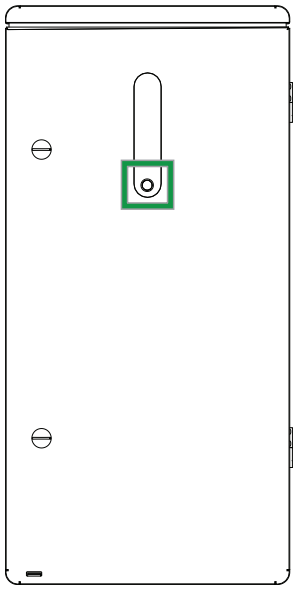
The Pulse Backup Controller or Backup Control Module operates without any need for intervention by a user in most situations.

Indicator Lights

There is a circle indicator light (ring LED) that is visible through a window in the door of the Backup Controller. This light indicates the status of the Backup Controller.

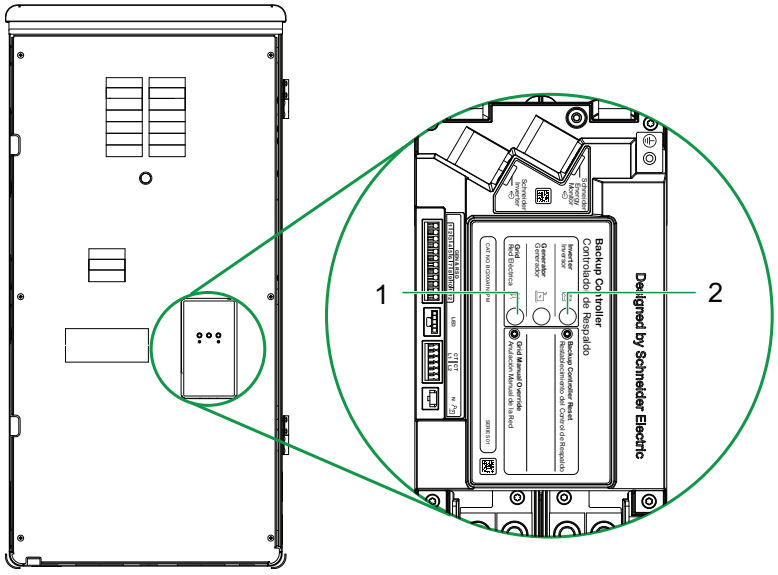
There are three indicator lights that are visible once the front door is open. These lights indicate the state of the grid relay and generator relay.

Ring LED



Indicator	Indicator state	Meaning
Ring LED	Off	Schneider Inverter is not producing or consuming power
Ring LED	Solid green	Schneider Inverter is either charging battery(ies) or producing power to support Schneider Home energy management system when Grid-Tied.
Ring LED	Pulsing green	Schneider Inverter is using solar or batteries to power the Schneider Home energy management system
Ring LED	Pulsing red	Backup Controller has an active alarm that is preventing normal operation

State Indicator Lights



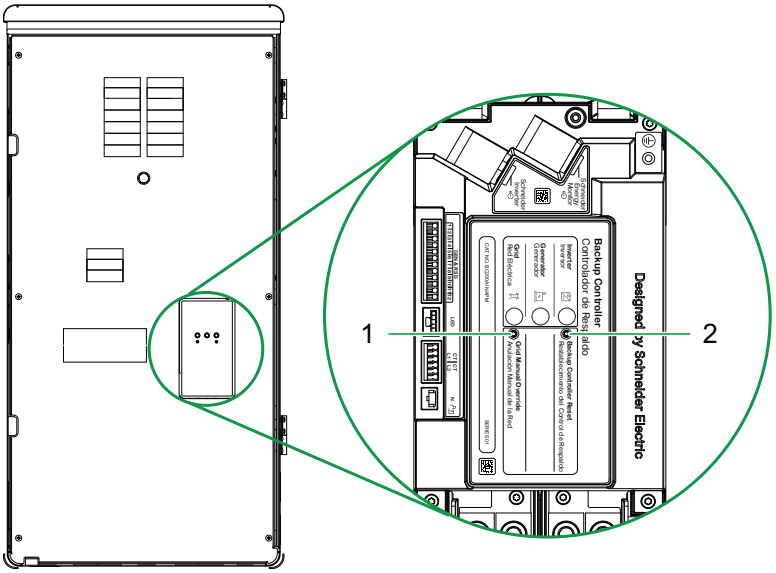
These indicator lights are visible when the door is open. They show the state of the grid relay and inverter.

Indicator	Indicator state	Meaning
1 (Grid Relay State)	Off	Grid relay open
1 (Grid Relay State)	Green	Grid relay closed, firmware controlled
1 (Grid Relay State)	Amber	Grid relay closed, manual grid connection switch activated
2 (Inverter State)	Off	No active alarms
2 (Inverter State)	Green	Firmware controlled
2 (Inverter State)	Amber	Active alarm detected

Schneider Pulse Backup Controller Switches

Switches

There are two user-accessible pinhole switches on the Pulse Backup Controller or Backup Control Module.



1	Manual grid override switch
2	Reset switch

Grid Manual Override Switch

This switch manually closes the grid relay.

IMPORTANT: The following procedure is used to reconnect the home to the grid if grid power is available and the system is offline in abnormal conditions. In normal operation, the Pulse Backup Controller or Backup Control Module automatically re-connects to the grid even if the Schneider Boost has disconnected due to low state of charge.

⚠ ⚠ WARNING

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

- Do not operate the grid manual override switch in the Pulse Backup Controller or Backup Control Module while any backup power systems are on.
- Turn off all connected backup power sources, including but not limited to inverters, energy storage systems, and generators before using the grid manual override switch to connect to the grid.

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

Using the Pulse Backup Controller or Backup Control Module manual grid connection switch:

1. Open the AC disconnect devices for all power sources in the home:
   a. Open the AC disconnect device for each inverter.
   b. If AC-coupled PV inverters are installed in the system, open the disconnect device for each inverter.
2. Open the Pulse Backup Controller or Backup Control Module door and locate the grid manual override pinhole switch.
3. Using a pin or toothpick, gently press and hold the switch in for a minimum of five seconds.
4. Release the switch when the light turns amber to signal the switch has activated.
5. Close the Pulse Backup Controller or Backup Control Module door.
6. Close the disconnect devices described in step 1, as needed to allow the inverter to operate in a grid-tied mode during manual override.
7. Verify that grid power has been restored to the home.

Note: An event may be present on the primary inverter due to a mismatch between the commanded and feedback state of the relay.

To reset automatic control of the relay back to the inverter:

1. Open the AC disconnect devices for all power sources in the home:
    a. Open the AC disconnect device for each inverter.
    b. If AC-coupled PV inverters are installed in the system, open the disconnect device for each inverter.
2. Refer to the instructions in "Reset Switch" below.

Reset Switch

Use the reset switch in the following situations:

- To return automatic control of the relay back to the inverter after the grid manual override switch has been activated.
- To restart the Pulse Backup Controller or Backup Control Module in the event of an unexpected shutdown that does not automatically reconnect.

To operate the reset switch:

1. Open the Pulse Backup Controller or Backup Control Module door and locate the manual Reset pinhole switch.
2. Using a pin or toothpick, gently press and hold the switch in for a minimum of five seconds.

Troubleshooting

Note: Refer to notification messages in the Schneider Home app for actions to take when your Schneider Home energy management system requires troubleshooting.

This section provides an overview on how to troubleshoot the Schneider Home energy management system, as well as how to avoid system shutdowns from occurring. In the event of your system requiring troubleshooting, refer to the recommendations provided in this section, in addition to the notification message that will appear in the Schneider Home app. If you are unable to troubleshoot your Schneider Home system, or if you have any product questions, contact Schneider Electric's Customer Care Center at 1-877-SEHOME1.

System Shutdown

Your Schneider Home system can experience a shutdown for various reasons, such as a Schneider Boost becoming discharged during a power outage, or the backup power system overloading and consequently tripping the inverter. The Schneider Home app will notify you in the event of a system shutdown. To determine the cause of the system shutdown, as well as how to restore your system, refer to the notification details in Schneider Home.

Helping Prevent System Shutdowns

In many cases, system shutdowns are avoidable. To reduce the likelihood of system shutdowns from occurring, heed system notifications and take the appropriate actions.

Your Schneider Home system may experience a shutdown due to energy intensive loads draining more energy than your system can manage. During power outages, refer to Schneider Home to see how much charge your battery has left. If your system is low on charge, conserve the remaining charge by turning off non-essential devices.

Loss of Internet Connection

If one or more connected devices have lost internet connection, follow the procedure outlined in the notification message in Schneider Home to reconnect the devices to your system. If the problem persists, contact Schneider Electric's Customer Care Center at 1-877-SEHOME1.

3 Maintenance and End of Life

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Maintenance

Visually inspect the Schneider Home system equipment exterior to verify that:

- It is free of debris. If necessary, clean the equipment exteriors with a lint-free, soft cloth.

NOTICE
RISK OF EQUIPMENT DAMAGE ■ Use only a soft cloth dampened with water and mild soap to clean the Schneider Home system equipment. ■ Do not use solvents or chemicals that are corrosive or flammable. **Failure to follow these instructions can result in equipment damage.**

- All doors are left closed.
- All wires, conduits (and seals) remain undamaged.

Recycling and Disposal

⚠⚠ DANGER
HAZARD OF ELECTRIC SHOCK, EXPLOSION, ARC FLASH, AND FIRE Do not dispose of the Schneider Home system equipment in a fire or with general household waste. Always follow local guidelines for recycling and disposal. **Failure to follow these instructions will result in death or serious injury.**

Electric appliances marked with the symbol shown must be professionally treated to recover, reuse, and recycle materials in order to reduce negative environmental impact. When the product is no longer usable, the consumer is legally obligated to ensure that it is collected separately under the local electronics recycling and treatment scheme.

When to Contact Support

If your system is not operating properly or has shut down unexpectedly, contact Schneider Support for guidance at https://www.se.com/us/en/work/support/contacts.jsp.

Emergency Response for the Schneider Boost

⚠ ⚠ WARNING

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

- If there are any signs of smoke, unusual smell, or excessive heat coming from the Schneider Boost, evacuate the area and call local emergency response teams.
- In case of a flood: If any part of the battery or wiring is submerged, stay out of the water.

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

If the battery generates smoke or excessive heat, follow these steps:

1. If it is safe to do so, turn the AC disconnect for the system to the OFF position.
2. If a Rapid Shutdown (RSD) switch is installed, and if it is safe to do so, turn the switch to the OFF position.
3. Evacuate the area.
4. Call the local fire department and emergency response team(s) and inform them that there is a potential chemical fire involving a Lithium Iron Phosphate (LFP) battery.

In case of flooding:

1. If any part of the battery or wiring is submerged, stay out of the water.
2. If possible, stop the source of the water, and pump it away.
3. Call your installer to arrange an inspection.

Schneider Electric

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For other country details please contact your local Schneider Electric Sales Representative or visit the Schneider Electric website at: schneiderhome.com

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