Easy UPS 3-Phase Modular

50-250 kW

Operation

380 V, 400 V, 415 V

Latest updates are available on the Schneider Electric website
9/2024

Legal Information

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

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Access to Your Product Manuals Online

Find the UPS Manuals, Submittal Drawings, and Other Documentation for Your Specific UPS Here:

From the main menu on the UPS display, tap **Digital experience** and scan the QR code,

OR

In your web browser, type in https://www.go2se.com/ref= and the commercial reference for your product.
Example: *https://www.go2se.com/ref=**EMUPS50K250PBHS***

Find the UPS Manuals, Relevant Auxiliary Product Manuals, and Option Manuals Here:

Scan the QR code to go to the Easy UPS 3-Phase Modular online manual portal:

https://www.productinfo.schneider-electric.com/easyups3pmodular/

Here you can find your UPS installation manual, UPS operation manual, and UPS technical specifications, and you can also find installation manuals for your auxiliary products and options.

This online manual portal is available on all devices and offers digital pages, search functionality across the different documents in the portal, and PDF download for offline use.

Learn More About the Easy UPS 3-Phase Modular Here:

Go to *https://www.se.com/ww/en/product-range/74219412* to learn more about this product.

Important Safety Instructions — SAVE THESE INSTRUCTIONS

Read these instructions carefully and look at the equipment to become familiar with it before trying to install, operate, service or maintain it. The following safety 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 this symbol to a “Danger” or “Warning” safety message 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 with 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.

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

⚠CAUTION

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

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

NOTICE

NOTICE is used to address practices not related to physical injury. The safety alert symbol shall not be used with this type of safety message.

Failure to follow these instructions can result in equipment damage.

Please Note

Electrical equipment should only be installed, operated, serviced, and maintained 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.

Per IEC 62040-1: "Uninterruptible power systems (UPS) -- Part 1: Safety Requirements," this equipment, including battery access, must be inspected, installed and maintained by a skilled person.

The skilled person is a person with relevant education and experience to enable him or her to perceive risks and to avoid hazards which the equipment can create (reference IEC 62040-1, section 3.102).

Electromagnetic Compatibility

NOTICE

RISK OF ELECTROMAGNETIC DISTURBANCE

This is a product category C3 product. In a residential environment, this product may cause radio inference, in which case the user may be required to take additional measures.

Failure to follow these instructions can result in equipment damage.

Safety Precautions

⚠⚠DANGER

HAZARD OF ELECTRICAL SHOCK, EXPLOSION OR ARC FLASH

All safety instructions in this document must be read, understood and followed.

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

⚠⚠DANGER

HAZARD OF ELECTRICAL SHOCK, EXPLOSION OR ARC FLASH

After the UPS system has been electrically wired, do not start up the system. Start-up must only be performed by Schneider Electric.

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

Cybersecurity Recommendations

- Install the UPS in a location with restricted access.
- Only authorize access to the UPS to maintenance and service personnel.
- Mark the restricted areas with “For authorized personnel only”.
- Record the access to restricted areas with either a physical or an electronic audit trail.

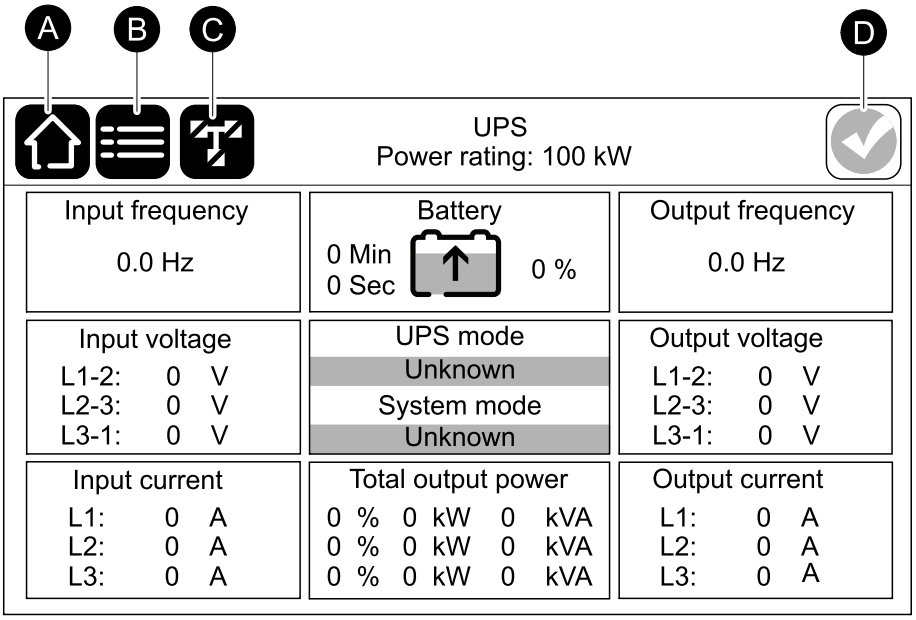
Symbols Used in the Product

	This is the earthing/ground symbol.
	This is the protective earth/equipment grounding conductor symbol.
	This is the direct current symbol. It is also referred to as DC.
	This is the alternating current symbol. It is also referred to as AC.
	This is the positive polarity symbol. It is used to identify the positive terminal(s) of equipment which is used with, or generates direct current.
	This is the negative polarity symbol. It is used to identify the negative terminal(s) of equipment which is used with, or generates direct current.
	This is the battery symbol.
	This is the static switch symbol. It is used to indicate switches that are designed to connect or disconnect the load to or from the supply respectively without the existence of moving parts.
	This is the AC/DC converter (rectifier) symbol. It is used to identify an AC/DC converter (rectifier) and, in case of plug-in devices, to identify the relevant receptacles.
	This is the DC/AC converter (inverter) symbol. It is used to identify an DC/AC converter (inverter) and, in case of plug-in devices, to identify the relevant receptacles.
	This is the input symbol. It is used to identify an input terminal when it is necessary to distinguish between inputs and outputs.
	This is the output symbol. It is used to identify an output terminal when it is necessary to distinguish between inputs and outputs.
	This is the switch disconnector symbol. It is used to identify the disconnecting device in the form of switch.
	This is the circuit breaker symbol. It is used to identify the disconnecting device in the form of circuit breaker that protects the equipment from short circuit or heavy load current. It opens the circuits once the current flow crosses its maximum limit.

Overview of User Interface

Display

Overview of the Home Screen



A. Home button - tap here on any screen to return to the home screen.

B. Main menu button - tap here to access the menus.

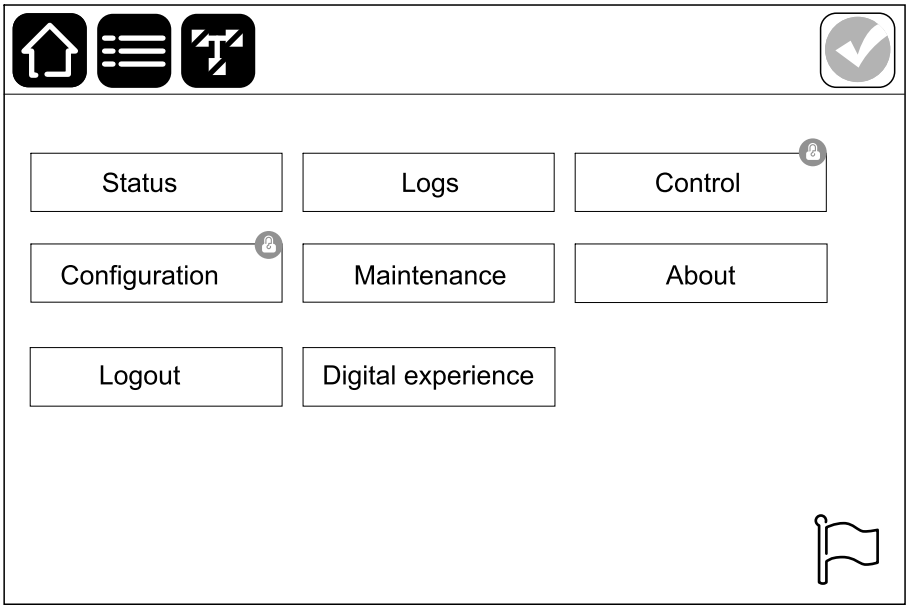
C. Mimic diagram button - tap here to access the mimic diagram.

D. Alarm status symbol - tap here to access the active alarms log.

You can tap on the output or battery fields on the home screen to go directly to the detailed measurement pages.

Main Menu

Tap the main menu button on the home screen to access the menus.

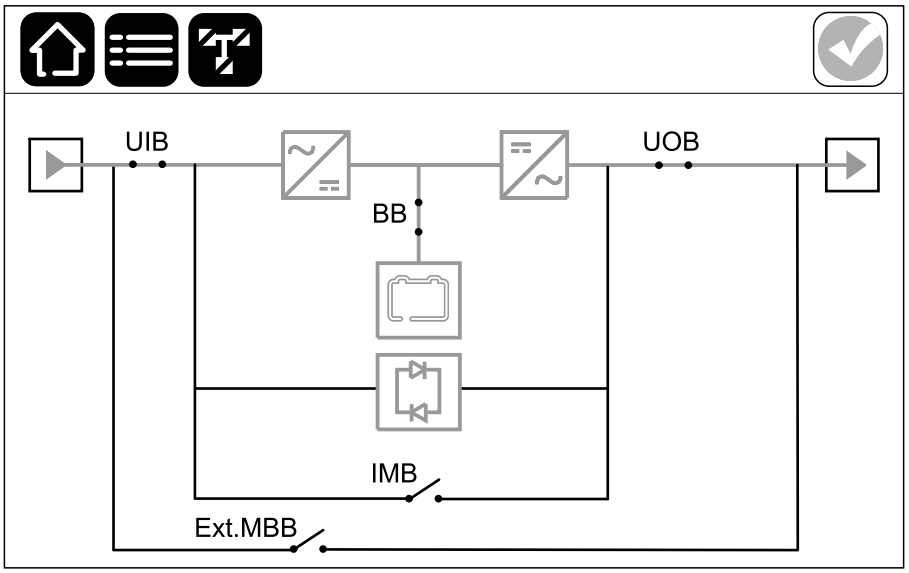


Mimic Diagram

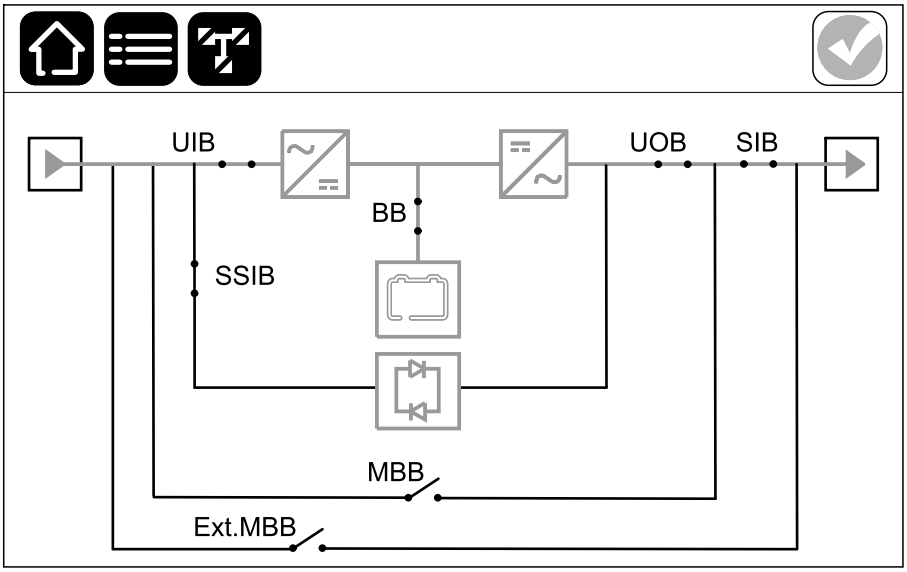
Tap the mimic diagram button on the home screen to access the mimic diagram.

The mimic diagram will adapt to your system configuration – the mimic diagram shown here is just an example.

Example of Single UPS System (UPS with One Internal Switch) – Single Mains



Example of Single UPS System (UPS with Four Internal Switches) – Single Mains

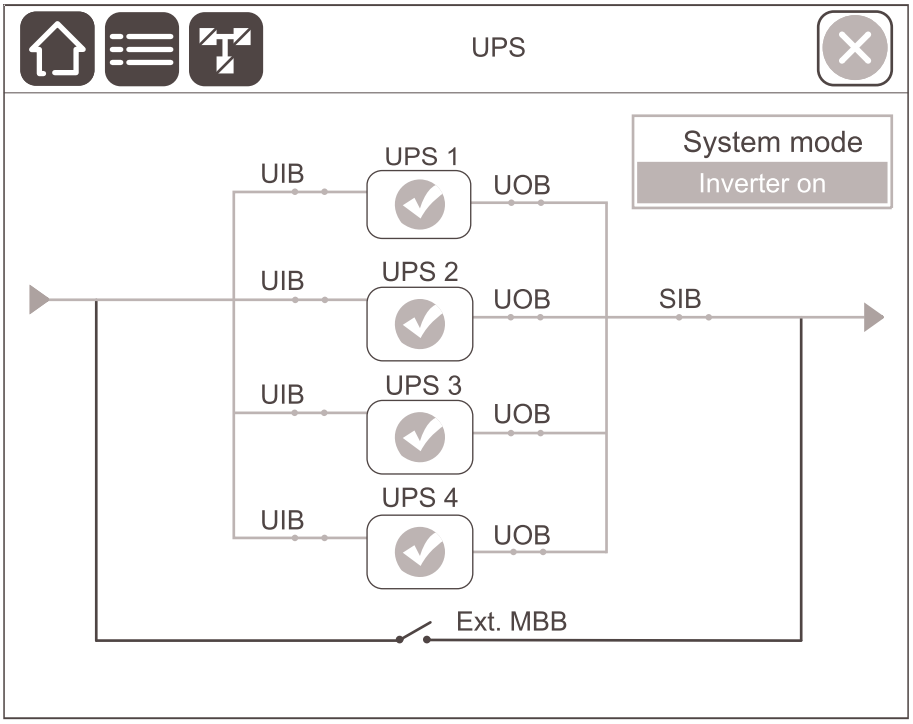


The green power line (gray in illustration) in the mimic diagram shows the power flow through the UPS system. Active modules (inverter, rectifier, battery, static bypass switch, etc.) are framed in green and inactive modules are framed in black. Modules framed in red are inoperable or in an alarm condition.

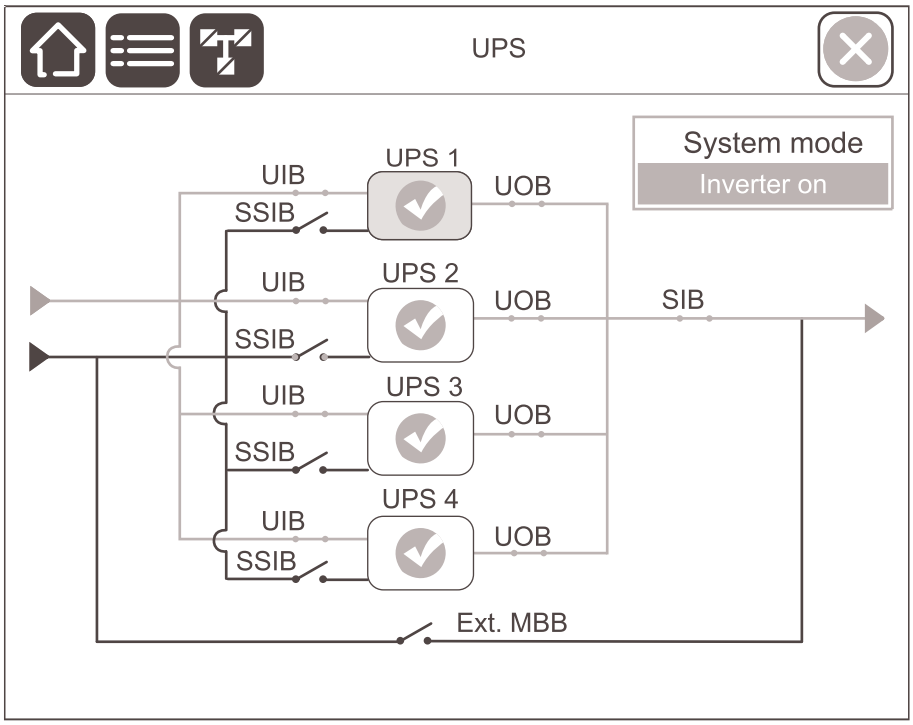
> **NOTE:** The mimic diagram only shows one battery breaker BB even if more battery breakers have been connected and configured for monitoring. If one or more of the monitored battery breakers are in the closed position, the BB on the mimic diagram will show as closed. If all of the monitored battery breakers are in the open position, the BB on the mimic diagram will show as open.

In mimic diagrams for parallel systems, tap on the gray UPS to see the mimic diagram on UPS level.

Example of Parallel System – Single Mains with Individual UIB



Example of Parallel System – Dual Mains with Individual UIB and SSIB



Alarm Status Symbols

The alarm status symbol (gray in illustration) in the top right corner of the display changes depending on the alarm status of the UPS system.

	Green: No alarms present in the UPS system.
	Blue: Informational alarm(s) present in the UPS system. Tap the alarm status symbol to open the active alarms log.
	Yellow: Warning alarm(s) present in the UPS system. Tap the alarm status symbol to open the active alarms log.
	Red: Critical alarm(s) present in the UPS system. Tap the alarm status symbol to open the active alarms log.
	Red: Connection from the display to the UPS is lost.

Menu Tree

Tap the main menu button on the home screen to access the menus.

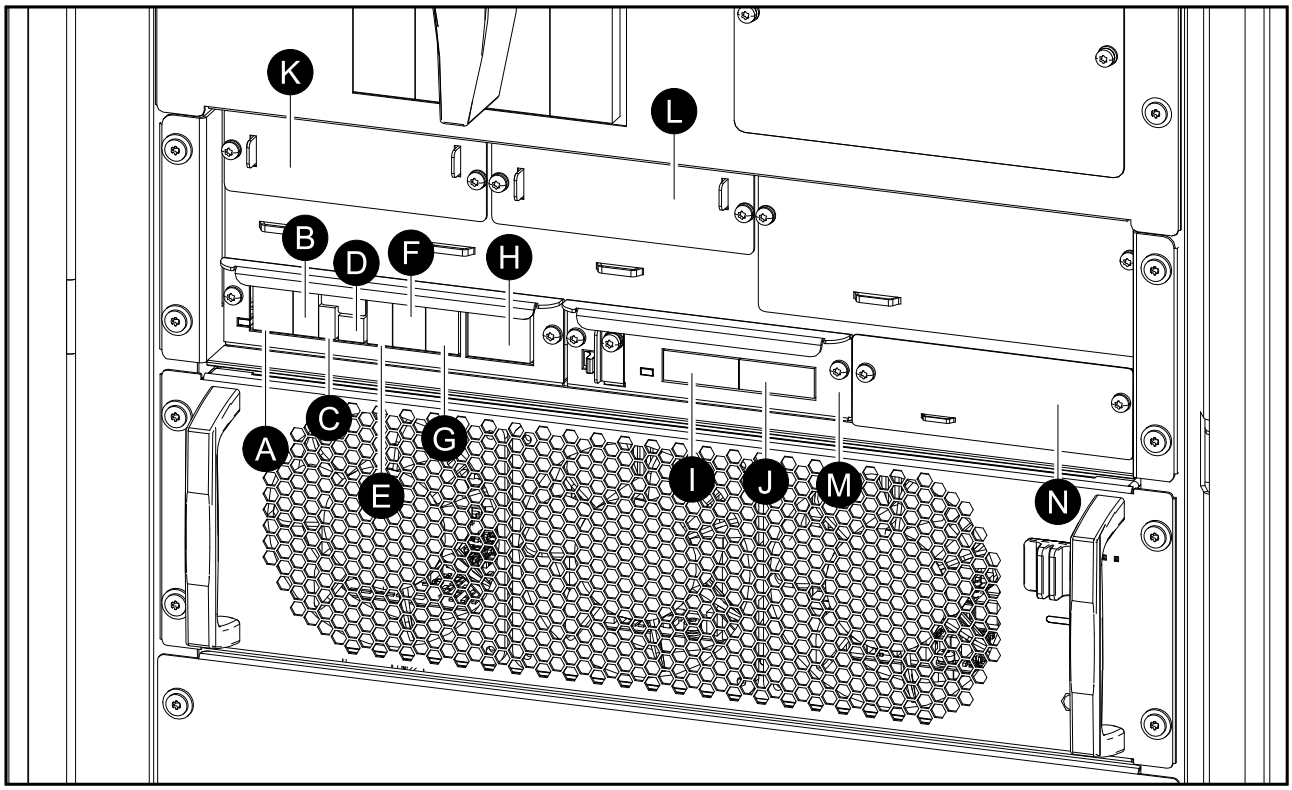
- **Status**
  - **Input**
  - **Output**
  - **Bypass**
  - **Battery**
  - **Temperature**
  - **Power modules**
  - **Parallel**
  - **Redundant IM**
- **Logs**
- **Control**[1]
  - **Operation mode**
  - **Inverter**
  - **Charger**
  - **Guided sequence**
- **Configuration**[1]
  - **UPS**
  - **Output**
  - **Battery**
  - **High efficiency**
  - **Contacts and relays**
  - **Network**
  - **Modbus**
  - **General**
  - **Reminders**
- **Maintenance**
  - **Buzzer**
  - **Battery**[1]
  - **Runtime calibration**[2]
  - **Battery replacement**[2]
  - **UPS report**[1]
- **About**
  - **UPS**
  - **Display**
  - **Network management card (NMC) number 1**
  - **Network management card (NMC) number 2**
- **Logout**
- **Digital experience**
- **Language**

1. This menu requires administrator login to access.
2. This menu requires administrator login to access. Not supported for custom Lithium-ion batteries.

Some menus contain more submenus than described in this manual. These submenus are grayed out and are only for use by Schneider Electric to avoid unwanted load impacts. Other menu items can also be grayed out/not shown on the display if they are not relevant or not released yet for this particular UPS system.

Controller Section

Overview of Signal Connection Terminals in the UPS



A. Remote EPO (J6600)
B. Display port (for internal use)
C. USB port (for service)
D. Tuner port (for service)
E. Modbus port
F. Battery temperature sensor (J3008)
G. Input contacts (J3009)
H. Output relays (J3001)
I. PBUS2
J. PBUS1
K. Network management card (NMC) slot 1
L. Network management card (NMC) slot 2
M. IM1 slot for intelligence module
N. IM2 slot for intelligence module

Operation Modes

The UPS has two different levels of operation modes:

- **UPS mode**: The operation mode of the individual UPS. See UPS Modes, page 18.
- **System mode**: The operation mode of the complete UPS system that supplies the load. See System Modes, page 21.

UPS Modes

Normal Operation

In normal operation, the UPS supports the load with conditioned power.

Battery Operation

If the utility/mains supply fails, battery power ensures uninterrupted support to the critical load during battery operation.

NOTE: When battery is supplying the UPS and no mains sources are available: If you disconnect the battery power, you must wait until all UPS power modules have completely shut down, before reconnecting the battery power to the UPS.

Requested Static Bypass Operation

The UPS can be transferred to requested static bypass operation following a command from the display. During requested static bypass operation, the load is supplied from the bypass source. If a fault is detected, the UPS will transfer to normal operation or forced static bypass operation. If there is an interruption to the utility/mains supply during requested static bypass operation, the UPS will transfer to battery operation.

Forced Static Bypass Operation

The UPS is in forced bypass operation when the UPS has detected an inoperable state on the system and requests static bypass operation or because the user has pressed the inverter OFF button on the UPS. During forced static bypass operation, the load is supplied from the bypass source.

NOTE: The batteries are not available as an alternate power source while the UPS is in forced static bypass operation.

Internal Maintenance Bypass Operation via the Internal Maintenance Switch IMB (for UPS with One Internal Switch)

When the internal maintenance switch IMB is closed, the UPS transfers to internal maintenance bypass operation. The load is supplied with unconditioned power from the bypass source. Service and replacement can be performed on power modules and the static bypass switch module during internal maintenance bypass operation via the internal maintenance switch IMB. The internal maintenance switch IMB can only be used in single systems with no external maintenance bypass switch/breaker.

NOTE: The batteries are not available as an alternate power source while the UPS is in internal maintenance bypass operation.

Internal Maintenance Bypass Operation via the Maintenance Bypass Switch MBB (for UPS with Four Internal Switches)

When the maintenance bypass switch MBB is closed, the UPS transfers to internal maintenance bypass operation. The load is supplied with unconditioned power from the bypass source. Service and replacement can be performed on power modules and the static bypass switch module during internal maintenance bypass operation via the maintenance bypass switch MBB. The maintenance bypass switch MBB can only be used in single systems with no external maintenance bypass switch/breaker.

NOTE: The batteries are not available as an alternate power source while the UPS is in internal maintenance bypass operation.

External Maintenance Bypass Operation via the External Maintenance Bypass Switch/Breaker Ext. MBB

When the external maintenance bypass switch/breaker Ext. MBB is closed in the external maintenance bypass panel/cabinet or third party switchgear, the UPS transfers to external maintenance bypass operation. The load is supplied with unconditioned power from the bypass source. Service and replacement can be performed on the entire UPS during external maintenance bypass operation via the external maintenance bypass switch/breaker Ext. MBB. For more information, see Shut Down the Single UPS with One Internal Switch into Maintenance Bypass Operation, page 41 and Shut Down the Parallel UPS System into Maintenance Bypass Operation – for UPSs with One Internal Switch, page 41.

NOTE: The batteries are not available as an alternate power source while the UPS is in external maintenance bypass operation.

Static Bypass Standby Operation

Static bypass standby is only applicable to an individual UPS in a parallel system. The UPS enters static bypass standby operation if the UPS is prevented from entering forced static bypass operation and the other UPSs of the parallel system can support the load. In static bypass standby the output of the specific UPS is OFF. The UPS automatically transfers to the preferred operation mode when possible.

NOTE: If the other UPSs cannot support the load, the parallel system transfers to forced static bypass operation. The UPS in static bypass standby operation will then transfer to forced static bypass operation.

Battery Test

The UPS is in battery test mode when the UPS is performing a battery self-test or a runtime calibration.

NOTE: The battery test will be aborted if the utility/mains supply is interrupted or if a critical alarm occurs and the UPS will return to normal operation upon return of utility/mains.

ECO Mode

ECO mode allows the UPS to be configured to use requested static bypass, with the load supplied through the bypass, as the preferred operation mode under predefined circumstances. If a fault is detected (bypass voltage out of tolerance, output voltage out of tolerance, etc), the UPS will immediately transfer to normal operation or forced static bypass. The main advantage of ECO mode is a reduction in the consumption of electrical power. In case of interruption to the utility/mains supply, the UPS transfers to battery operation for an uninterrupted supply of the load. The batteries are charged when the UPS is in ECO mode.

NOTE: ECO mode is not supported in parallel system.

OFF Mode

The UPS is not supplying the load with power. The batteries are charged and the display is on.

System Modes

The system mode indicates the output status of the complete UPS system including the surrounding switchgear and indicates which source supplies the load.

Inverter Operation

In inverter operation the load is supplied by the inverters. The UPS mode can be in either normal operation or battery operation when the system operation mode is inverter operation.

Requested Static Bypass Operation

When the system is in requested static bypass operation, the load is supplied from the bypass source. If a fault is detected, the system will transfer to inverter operation or forced static bypass operation.

Forced Static Bypass Operation

The system is in forced static bypass operation following a command from the UPS system or because the user has pressed the inverter OFF button on the UPSs. During forced static bypass operation, the load is supplied directly by the bypass source with unconditioned power.

NOTE: The batteries are not available as an alternate power source while the system is in forced static bypass operation.

Maintenance Bypass Operation

In maintenance bypass operation, the load is supplied directly by the bypass source with unconditioned power.

NOTE: The batteries are not available as an alternate power source in maintenance bypass operation.

ECO Mode

ECO mode allows the system to be configured to use requested static bypass operation, with the load supplied through the bypass, as the preferred operation mode under predefined circumstances. The main advantage of ECO mode is a reduction in the consumption of electrical power. In case of interruption to the utility/mains supply, the UPS transfers to inverter operation for an uninterrupted supply of the load.

NOTE: ECO mode is not supported in parallel system.

OFF Mode

The system is not supplying the load with power. The batteries are charged and the display is on.

Configuration

Set the Display Language

1. Tap the flag button on the main menu screen.

2. Tap your language.

Change the Password

NOTE: Always change your password on your first login and keep the password in a secure location.

1. From the main menu, tap **Logout**.
2. Tap **Configuration**.
3. Tap **Change password**.
4. Enter the old password and the new password, tap **Change**.

   NOTE: The default administrator user name is **admin** and password is **Jedi2201**.

Configure the UPS Input

NOTE: This configuration is mandatory for correct UPS operation.

1. From the main menu, tap **Configuration > UPS**.
   a. Set the **Mains configuration** to **Single mains** or **Dual mains**.
   b. Select **Autostart of the inverter** if you want to enable this function. When **Autostart of the inverter** has been enabled, the inverter will start up automatically when input voltage returns, after a shutdown due to drained battery.

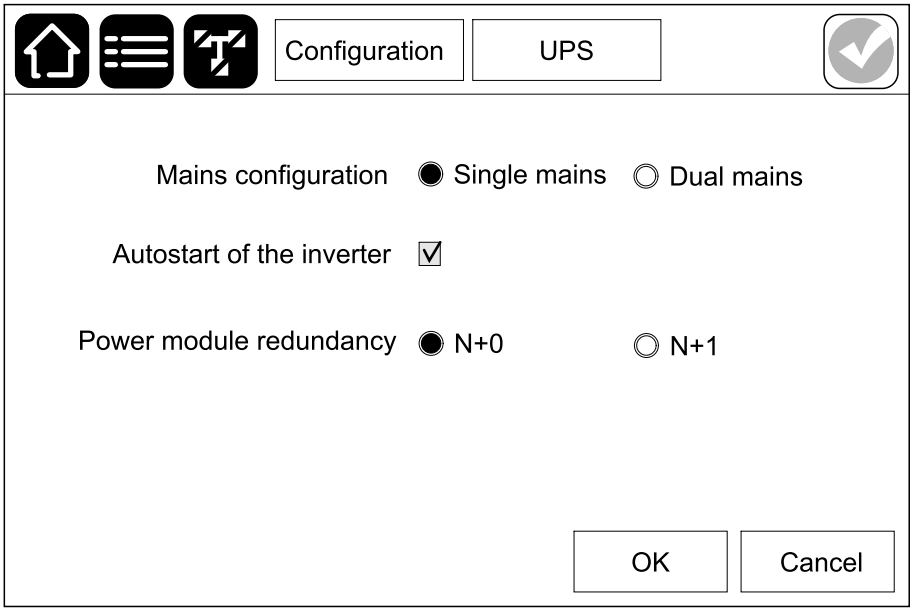
⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

Always perform correct Lockout/Tagout before working on the UPS. A UPS with **Autostart of the inverter** enabled will automatically restart when the mains supply returns.

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

   c. Set the **Power module redundancy** to **N+0** or **N+1**.

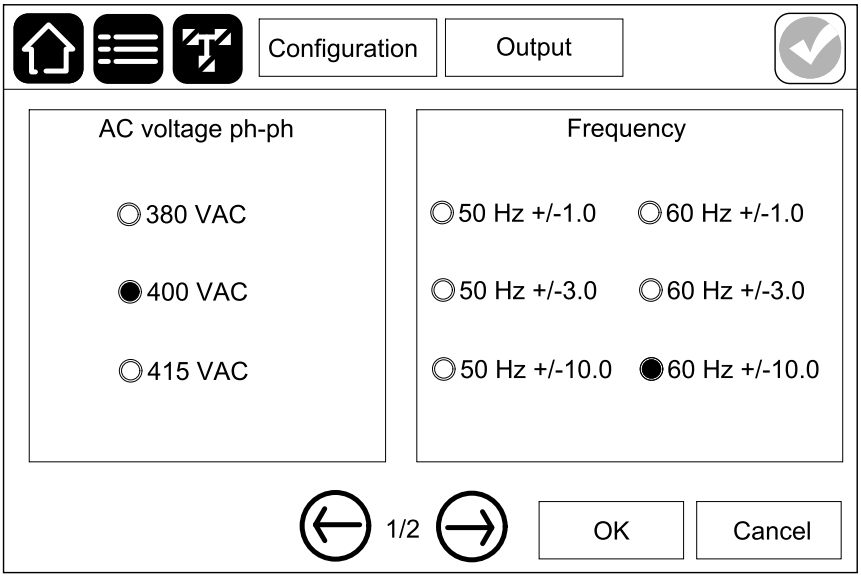


2. Tap **OK** to save your settings.

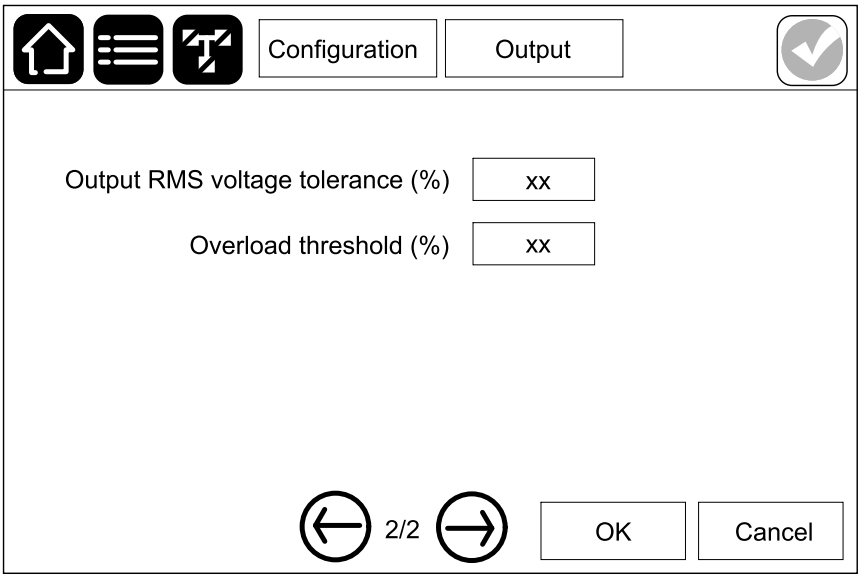
Configure the UPS Output

NOTE: This configuration is mandatory for correct UPS operation.

1. From the main menu, tap **Configuration > Output**.
   a. Set the **AC voltage ph-ph** to **380 VAC**, **400 VAC**, or **415 VAC** depending on your configuration.
   b. Set the **Frequency** to **50 Hz ±1.0**, **50 Hz ±3.0**, **50 Hz ±10.0**, **60 Hz ±1.0**, **60 Hz ±3.0**, or **60 Hz ±10.0** depending on your configuration.
   c. Tap **OK** to save your settings and tap the arrow symbol to go to the next page.



   d. Set the **Output RMS voltage tolerance (%)**. The output RMS voltage tolerance range is +3% to +10%, default is +10%.
   e. Set the **Overload threshold (%)**. The overload warning range is 0% to 100%, default is 75%.
   f. Tap **OK** to save your settings.



View the Battery Solution Configuration

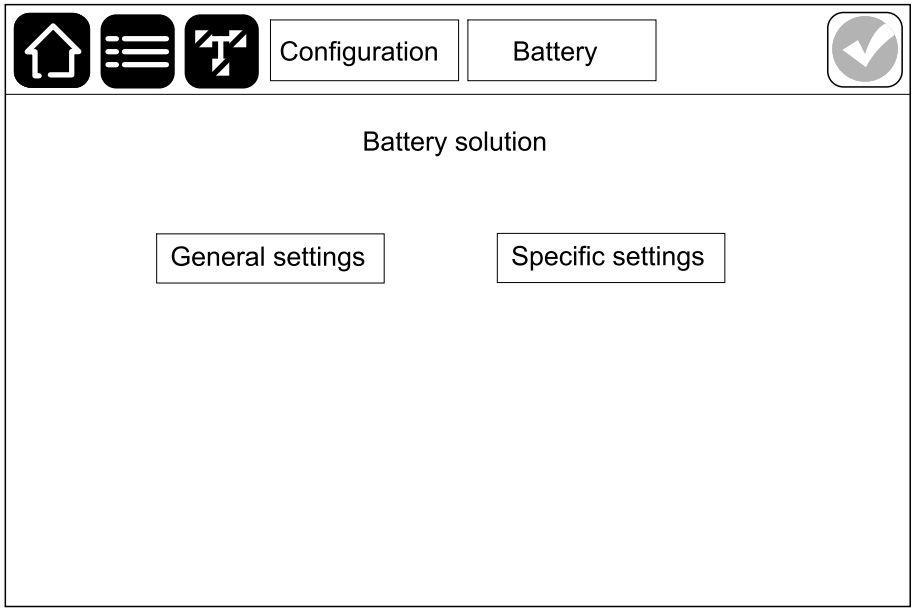
⚠⚠DANGER

HAZARD OF ELECTRICAL SHOCK, EXPLOSION, OR ARC FLASH

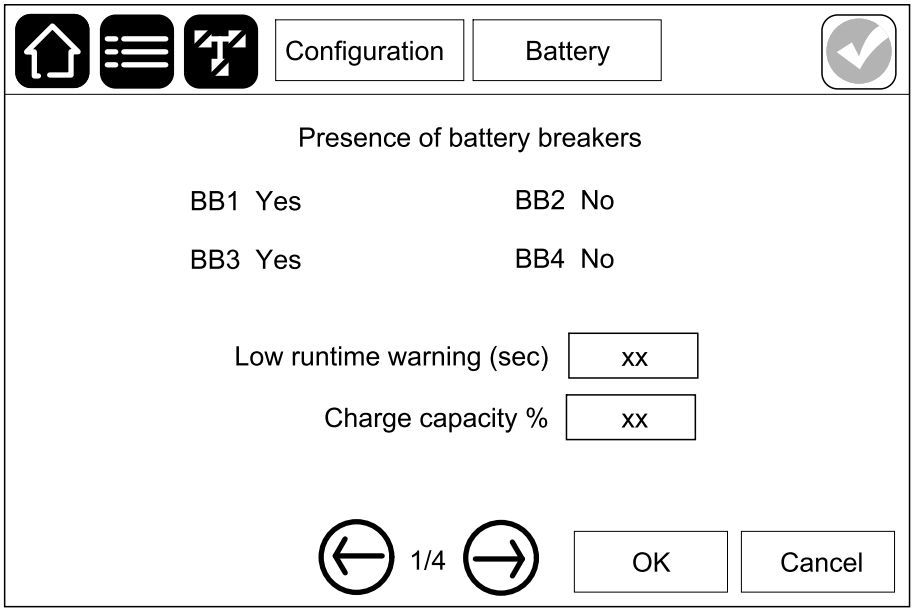
Battery settings must only be entered by qualified personnel knowledgeable of batteries, battery configuration, and the required precautions.

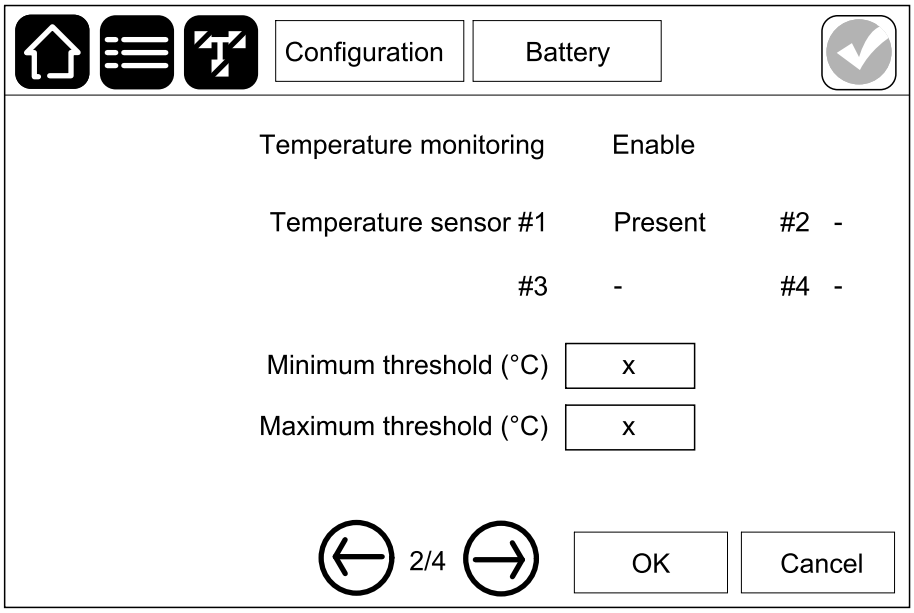
Failure to follow these instructions will result in death or serious injury.

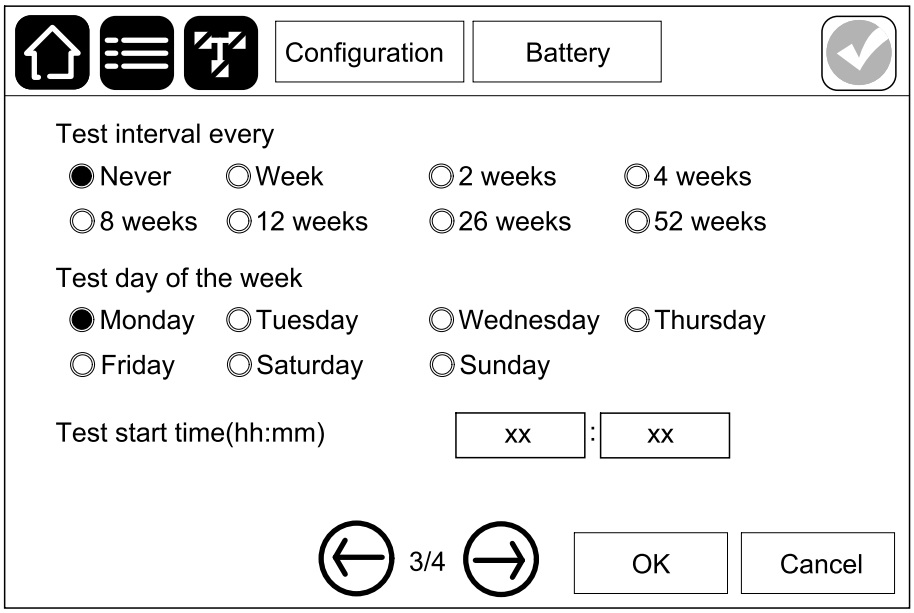
1. From the main menu, tap **Configuration > Battery**.

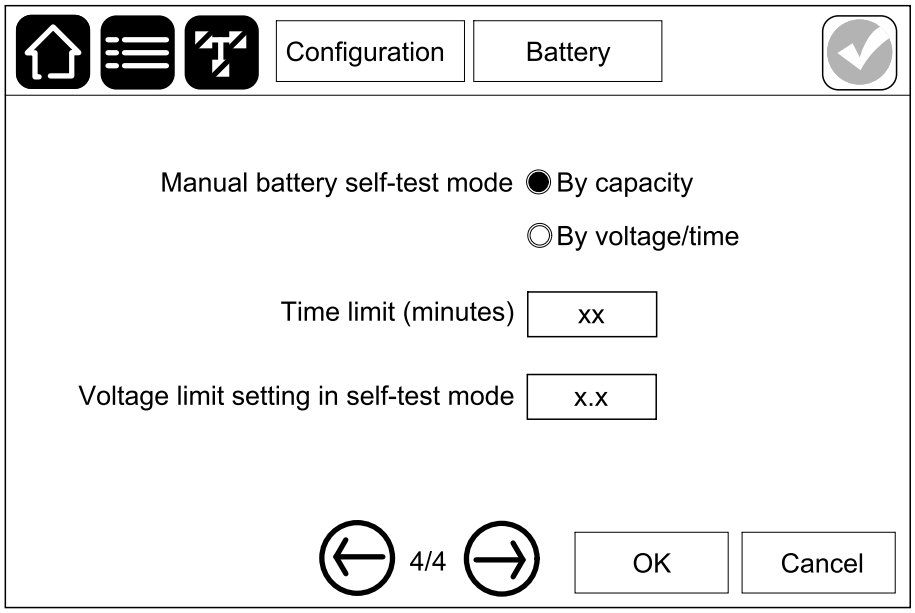


2. Tap **General settings** to view the following battery settings:









Presence of battery breakers	Shows the presence of the battery breakers (BB1, BB2, BB3, and BB4). If the value is 'Yes', it means the battery breaker is present in the UPS system. Only configurable by Schneider Electric service.
Low runtime warning (sec)	Sets the threshold for remaining runtime in seconds that will activate the low runtime warning.
Charge capacity (%)	Sets the maximum charge capacity in percentage of the UPS nominal power rating.
Temperature monitoring	Shows if temperature monitoring is enabled. Only configurable by Schneider Electric service.
Temperature sensor # 1/**Temperature sensor # 2**/ **Temperature sensor # 3**/**Temperature sensor # 4**[3]	Shows presence of temperature sensors. Only configurable by Schneider Electric service.
Minimum threshold (°C)/ **Minimum threshold (°F)**[3]	Sets the minimum acceptable battery temperature in Celsius or Fahrenheit. Temperatures below this threshold will activate an alarm.
Maximum threshold (°C)/ **Maximum threshold (°F)**[4]	Sets the maximum acceptable battery temperature in Celsius or Fahrenheit. Temperatures above this threshold will activate an alarm.
Test interval every	Sets how often the UPS should run an automatic battery test.
Test day of the week	Sets on which day of the week the automatic battery test should run.
Test start time (hh:mm)	Sets which time of day the automatic battery test should run.
Manual battery self-test mode	Selects the manual battery self-test mode.
Time limit (minutes)	Sets the maximum time for the manual battery self-test in voltage/time mode.
Voltage limit setting in self-test mode	Sets the minimum voltage for the manual battery self-test in voltage/time mode. • Lead-acid battery range: 1.7 – 2.3 V • Lithium-ion battery range: 3.5 – 4.1 V

3. Not supported for custom Lithium-ion batteries.
4. Not supported for custom Lithium-ion batteries

3. Tap **Specific settings** to view the following settings.

   NOTE: These settings are only configurable by Schneider Electric Service.

Battery midpoint connected	Shows if battery midpoint is connected.
Disable temperature monitoring	Shows if temperature monitoring is disabled.
Allow boost charge	Shows if boost charge is allowed. Boost charging makes it possible to conduct a fast charging in order to quickly restore a discharged battery.
Allow battery deep discharge	Shows if battery deep discharge is allowed. The deep discharge function allows to discharge the batteries to an even lower voltage level than the normally recommended value when in battery operation. Note that this may damage the batteries.
Enable battery automatic disconnect	Shows if battery automatic disconnect is enabled. When the UPS output is off and no ability to charge the batteries is available, this function will trip the battery breakers to avoid battery deep discharge after a period of: • Two weeks, or • 10 minutes with the battery cell voltage below the low battery shutdown level.
Battery capacity per battery block (Ah)	Shows the battery capacity per battery block in ampere hours for the battery bank connected to each battery breaker.
Number of parallel battery strings	Shows the number of battery strings connected in parallel for the battery bank connected to each battery breaker.
Number of battery blocks per string	Shows the number of battery blocks per battery string.
Number of battery cells per block	Shows the number of battery cells per battery block.
DC voltage per battery cell (V)	Shows the float voltage. Float charging is the basic charging function available on all types of batteries and automatically initiated by the charger.
	Shows the boost voltage. Boost charging makes it possible to conduct a fast charging in order to quickly restore a discharged battery.
Charge duration (sec)	Shows the duration in seconds of the charge for **Float** charging and **Boost** charging.
DC shutdown voltage per battery cell (V)	Shows the voltage level per battery cell for when the battery must be shut down.
Nominal temperature (°C) / **Nominal temperature (°F)**[5]	Shows the nominal temperature.
Charge current rate	Shows the charge current rate.

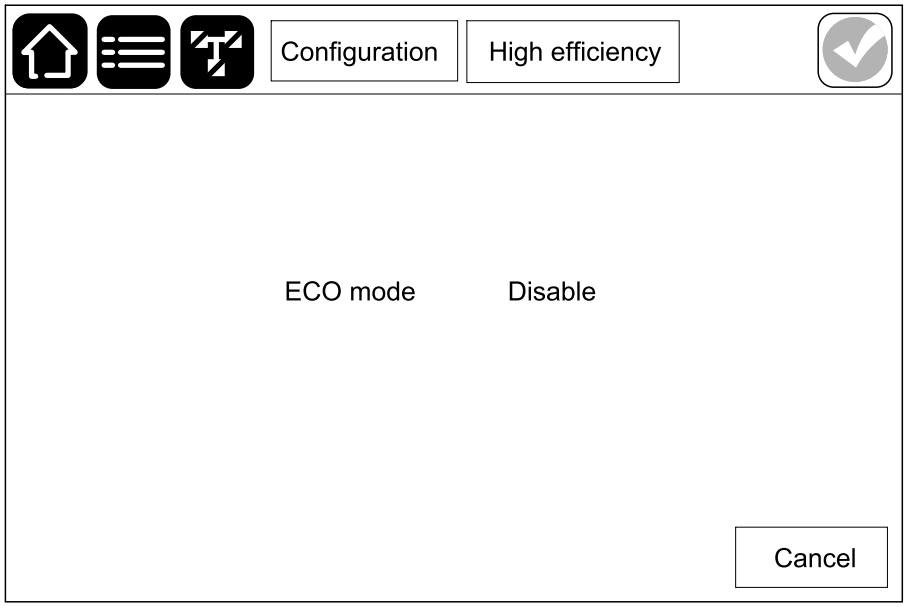
NOTE: Lithium-ion batteries do not support boost charge. The configurations for boost charging are not valid for Lithium-ion batteries.

NOTE: Custom Lithium-ion batteries are not supported.

5. Not supported for custom Lithium-ion batteries

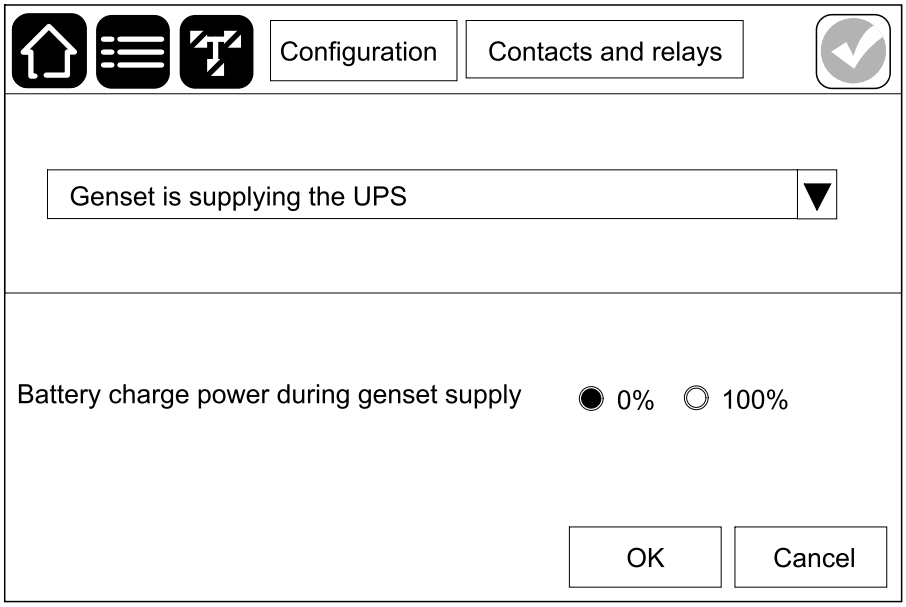
View the Settings for High Efficiency Mode

1. From the main menu, tap **Configuration > High efficiency** to view ECO mode settings. The default setting for ECO mode is **Disable**. Contact Schneider Electric to enable ECO mode.



Configure the Input Contacts

1. From the main menu, tap **Configuration > Contacts and relays** and select the input contact that you want to configure.
2. Select a function from the drop-down list for the selected input contact:

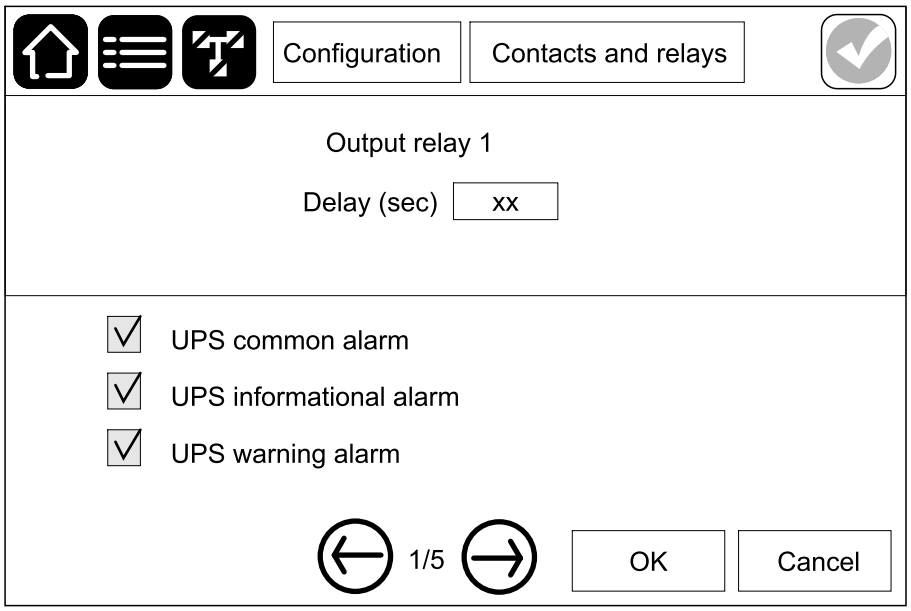


None: No action assigned to this input contact.	**Genset is supplying the UPS**: Input to indicate that the UPS is being supplied by a generator. You must also select the reduction in battery charge current while the UPS is being supplied by a generator. Set **Battery charge power during genset supply** to **0%** (no battery charging) or **100%** (full battery charging). **Battery charge power during genset supply** is only selectable for this function.
Ground fault: Input to indicate that a ground fault is present.	**Battery room ventilation is inoperable**: Input to indicate that the battery room ventilation is inoperable. When the input is active, the battery charger will turn OFF.
User-defined 1: General purpose input.	**External battery monitoring detected a fault**: Input to indicate that the external battery monitoring has detected a fault. When the input is active, the UPS will post an alarm (no other action).
User-defined 2: General purpose input.	**External energy storage monitoring detected a minor fault**: Input to indicate that the external energy storage monitoring has detected a minor fault.
External signal turns charger off: When the input is active, the charger will turn OFF.	**External energy storage monitoring detected a major fault**: Input to indicate that the external energy storage monitoring has detected a major fault.
High efficiency mode is disabled: When the input is active, the UPS is prevented from entering high efficiency mode (**ECO mode**) or will exit any active high efficiency mode.	

3. Tap **OK** to save your settings.

Configure the Output Relays

1. From the main menu, tap **Configuration > Contacts and relays** and select the output relay that you want to configure.
2. Set the **Delay (sec)** (0 - 60 seconds).
3. Select the event(s) you want to assign to the output relay. On each page, tap **OK** to save your settings and tap the arrow symbol to go to the next page.



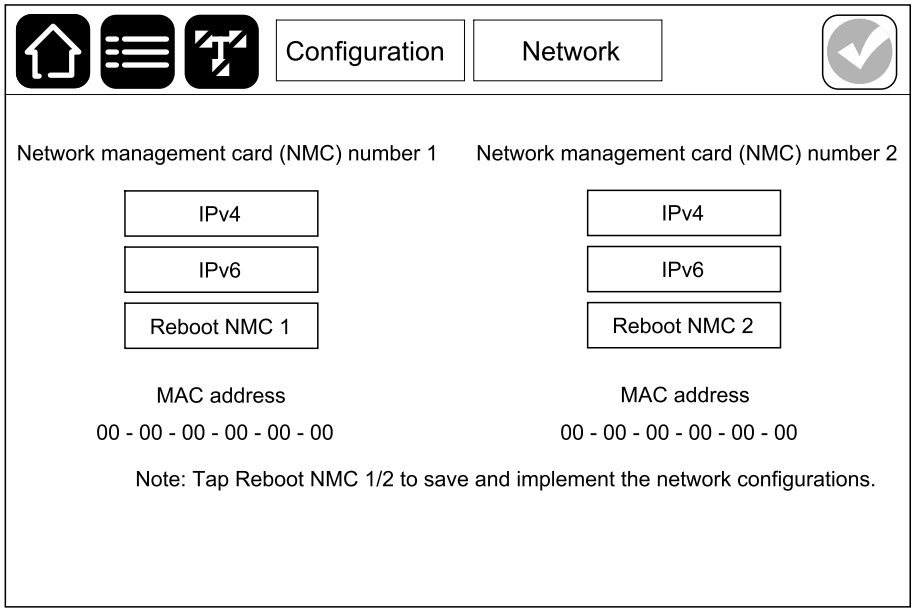
NOTE: It is possible to assign several functions to the same output relay.

UPS common alarm: The output is triggered when any alarm is present for the UPS.	**UPS in maintenance mode**: The output is triggered when the unit output breaker UOB has been opened which transfers the UPS to maintenance mode. The UPS is not supplying the load.
UPS informational alarm: The output is triggered when an information alarm is present for the UPS.	**External fault**: The output is triggered the UPS detects an external fault.
UPS warning alarm: The output is triggered when a warning alarm is present for the UPS.	**Fan inoperable**: The output is triggered when one or more fans are inoperable.
UPS critical alarm: The output is triggered when a critical alarm is present for the UPS.	**Battery voltage low**: The output is triggered when the battery voltage is below the threshold.
System common alarm: The output is triggered when any alarm is present for the parallel system.	**Battery is not working correctly**: The output is triggered when the batteries are not working correctly.
System informational alarm: The output is triggered when an information alarm is present for the parallel system.	**Battery is disconnected**: The output is triggered when the batteries have been disconnected or the battery breaker(s) are open.
System warning alarm: The output is triggered when a warning alarm is present for the parallel system.	**Inverter overload**: The output is triggered when there is an overload condition, while the UPS is in inverter operation.
System critical alarm: The output is triggered when a critical alarm is present for the parallel system.	**Output overload**: The output is triggered when there is an overload condition, while the UPS is in inverter operation or bypass operation.
UPS in normal operation: The output is triggered when the UPS is in normal operation.	**Input out of tolerance**: The output is triggered when the input is out of tolerance.
UPS in battery operation: The output is triggered when the UPS is in battery operation.	**Bypass out of tolerance**: The output is triggered when the bypass is out of tolerance.
UPS in static bypass operation: The output is triggered when the UPS is in forced static bypass operation or requested static bypass operation.	**EPO active**: The output is triggered when the EPO has been activated.
UPS in maintenance bypass operation: The output is triggered when the UPS is in internal maintenance bypass operation or external maintenance bypass operation.	

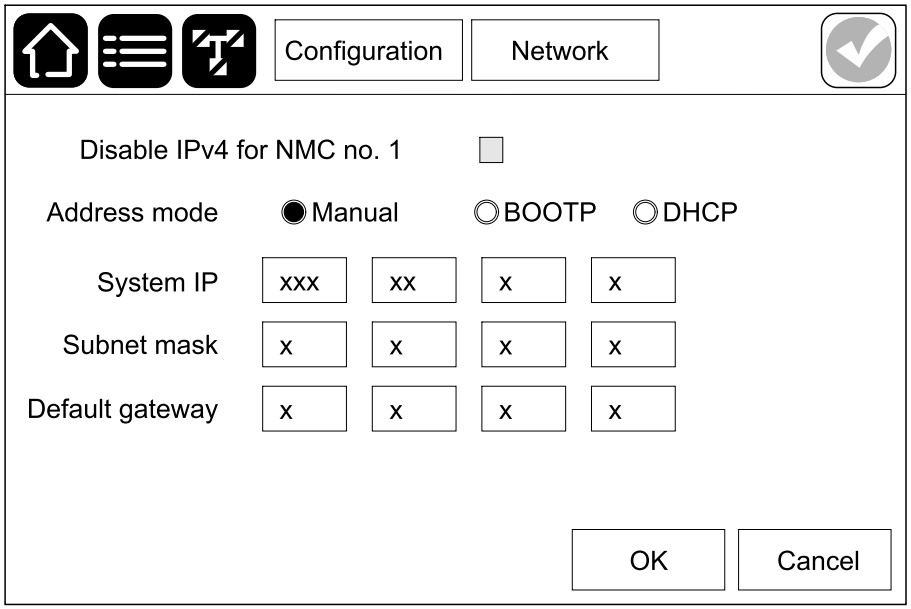
4. Tap **OK** to save your settings.

Configure the Network

1. From the main menu, tap **Configuration > Network**.



2. Select **Network management card (NMC) number 1 > IPv4** to configure network management card number 1 or **Network management card (NMC) number 2 > IPv4** to configure network management card number 2.
   a. Set the **Address mode** to **Manual**, **BOOTP**, or **DCHP**.
   b. You can also disable the network by selecting **Disable IPv4 for NMC no. 1**/**Disable IPv4 for NMC no. 2**.
   c. Tap **OK** to save your settings.
   d. Tap **Network** to return to the previous screen. Tap **Reboot NMC1** or **Reboot NMC2** to reboot the network management card to implement the changes.



3. Tap **Configuration > Network**. Select **Network management card (NMC) number 1 > IPv6** to configure network management card number 1 or **Network management card (NMC) number 2 > IPv6** to configure network management card number 2.

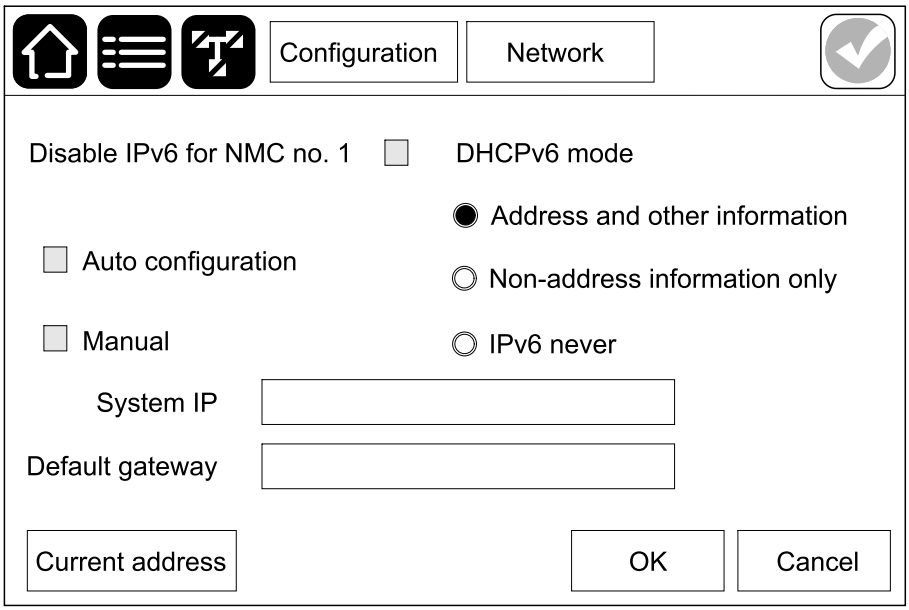
   a. Set the **DHCPV6 mode** to **Address and other information**, **Non-address information only**, or **IPv6 never**.

   b. Select **Auto configuration** or **Manual**.

   c. You can also disable the network by selecting **Disable IPv6 for NMC no. 1**/**Disable IPv6 for NMC no. 2** .

   d. Tap **OK** to save your settings.

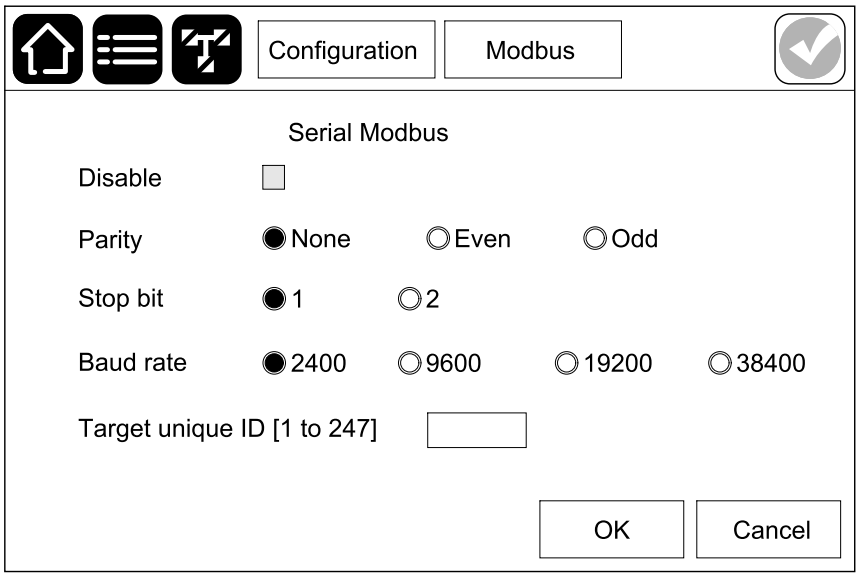
   e. Tap **Network** to return to the previous screen. Tap **Reboot NMC1** or **Reboot NMC2** to reboot the network management card to implement the changes.



Configure the Modbus

1. From the main menu, tap **Configuration > Modbus > Serial Modbus**.
   a. Enable or disable **Serial Modbus**.
   b. Set the **Parity** to **None**, **Even**, or **Odd**.
   c. Set the **Stop bit** to **1** or **2**.
   d. Set the **Baud rate** to **2400**, **9600**, **19200**, or **38400**.
   e. Set the **Target unique ID** to a number between 1 and 247.

      NOTE: Every device on the bus must have exactly the same settings except the device address **Target unique ID**, which must be unique for every device. No two devices on the bus can have the same address.



   f. Tap **OK** to save your settings.

Set the UPS Name

1. From the main menu, tap **Configuration > General > UPS name**.
2. Set the UPS name.
3. Tap **OK** to save your settings.

Set the Date and Time

1. From the main menu, tap **Configuration > General > Date and time**.
2. Set the **Year**, **Month**, **Day**, **Hour**, **Minute**, and **Second**.
3. Tap **OK** to save your settings.

Register the UPS

1. From the main menu, tap **Configuration > General > Registration code**.
2. Contact Schneider Electric customer support to obtain your registration code. Enter your registration code on the display.
3. Tap **OK** to save your settings.

Configure the Display Preferences

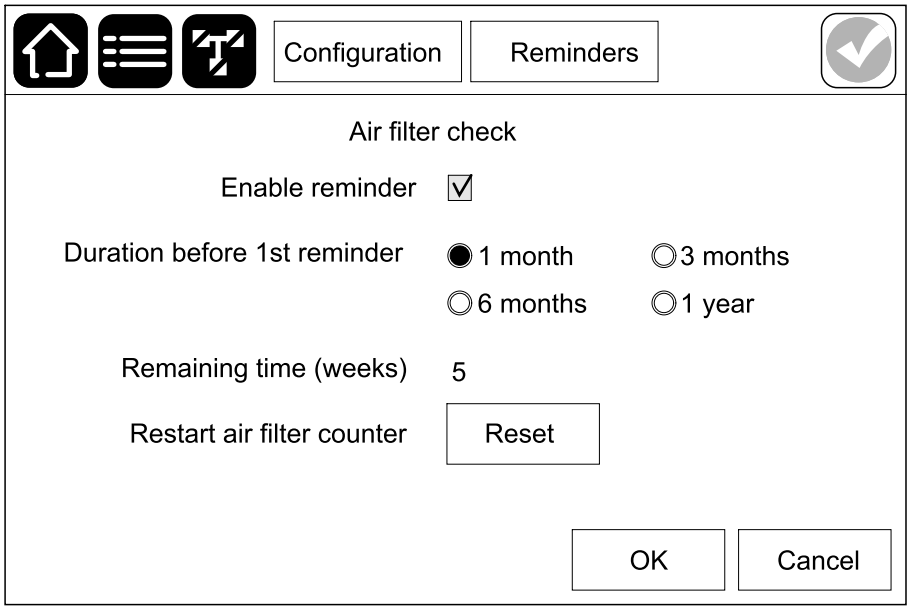
1. From the main menu, tap **Configuration > General**.
   a. Set the **Start screen saver time after (minutes)**. After the set minutes of no activity, the screen saver will begin on the display.
   b. Set the temperature unit to **Celsius** or **Fahrenheit**.
   c. Tap the - or + to set the display brightness.
   d. Set the **Alarm sound** to **Enable** or **Disable**. This will enable/mute all alarm sounds.
   e. Set the **Touch screen sound** to **Enable** or **Disable**. This will enable/mute all display sounds (excluding alarm sounds).
   f. Tap the **Calibration** button twice to calibrate the display.
2. Tap **OK** to save your settings.

Configure the Air Filter Reminder

When the air filter has been replaced, reset the air filter reminder.

1. From the main menu, tap **Configuration > Reminders**.
   a. Select **Enable reminder** to get reminders about replacing the air filter.
   b. Select the reminder interval: **1 month**, **3 months**, **6 months**, or **1 year** based on the installation room environment.

      Under **Remaining time (weeks)** you can see how much service life the air filter in use has left.
   c. Tap **Reset** to reset the air filter service life counter.

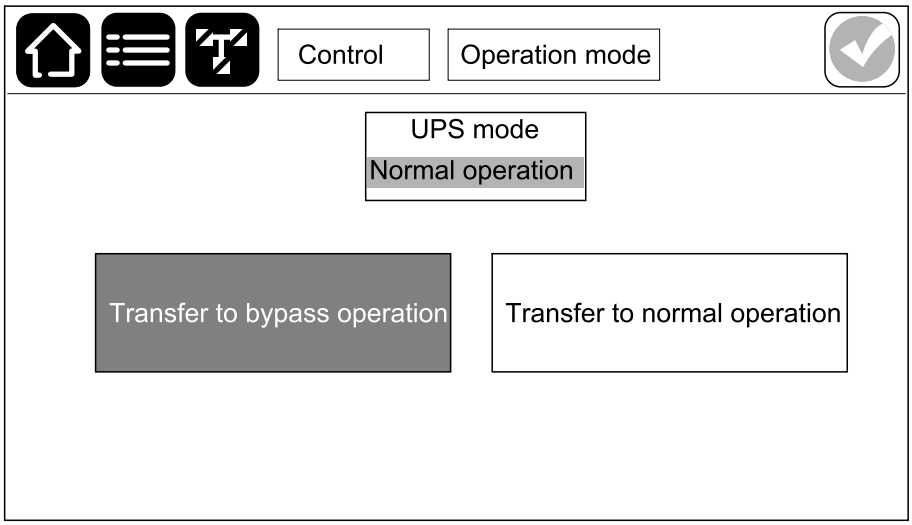


2. Tap **OK** to save your settings.

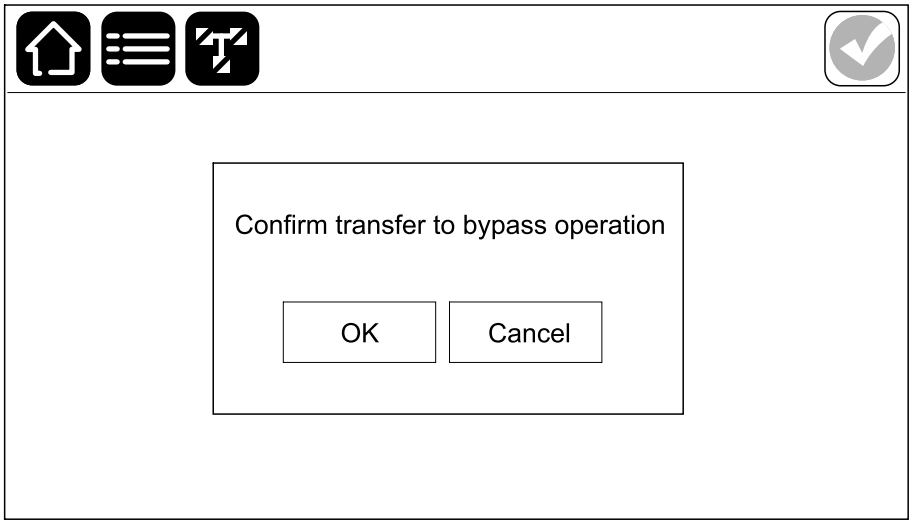
Operation Procedures

Transfer the UPS from Normal Operation to Static Bypass Operation

1. From the main menu, tap **Control > Operation mode > Transfer to bypass operation**.



2. Tap **OK** on the confirmation screen.



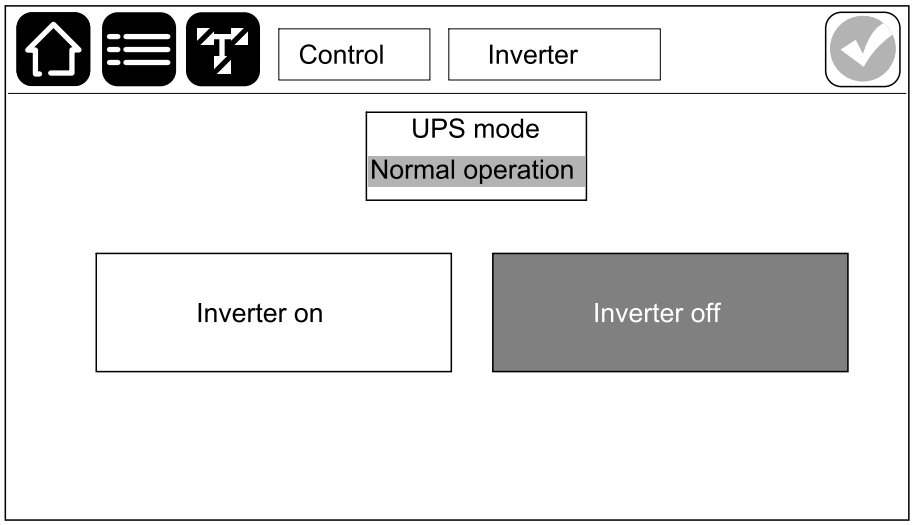
Transfer the UPS from Static Bypass Operation to Normal Operation

1. From the main menu, tap **Control > Operation mode > Transfer to normal operation**.
2. Tap **OK** on the confirmation screen.

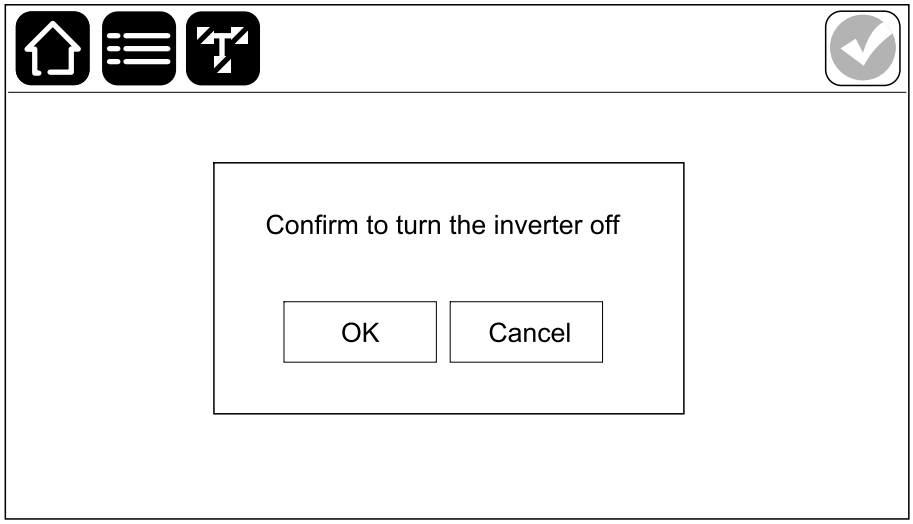
Turn the Inverter OFF

IMPORTANT: This will turn off the supply to the load.

1. From the main menu, tap **Control > Inverter > Inverter off**.



2. Tap **OK** on the confirmation screen.

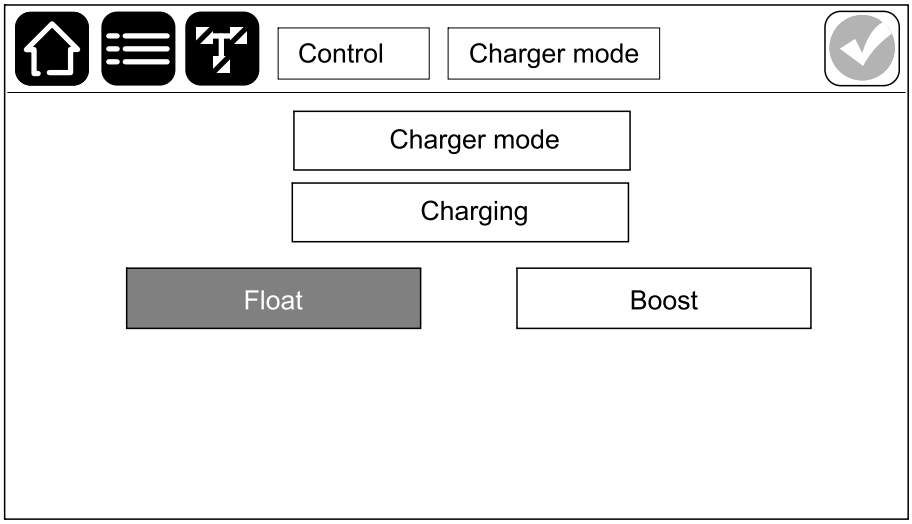


Turn the Inverter ON

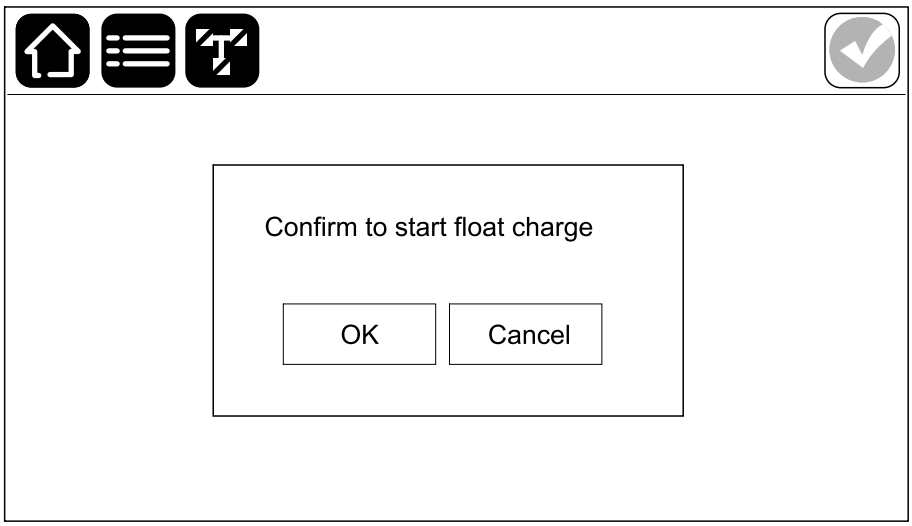
1. From the main menu, tap **Control > Inverter > Inverter on**.
2. Tap **OK** on the confirmation screen.

Set the Charger Mode

1. From the main menu, tap **Control > Charger**.



2. Tap **Float**, or **Boost**.
3. Tap **OK** on the confirmation screen.



Start-up and Shutdown Procedures for UPS with One Internal Switch

Switch Explanation

IMB	Internal maintenance switch
UIB	Unit input switch
SSIB	Static switch input switch
UOB	Unit output switch
SIB	System isolation breaker
BIB	Bypass input breaker
MIB	Mains input breaker
BB	Battery breaker
MBB	Maintenance bypass switch
Ext. MBB	External maintenance bypass switch/breaker

Shut Down the Single UPS with One Internal Switch into Maintenance Bypass Operation

NOTE: The following is a generic shutdown procedure. All the switches/ breakers mentioned may not be present in your specific system.

1. **Generic shutdown procedure for the single UPS system using external maintenance bypass switch/breaker Ext. MBB:**
   a. Make sure IMB is open.
   b. Select **Control > Operation mode > Transfer to bypass operation** if possible.
   c. Close Ext. MBB.
   d. Open UOB (if present).
   e. Open SSIB (if present).
   f. Open the battery breaker(s).
   g. Open UIB.
2. **Generic shutdown procedure for the single UPS system using internal maintenance switch IMB (no Ext. MBB present)**:
   a. Select **Control > Operation mode > Transfer to bypass operation** if possible.
   b. Close IMB.
   c. Open the battery breaker(s).

Shut Down the Parallel UPS System into Maintenance Bypass Operation – for UPSs with One Internal Switch

NOTE: The following is a generic shutdown procedure. All the switches/ breakers mentioned may not be present in your specific system.

1. Make sure IMB is open.

2. Select **Control > Operation mode > Transfer to bypass operation** if possible.
3. Close Ext. MBB.
4. Open SIB (if present).
5. Open UOB (if present).
6. Open SSIB (if present).
7. Open the battery breaker(s).
8. Open UIB.
9. Repeat step 5 to 8 for the other UPSs in the parallel system.

Isolate a Single UPS with One Internal Switch from the Parallel System

Use this procedure to shut down one UPS in a running parallel system.

NOTE: Before initiating this procedure, ensure that the remaining UPSs can supply the load.

NOTE: The following is a generic shutdown procedure. All the switches/ breakers mentioned may not be present in your specific system.

1. On this UPS, select **Control > Inverter > Inverter off**. Tap **OK** on the confirmation screen.
2. Open UOB for this UPS.
3. Open SSIB (if present) for this UPS.
4. Open the battery breaker(s) for this UPS.
5. Open UIB for this UPS.

Start Up the Single UPS with One Internal Switch from Maintenance Bypass Operation

NOTE: The following are generic start-up procedures. You can also follow the steps of the **Guided sequences** which are specific to your system. Select **Control > Guided sequences > Start up UPS system** and follow the steps which appear on the display.

1. **Generic start-up procedure for the single UPS using external maintenance bypass switch/breaker Ext. MBB**:
   a. Close UIB (if open).

      The display turns on. The rebooting sequence lasts approximately 3 minutes.

   b. Close SSIB (if present).
   c. Close the battery breaker(s).
   d. Select **Control > Operation mode > Transfer to bypass operation** if possible.
   e. Close UOB (if present).
   f. Confirm the self-test for the static bypass switch has completed.
   g. Open Ext. MBB.

2. **Generic start-up procedure for the single UPS system using internal maintenance switch IMB (no Ext. MBB present)**:
   a. Close UIB (if open).
      The display turns on. The rebooting sequence lasts approximately 3 minutes.
   b. Close the battery breaker(s).
   c. Select **Control > Operation mode > Transfer to bypass operation** if possible.
   d. Confirm the self-test for the static bypass switch has completed.
   e. Open IMB.

Start Up the Parallel UPS System from Maintenance Bypass Operation for UPS with One Internal Switch

NOTE: The following are generic start-up procedures. You can also follow the steps of the **Guided sequences** which are specific to your system. Select **Control > Guided sequences > Start up UPS system** and follow the steps which appear on the display.

1. Close UIB (if open).
   The display turns on. The rebooting sequence lasts approximately 3 minutes.
2. Close SSIB (if present).
3. Close the battery breaker(s).
4. Select **Control > Operation mode > Transfer to bypass operation** if possible.
5. Close UOB (if present).
6. Repeat step 1 to 6 for the other UPSs in the parallel system.
7. Close SIB (if present).
8. Confirm the self-test for the static bypass switch has completed.
9. Open Ext. MBB.

Start Up and Add UPS with One Internal Switch to a Parallel System

Use this procedure to start up and add one UPS in a running parallel system.

NOTE: The following are generic start-up procedures. You can also follow the steps of the **Guided sequences** which are specific to your system. Select **Control > Guided sequences > Start up UPS system** and follow the steps which appear on the display.

1. On this UPS, close UIB (if open).
   The display turns on. The rebooting sequence lasts approximately 3 minutes.
2. Close SSIB (if present) for this UPS.
3. Close the bypass backfeed breaker (if present) for this UPS.
4. Close the battery breaker(s) for this UPS.
5. Close UOB for this UPS.
6. On this UPS, select **Control > Inverter > Inverter on**. Tap **OK** on the confirmation screen.

Start-up and Shutdown Procedures for UPS with Four Internal Switches

Switch Explanation

IMB	Internal maintenance switch
UIB	Unit input switch
SSIB	Static switch input switch
UOB	Unit output switch
SIB	System isolation breaker
BIB	Bypass input breaker
MIB	Mains input breaker
BB	Battery breaker
MBB	Maintenance bypass switch
Ext. MBB	External maintenance bypass switch/breaker

Shut Down the Single UPS with Four Internal Switches into Maintenance Bypass Operation

NOTE: The following is a generic shutdown procedure. All the switches/ breakers mentioned may not be present in your specific system.

1. **Generic shutdown procedure for the single UPS system using external maintenance bypass switch/breaker Ext. MBB:**
   a. Make sure MBB is open.
   b. Select **Control > Operation mode > Transfer to bypass operation** if possible.
   c. Close Ext. MBB.
   d. Open UOB (if present).
   e. Open SSIB.
   f. Open the battery breaker(s).
   g. Open UIB.
   h. Open MIB and BIB (if present).
2. **Generic shutdown procedure for the single UPS system using maintenance bypass switch MBB (no Ext. MBB present)**:

   NOTE: The following are generic shutdown procedures. All the breakers mentioned may not be present in your specific system.

   a. Select **Control > Operation mode > Transfer to bypass operation** if possible.
   b. Close MBB.
   c. Open UOB (if present).
   d. Open SSIB.
   e. Open the battery breaker(s).
   f. Open UIB.

Shut Down the Parallel UPS System into Maintenance Bypass Operation – for UPSs with Four Internal Switches

NOTE: The following is a generic shutdown procedure. All the switches/ breakers mentioned may not be present in your specific system.

1. Make sure MBB is open.
2. Select **Control > Operation mode > Transfer to bypass operation** if possible.
3. Close Ext. MBB.
4. Open SIB.
5. Open UOB (if present).
6. Open SSIB.
7. Open the battery breaker(s).
8. Open UIB.
9. Open MIB and BIB (if present).
10. Repeat step 5 to 9 for other UPSs in a parallel system.

Isolate a Single UPS with Four Internal Switches from the Parallel System

Use this procedure to shut down one UPS in a running parallel system.

NOTE: Before initiating this procedure, ensure that the remaining UPSs can supply the load.

NOTE: The following is a generic shutdown procedure. All the switches/ breakers mentioned may not be present in your specific system.

1. On this UPS, select **Control > Inverter > Inverter off**. Tap **OK** on the confirmation screen.
2. Open UOB for this UPS.
3. Open SSIB (if present) for this UPS.
4. Open the battery breaker(s) for this UPS.
5. Open UIB for this UPS.

Start Up the Single UPS with Four Internal Switches from Maintenance Bypass Operation

NOTE: The following are generic start-up procedures. You can also follow the steps of the **Guided sequences** which are specific to your system. Select **Control > Guided sequences > Start up UPS system** and follow the steps which appear on the display.

1. **Generic start-up procedure for the single UPS using external maintenance bypass switch/breaker Ext. MBB**:
   a. Close UIB (if open).
      The display turns on. The rebooting sequence lasts approximately 3 minutes.
   b. Close SSIB (if present).
   c. Close the battery breaker(s).
   d. Select **Control > Operation mode > Transfer to bypass operation** if possible.
   e. Close UOB (if present).
   f. Confirm the self test for the static bypass switch has completed.
   g. Open Ext. MBB.
2. **Generic start-up procedure for the single UPS system using internal maintenance switch IMB (no Ext. MBB present)**:
   a. Close UIB (if open).
      The display turns on. The rebooting sequence lasts approximately 3 minutes.
   b. Close the battery breaker(s).
   c. Select **Control > Operation mode > Transfer to bypass operation** if possible.
   d. Confirm the self-test for the static bypass switch has completed.
   e. Open IMB.

Start Up the Parallel UPS System from Maintenance Bypass Operation for UPS with Four Internal Switches

NOTE: The following are generic start-up procedures. You can also follow the steps of the **Guided sequences** which are specific to your system. Select **Control > Guided sequences > Start up UPS system** and follow the steps which appear on the display.

1. Close UIB (if open).
   The display turns on. The rebooting sequence lasts approximately 3 minutes.
2. Close MIB and BIB (if present).
3. Close UIB.
4. Close SSIB.
5. Close the battery breaker(s).
6. Select **Control > Operation mode > Transfer to bypass operation** if possible.
7. Close UOB (if present).
8. Repeat step 1 to 8 for the other UPSs in a parallel system.
9. Close SIB.
10. Confirm the self-test for the static bypass switch has completed.
11. Open Ext. MBB.

Start Up and Add UPS with Four Internal Switches to a Parallel System

NOTE: The following are generic start-up procedures. You can also follow the steps of the **Guided sequences** which are specific to your system. Select **Control > Guided sequences > Start up UPS system** and follow the steps which appear on the display.

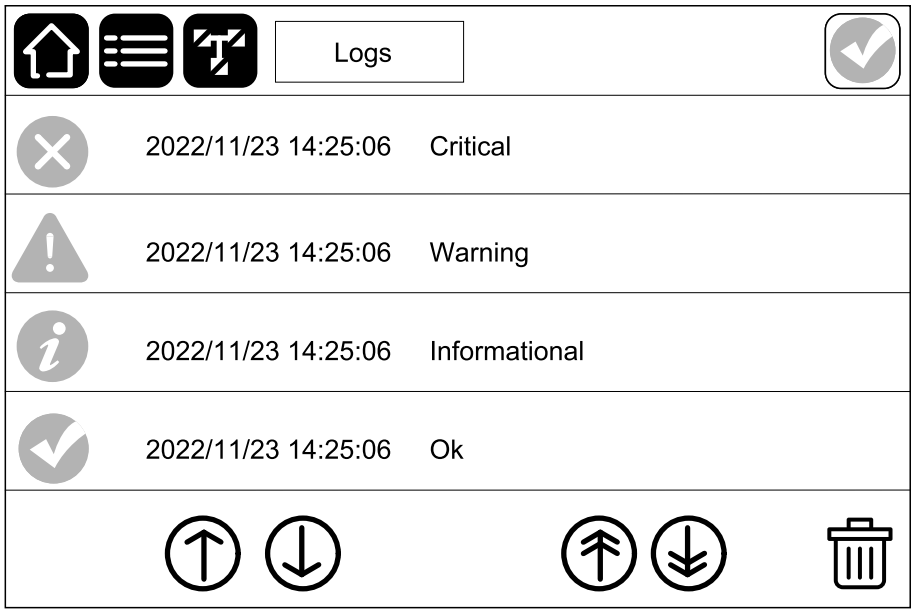
1. On this UPS, close UIB (if open).

   The display turns on. The rebooting sequence lasts approximately 3 minutes.

2. Close SSIB (if present) for this UPS.
3. Close the bypass backfeed breaker (if present) for this UPS.
4. Close the battery breaker(s) for this UPS.
5. Close UOB for this UPS.
6. On this UPS, select **Control > Inverter > Inverter on**. Tap **OK** on the confirmation screen.

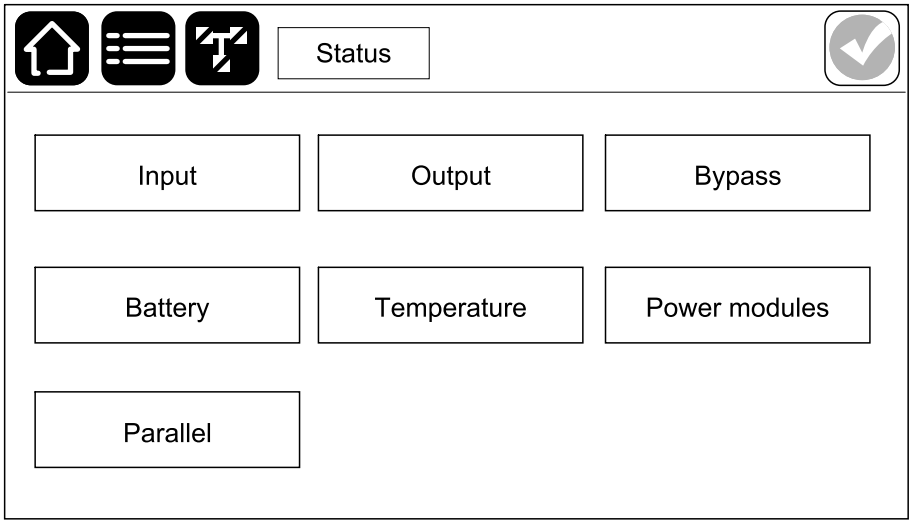
View the Logs

1. From the main menu, tap **Logs**. The log shows the latest 100 events with the newest events at the top of the list.
   a. Tap the arrow buttons to go to the next or previous page.
   b. Tap the double arrow buttons to go the first or last page.
   c. Tap the recycle bin button to delete all events stored in the log.



View the System Status Information

1. From the main menu, tap **Status**.



   a. Tap **Input** to see the status.

Input

Voltage ph-ph (phase-to-phase)	The present phase-to-phase input voltage.
Current	The present input current from the AC utility power source per phase in amperes (A).
Frequency	The present input frequency in hertz (Hz).
Voltage ph-N (phase-to-neutral)[6]	The present phase-to-neutral input voltage in volts (V).
Total power	The present total active power input (for all three phases) in kW.
Power	The present active power (or real power) input for each phase in kilowatts (kW). Active power is the portion of power flow that, averaged over a complete cycle of the AC waveform, results in net transfer of energy in one direction.
Power factor	The ratio of the active power to apparent power.

   b. Tap **Output** to see the status.

Output

Voltage ph-ph (phase-to-phase)	The phase-to-phase output voltage at the inverter in volts (V).
Current	The present output current for each phase in amperes (A).
Frequency	The present output frequency in hertz (Hz).
Voltage ph-N (phase-to-neutral)[6]	The phase-to-neutral output voltage at the inverter in volts (V).
Load	The percentage of the UPS capacity presently used across all phases. The load percentage for the highest phase load is displayed.
Neutral current[6]	The present output neutral current in amperes (A).
Total power	The present active total output power (for all three phases) in kilowatts (kW).

6. Only applicable in systems with neutral connection.

Output (Continued)

Power	The present active power (or real power) output for each phase in kilowatts (kW). Active power is the portion of power flow that, averaged over a complete cycle of the AC waveform, results in net transfer of energy in one direction.
Power factor	The present output power factor for each phase. Power factor is the ratio of active power to apparent power.

c. Tap **Bypass** to see the status.

Bypass

Voltage ph-ph (phase-to-phase)	The present phase-to-phase bypass voltage (V).
Current	The present bypass current for each phase, in amperes (A).
Frequency	The present bypass frequency in hertz (Hz).
Voltage ph-N (phase-to-neutral)[7]	The present phase-to-neutral bypass voltage (V).
Total power	The present total active bypass power (for all three phases) in kilowatts (kW).
Power	The present active bypass power for each phase in kilowatts (kW). Active power is the time average of the instantaneous product of voltage and current.
Power factor	The present bypass power factor for each phase. Power factor is the ratio of active power to apparent power.

d. Tap **Battery** to see the status.

Battery

Measurements	The present DC power being drawn from the battery, in kilowatts (kW).
	The present battery voltage (VDC).
	The present battery current in amperes (A). A positive current indicates that the battery is charging; a negative current indicates that the battery is discharging.
	Battery temperature from the connected temperature sensors in Celsius or Fahrenheit.
Battery	The amount of time before the batteries reach the low-voltage shutdown level. Also shows charge level of the battery as a percentage of full charge capacity.
	The present battery charge (Ah).
Charger	The general condition of the charger (**Charging**, **Off**, **Discharging**).
	The operation mode of the charger (**Off**, **Float**, **Boost**).
	The maximum charge capacity in percentage of the UPS nominal power rating.

e. Tap **Temperature** to see the status.

7. Only applicable in systems with neutral connection.

Temperature

Ambient temperature	Ambient temperature in Celsius or Fahrenheit.
Battery temperature	Battery temperature in Celsius or Fahrenheit from the connected battery temperature sensors.

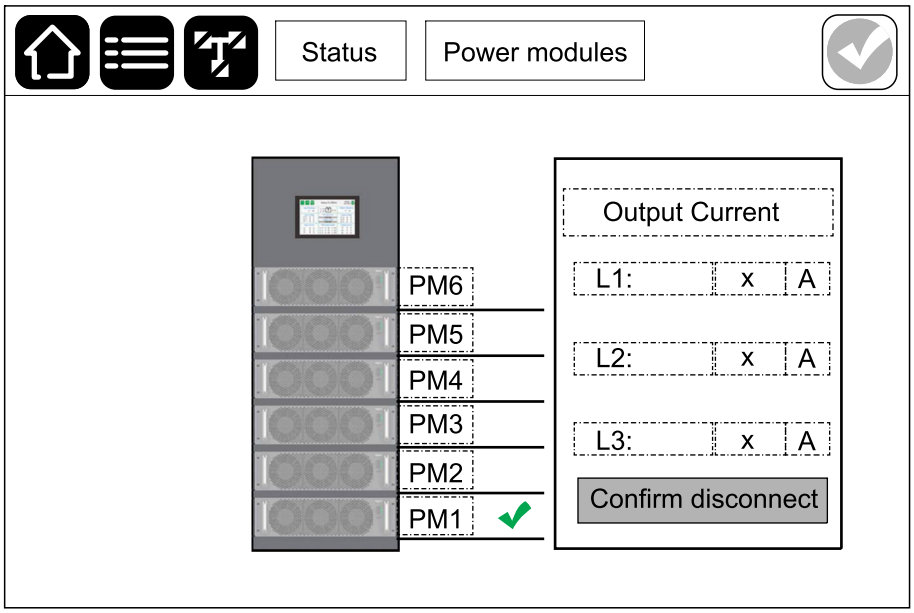
f. Tap **Parallel** to see the status.

Parallel

Input current	The present input current from the input source per phase in amperes (A).
Bypass current	The present bypass current from the bypass source per phase in amperes (A).
Total output power	The total output power of the parallel UPS system showing the total load percentage and the total output power in kW and kVA for the parallel system.
Output current	The present output current for each phase in amperes (A).
Number of redundant UPSs	The number of redundant UPSs present.
Redundancy setting	The configured redundancy setting.

Check the Status for the Power Module(s)

1. From the main menu, tap **Status > Power modules**.
   a. If the power module is installed in the UPS and it is operable, a check mark will appear on the right of the corresponding icon on the screen.
   b. Tap the power module icon to view the detailed settings.



Tests

The UPS system can perform the following tests to ensure correct performance of the system:

- **Buzzer**
- **Runtime calibration**
- **Battery**

From the main menu, tap **Maintenance** to access the tests of these functions. See Start a Runtime Calibration Test, page 51 and Start a Battery Test, page 52 for details and requirements for these tests.

Start a Runtime Calibration Test

This feature is used for calibrating the estimated remaining battery runtime. In this test, the UPS transfers to battery test operation and batteries are discharged to the low DC warning level. Based on the elapsed time and information about the load, the battery capacity can be calculated and the estimated runtime calibrated.

Schneider Electric recommends performing a runtime calibration test at start-up, when batteries are replaced, or when changes are made to the battery solution.

NOTICE

RISK OF EQUIPMENT DAMAGE

- During a runtime calibration test, the batteries are reduced to a very low capacity and are therefore not capable of supporting the load in case of an input power failure.
- Batteries will be discharged to the low DC warning level and this will result in a short battery runtime after the calibration until the batteries are fully recharged.
- Repeated battery testing or calibration can affect the service life of the battery.

Failure to follow these instructions can result in equipment damage.

Prerequisites:

- No battery test is running.
- No critical alarms present.
- Batteries must be 100% charged.
- The load percentage must be at least 10% and must not change more than 20% during the test. Example: If the load percentage is 30% at the start of the test, the test will abort if the load percentage drops below 24% or rises above 36% during the test.
- The bypass supply must be available.
- The operation mode must be normal operation.
- The system operation mode must be inverter.

1. From the main menu, tap **Maintenance > Runtime calibration > Start calibration**.
2. Tap **OK** on the confirmation screen.

Stop a Runtime Calibration Test

1. From the main menu, tap **Maintenance > Runtime calibration > Stop calibration**.
2. Tap **OK** on the confirmation screen.

Start a Battery Test

Prerequisites:

- No battery test is running.
- The battery breakers are closed.
- No critical alarms present.
- The bypass supply must be available.
- Static bypass operation must be available.
- The batteries must be more than 50% charged.
- The runtime available must be more than 4 minutes.
- The operation mode must be normal operation.
- The system operation mode must be inverter.

This feature performs a number of tests on the batteries, such as fuse-blown check and weak battery detection. The test will discharge the batteries and use about 10% of the total runtime capacity. Example: If you have 10 minutes of runtime, the test will run for 1 minute. The battery test can be scheduled to run automatically in different time intervals (from weekly and up to once a year).

1. From the main menu, tap **Configuration > Battery > Manual battery self-test mode** and select the manual battery self-test mode: **By capacity (automatic or manual battery tests)** or **By voltage/time (only for manual battery tests)**.
2. Tap **Maintenance > Battery > Start test**.
3. Tap **OK** on the confirmation screen.
4. When the battery self-test starts, the message ‘Battery self-test is running’ will show on the display and will remain on the display until the completion of the battery self-test. Click the **Abort** button to abort the automatic battery self-test.

Stop a Battery Test

1. Tap the menu button on the home screen.
2. Select **Maintenance > Battery > Stop test**.
3. Tap **OK** on the confirmation screen. If the test process stalls, click the **Abort** button to exit the battery test.

Maintenance

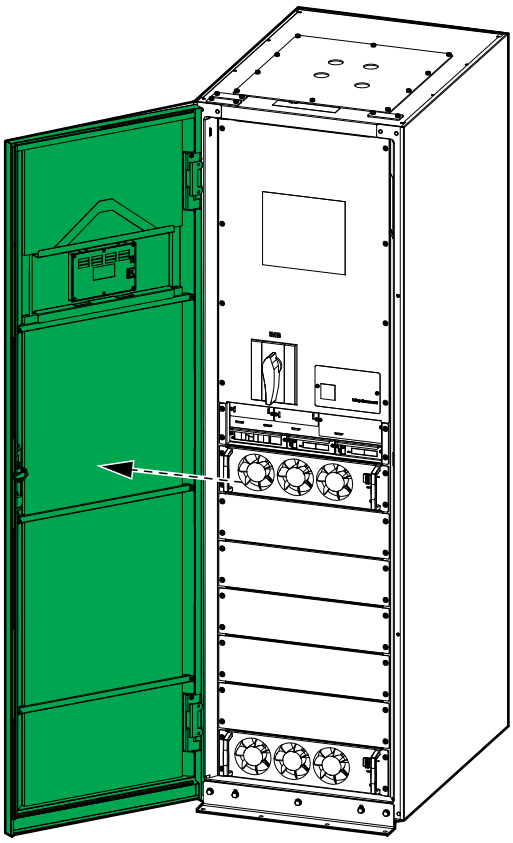
Connect Temperature/Humidity Sensor (Option)

Temperature/humidity sensor (AP9335T or AP9335TH) can be connected to the optional network management card AP9641.

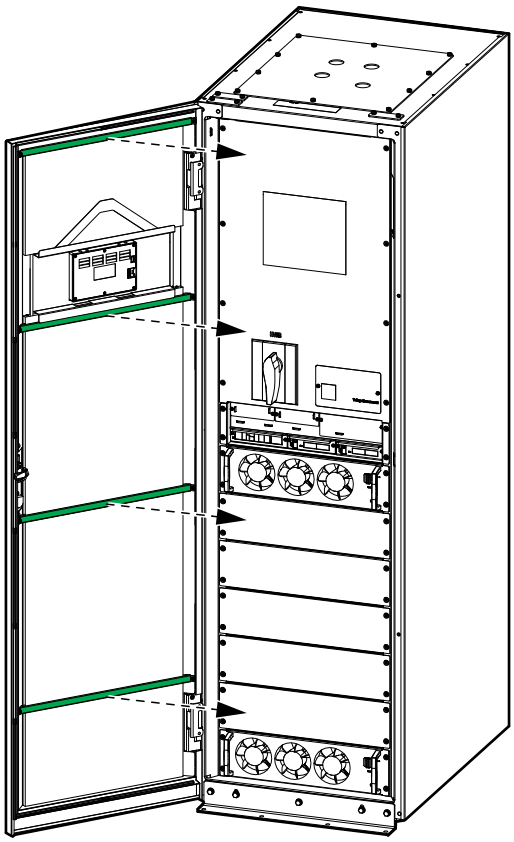
1. Connect the temperature/humidity sensor to the universal I/O port of the network management card.
2. Set up the temperature/humidity sensor via the network management interface.
3. To see the temperature/humidity measurements, tap **Status > Temperature**.

Replace the Air Filter

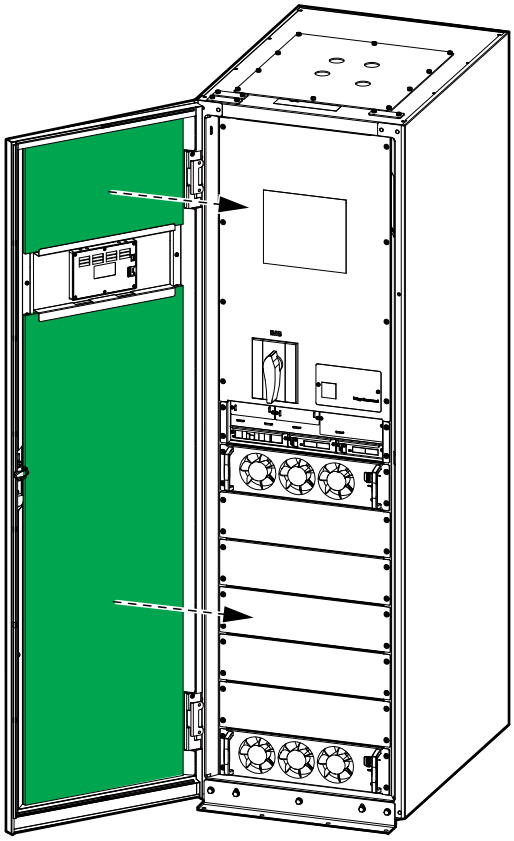
1. Open the front door.



2. Remove the four supporting bars from the door.



3. Remove the two air filters from the door.



4. Reverse the procedure to install the two new air filters in the door.
5. Close the front door.
6. Restart the air filter counter, see Configure the Air Filter Reminder, page 37.

Live Swap: Add, Remove, or Replace a Power Module, Static Bypass Switch Module, and Display

NOTE: This UPS has been designed and evaluated for:

- Power module insertion and removal in any operation mode: **Live Swap**.
- Static bypass switch module insertion and removal in normal operation or battery mode: **Live Swap**.
- Display insertion and removal in any operation mode: **Live Swap**.

This section specifies manufacturer's instructions for how to perform **Live Swap**.

NOTE: Verify that the required upstream protection is installed and configured correctly according to the installation manual.

NOTE: Incident energy is <1.2 cal/cm^2 when installed and first startup commissioned in accordance with product instructions. Incident energy is evaluated 300 mm from cabinet front.

DISCLAIMER:

- Electrical equipment should be installed, operated, serviced, maintained, replaced, or have similar work carried out on it only by suitably qualified, trained, experienced, and competent personnel who hold any necessary authorizations (e.g. licenses, permits or certifications) to perform such work. All work must be carried out in a way that does not give rise to danger and using appropriate personal protective equipment (PPE).
- User must ensure compliance with the manufacturer's instructions and user manual and with all applicable laws, regulations, standards, and guidance when using this equipment and carrying out work or permitting work to be carried out on or near electrical equipment.
- Neither Schneider Electric nor any of its affiliates shall be liable for any claims, costs, losses, damages, death, or injuries arising out of the improper use of this equipment or any failure to comply with any of the above requirements.

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Verify that the UPS has the **Live Swap** label present.
- If no **Live Swap** label is present on the UPS, contact Schneider Electric for power module, static bypass switch module, and display replacement.
- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices.
- Persons must not be present behind the UPS during this procedure.
- Insertion or removal of power modules, static bypass switch modules, and display must only be performed by qualified personnel knowledgeable of electrical work and the required precautions. Keep unqualified personnel away.
- This procedure requires opening the front door. All other doors and covers must remain closed and secured during this procedure.
- Verify that the UPS is secured against movement before performing this procedure.
- If evidence of poor maintenance or poor installation is observed, do not proceed with this procedure.
- Do not install power modules, static bypass switch modules, and displays which have been accidentally dropped, broken, flooded, contaminated, infested, or damaged in any way.
- Do not install power modules, static bypass switch modules, and displays which are of unknown operational state.
- Keep a minimum distance of 300 mm from the cabinet front while the system is energized.
- Do not use any tools inside the empty slots of power modules or static bypass switch modules.
- Do not reach into the empty slots of power modules or static bypass switch modules.

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

Add, Remove, or Replace a Power Module

NOTE: The power module can be replaced when the UPS is in any operation mode.

NOTE: Install power modules starting with the bottom positions and upward.

⚠WARNING

RISK OF EQUIPMENT DAMAGE

- Before installing a new power module, check the upstream and downstream protection configuration first. Make sure your UPS is configured correctly for the upgraded frame rating. For example, if your UPS is upgraded from 200 kW to 250 kW, the choice of breaker type must be based on the rating of 250 kW.

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

⚠WARNING

RISK OF EQUIPMENT DAMAGE

- Store the power modules at an ambient temperature of -25 °C to 55 °C, 0-95% non-condensing humidity.
- Store the power modules in their original protective packaging.

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

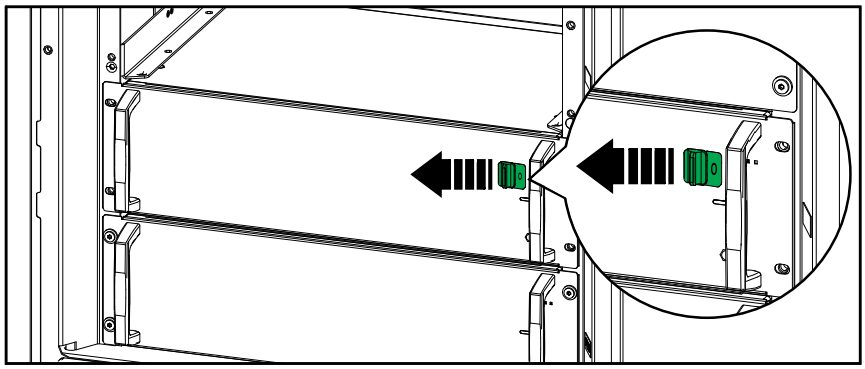
⚠CAUTION

HEAVY LOAD

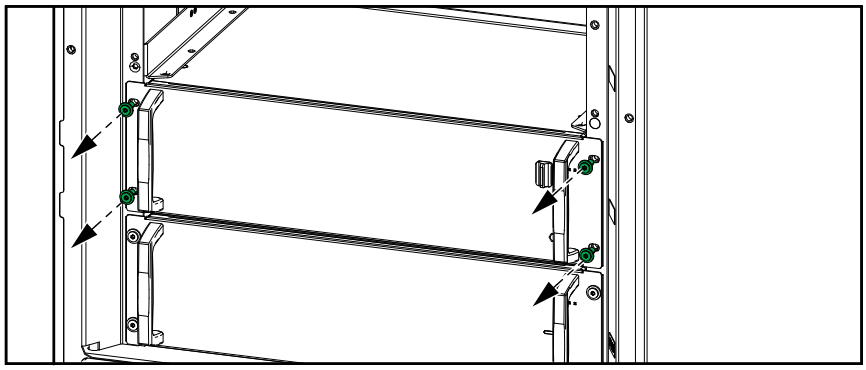
Power modules are heavy (28 kg) and require two persons to lift.

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

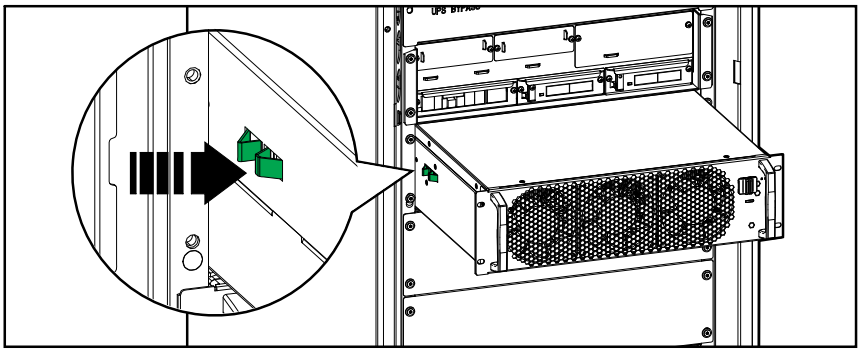
1. **Only for UPSs with redundant intelligence module:** From the main menu, select **Maintenance > Redundant IM > PM/SBS removal request**. Click **OK** on the confirmation screen.
2. Remove a power module:
   a. Set the enable switch on the power module to the OFF position.



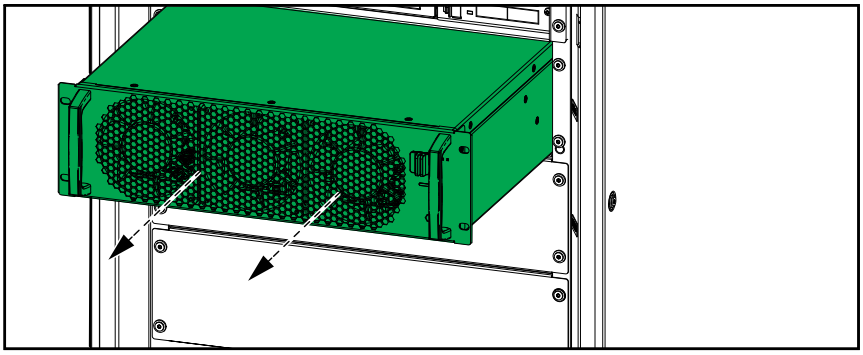
   b. Remove the screws in the sides of the power module.



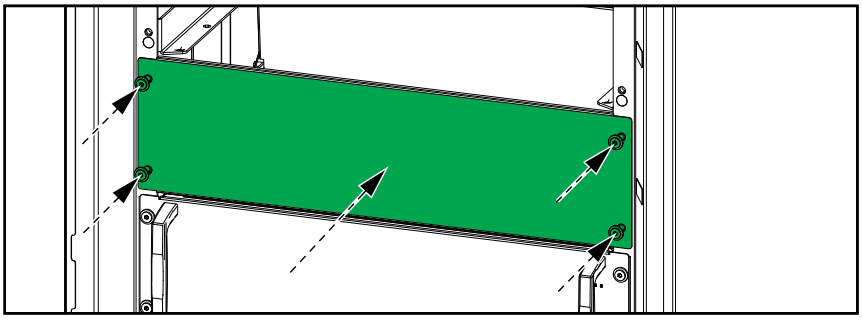
   c. Pull the power module halfway out. A locking mechanism prevents the power module from being pulled all the way out. Release the lock by pressing the release button on the left side of the power module.



d. Remove the power module.

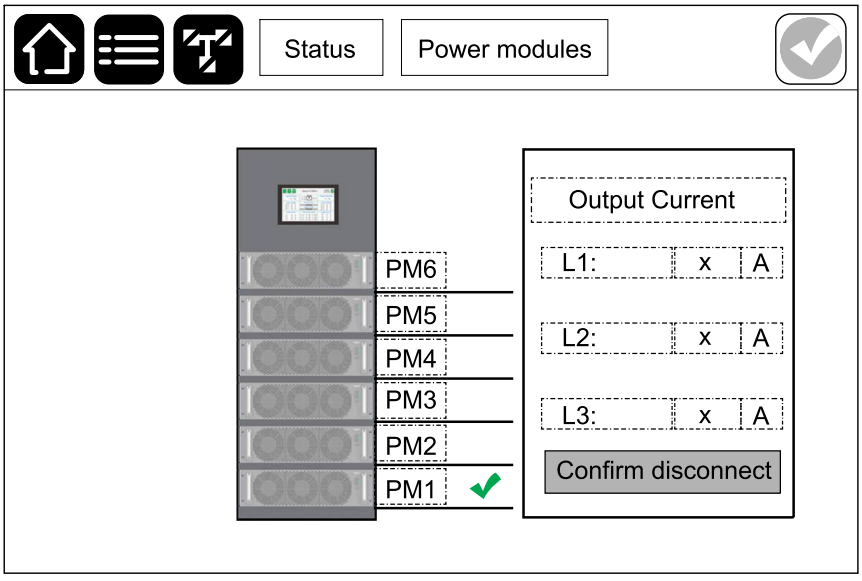


e. If no replacement power module will be installed: Install a filler plate in front of the empty power module slot.



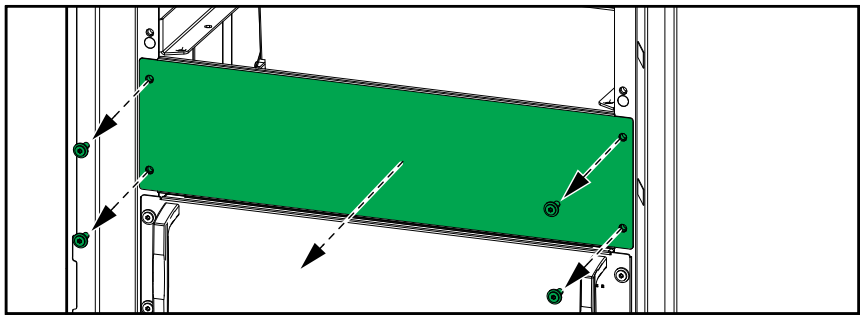
f. From the main menu, select **Status > Power modules**. Tap the power module icon that corresponds to your removed power module and click **Confirm disconnect** .

NOTE: This step is only required for removing a power module but not required for installing/adding a power module.

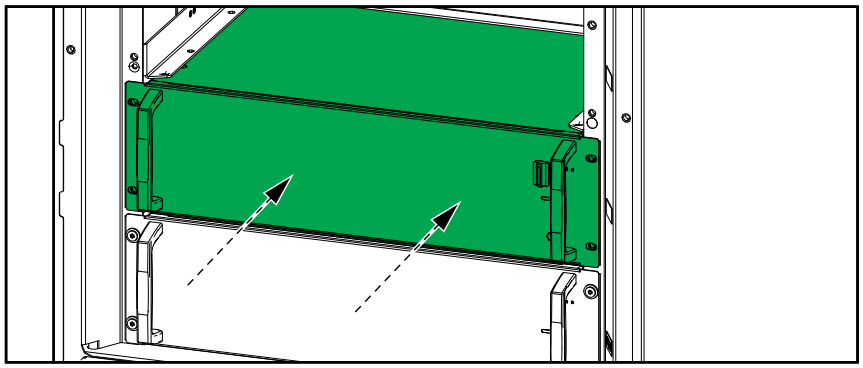


3. Install/Add a new power module:

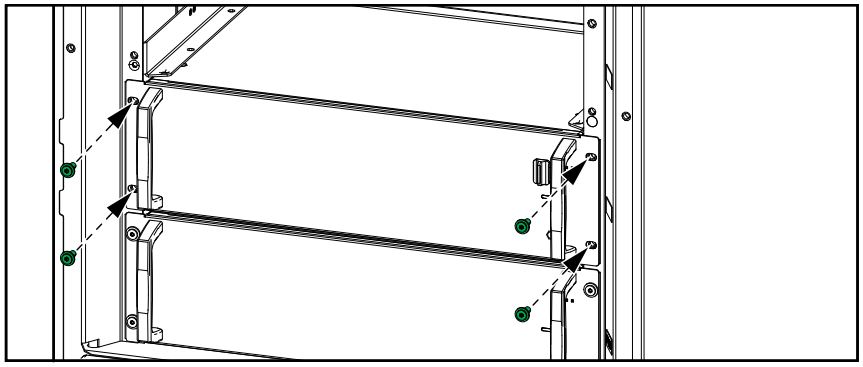
a. Remove the filler plate from the empty power module slot. Save the filler plate for future use.



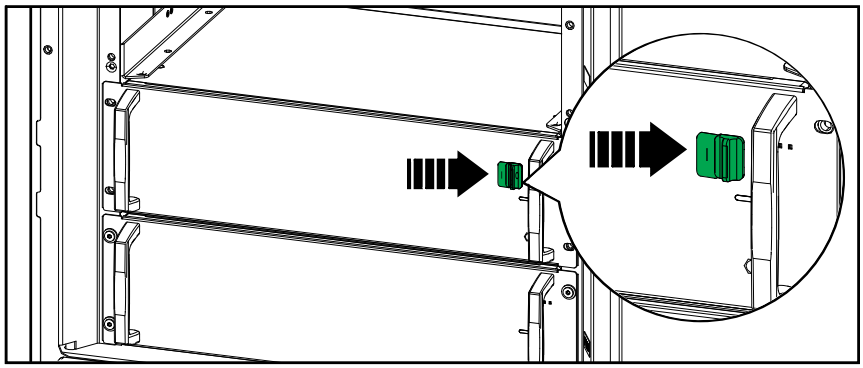
b. Push the power module into the slot.



c. Reinstall the screws in the sides of the power module.



d. Set the enable switch on the power module to the ON position.



⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

All power module slots must have either a power module or a filler plate installed.

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

4. **Only for UPSs with redundant intelligence module:** From the main menu, select **Maintenance > Redundant IM > Confirm PM/SBS replaced**. Tap **OK** on the confirmation screen.

Replace the Static Bypass Switch Module

⚠CAUTION

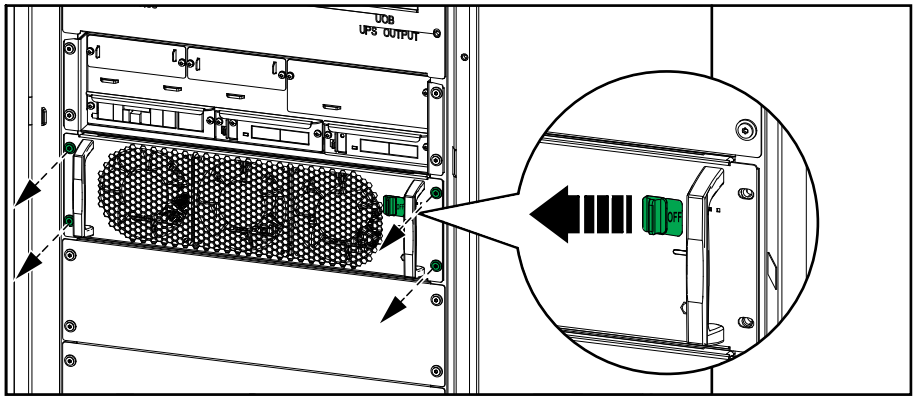
HEAVY LOAD

The static bypass switch module is heavy (18 kg) and requires two persons to lift.

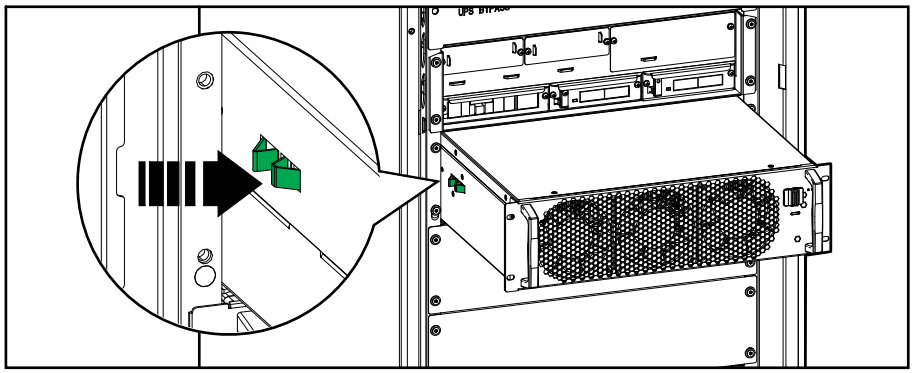
Failure to follow these instructions can result in injury or equipment damage.

NOTE: The static bypass switch module can be replaced when the UPS is in normal operation or battery mode.

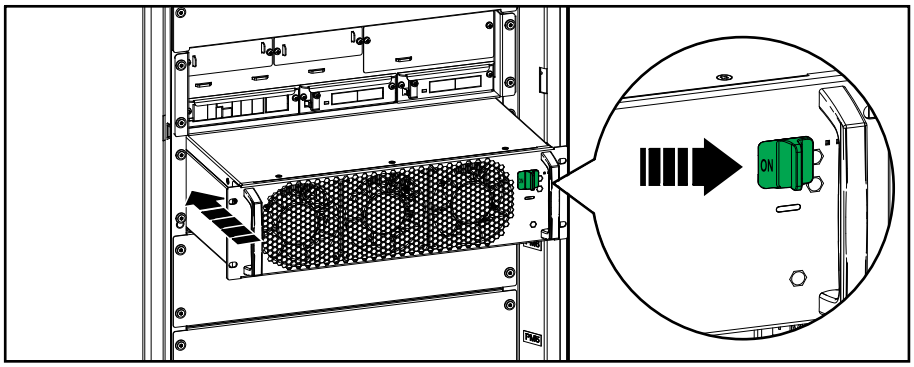
1. **Only for UPSs with redundant intelligence module:** From the main menu, select **Maintenance > Redundant IM > PM/SBS removal request**. Click **OK** on the confirmation screen.
2. Remove the screws on both sides of the static bypass switch module and set the enable switch to the OFF position.



3. Pull the static bypass switch module halfway out. A locking mechanism prevents the static bypass switch module from being pulled all the way out. Release the lock by pressing the release button on the left side of the static bypass switch module and remove the static bypass switch module.



4. Reverse the procedures to install the replacement static bypass switch module. Set the enable switch to the ON position.

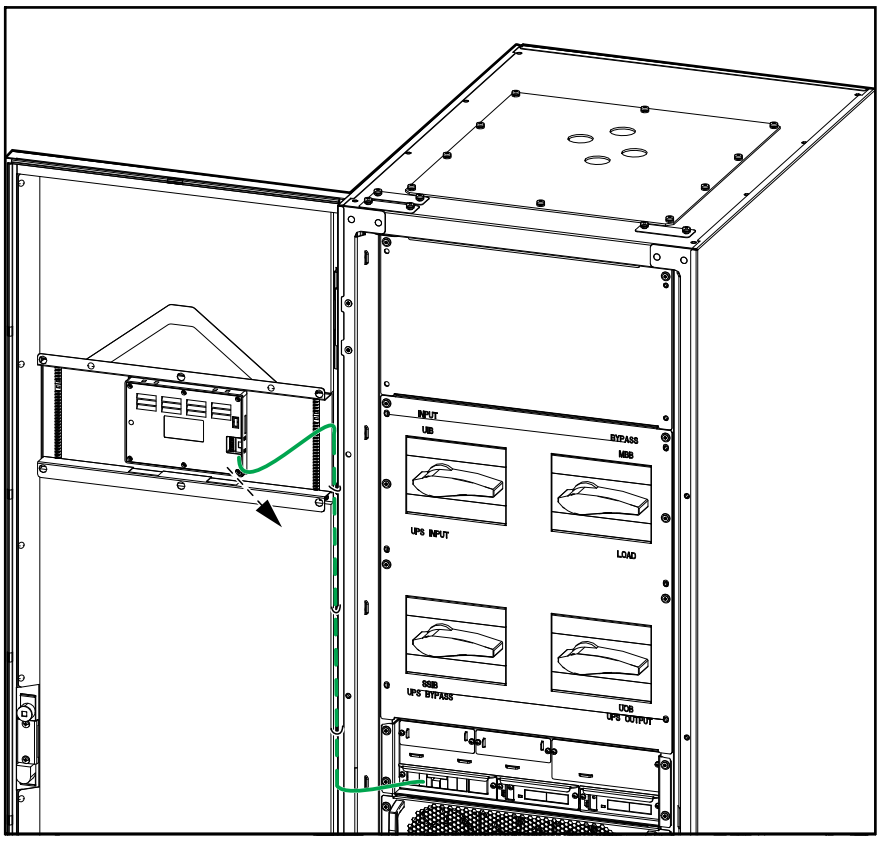


5. **Only for UPSs with redundant intelligence module:** From the main menu, select **Maintenance > Redundant IM > Confirm PM/SBS replaced**. Click **OK** on the confirmation screen.

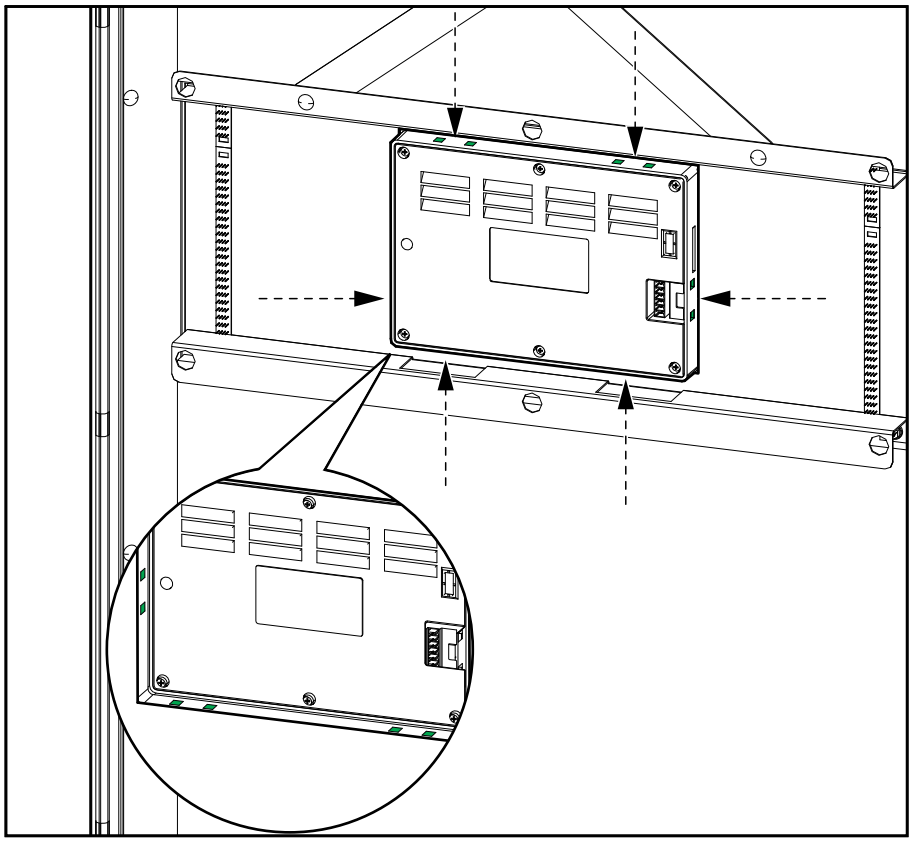
Replace the Display

NOTE: The display can be replaced when the UPS is in any operation mode.

1. Open the front door.
2. Disconnect the cables from the display.



3. Remove the fixing bracket of the display by removing the six clips in the indicated locations. Loosen the clip fixing screws completely with a Phillips screwdriver and remove the clips.



4. Install the replacement display and fasten with the fixing bracket and six clips. Reconnect the cables.

Determine if you need a Replacement Part

To determine if you need a replacement part, contact Schneider Electric and follow the procedure below so that the representative can assist you promptly:

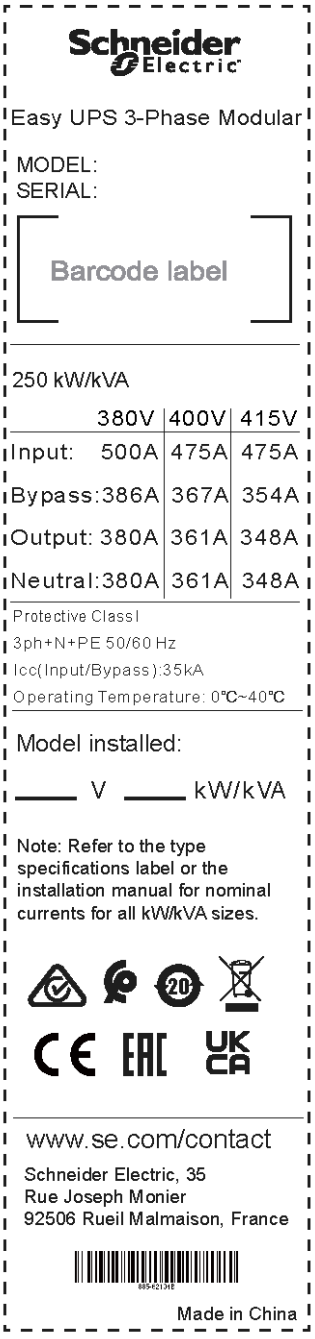
1. In the event of an alarm condition, scroll through the alarm lists, record the information, and provide it to the representative.
2. Write down the serial number of the unit so that you will have it easily accessible when you contact Schneider Electric.
3. If possible, call Schneider Electric from a telephone that is within reach of the display so that you can gather and report additional information to the representative.
4. Be prepared to provide a detailed description of the problem. A representative will help you solve the problem over the telephone.
5. If the unit is within the warranty period and has been started up by Schneider Electric, repairs or replacements will be performed free of charge. If it is not within the warranty period, there will be a charge.
6. If the unit is covered by a Schneider Electric service contract, have the contract available to provide information to the representative.

Find the Serial Numbers

1. From the main menu, tap **About**.
2. Note down the serial number of the UPS cabinet and have it ready for customer support.

   NOTE: If the display is not available, open the front door to find the UPS serial number on the name plate label under SERIAL:

   Example of Name Plate Label for UPS

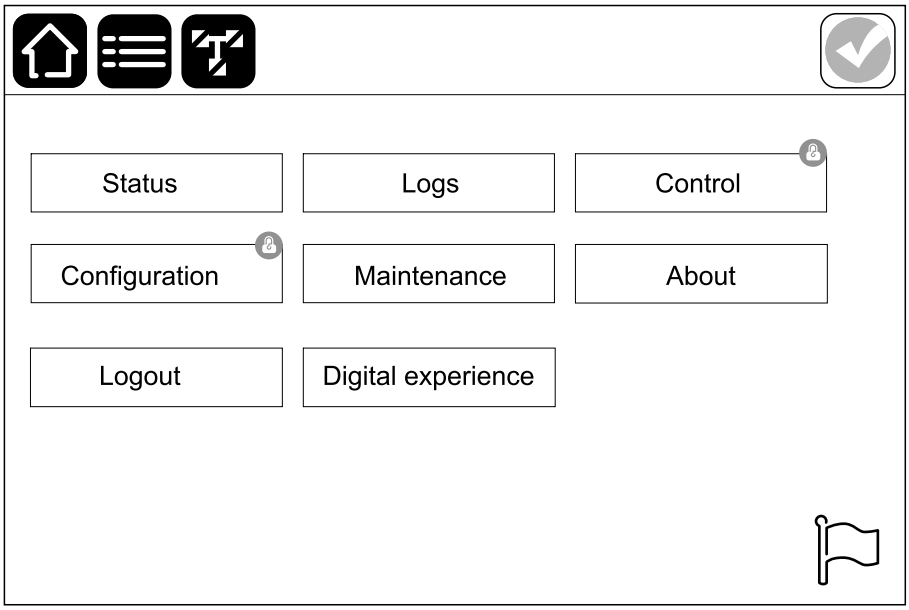


3. Tap the arrow to go to the next pages and note down the serial numbers of the display and the network management card(s) and have them ready for customer support.

Digital Experience

Find more digital support on your product here.

1. From the main menu, tap **Digital Experience**.



2. **For digital support:** Scan the left QR code to download mySchneider application on your mobile phone.
For digital product documentation: Scan the right QR code to get the latest product documentation.

Return Parts to Schneider Electric

To return an inoperable part to Schneider Electric, contact Schneider Electric customer support.

Pack the part in the original shipping materials, and return it by insured, prepaid carrier. The customer support representative will provide the destination address. If you no longer have the original shipping materials, ask the representative about obtaining a new set.

- Pack the part properly to avoid damage in transit. Never use styrofoam beads or other loose packaging materials when shipping a part. The part may settle in transit and become damaged.
- Enclose a letter in the package with your name, address, a copy of the sales receipt, description of the problem, a phone number, and a confirmation for payment (if necessary).

NOTE: Damages sustained in transit are not covered under warranty.

Troubleshooting

Alarm Messages

Display text	Description	Corrective action
Air filter technical check recommended	The air filters need to be checked as preventive maintenance is recommended.	The air filters may need to be replaced.
Ambient temperature high	Ambient temperature is high.	
Ambient temperature out of tolerance	Ambient temperature is out of tolerance.	
Batteries are discharging	The load is drawing more power than the UPS can draw from the input, causing the UPS to draw power from the batteries.	
Battery breaker BB1 open	Battery breaker BB1 is open.	
Battery breaker BB2 open	Battery breaker BB2 is open.	
Battery breaker BB3 open	Battery breaker BB3 is open.	
Battery breaker BB4 open	Battery breaker BB4 is open.	
Battery capacity is below minimum acceptable level	The battery capacity is below the minimum acceptable value according to UPS power rating. Risk of battery damage.	Change battery configuration and/or add larger capacity battery.
Battery condition is poor	Battery capacity is lower than 50%.	Batteries should be replaced.
Battery condition is weak	Battery capacity is between 50% to 75%.	
Battery configuration is incorrect	The configuration of the settings for number of batteries in series, number of cells in battery and nominal cell voltage does not match the battery voltage range of the UPS.	Check and correct battery settings.
Battery float charge current exceeds expected value	The battery float charge current exceeds the expected value and has been limited to avoid thermal runaway.	Check battery.
Battery is below minimum acceptable runtime	The battery runtime is below configured minimum acceptable value.	
Battery is not working correctly	A battery is not working correctly.	Contact Schneider Electric.
Battery room ventilation inoperable	Input contact indicates that the battery room ventilation is not working correctly.	
Battery temperature sensor is OK	Battery temperature sensor is OK.	
Battery temperature sensor is abnormal	One or more battery temperature senor(s) is not working correctly.	Contact Schneider Electric.
Battery voltage does not match battery configuration	Battery voltage does not match the battery configuration settings.	Check and correct battery settings.
Bonding between neutral and ground missing	Bonding between neutral and ground is missing.	
Breaker Ext. MBB closed	When the external maintenance bypass switch/breaker (Ext. MBB) is closed, the load is supplied with unprotected power from bypass.	
Bypass frequency out of tolerance	Bypass frequency is out of tolerance.	Check bypass frequency and bypass frequency setting.
Bypass phase missing	Bypass is missing a phase.	Check bypass. Contact Schneider Electric.
Bypass phase sequence incorrect	The phase rotation on bypass is incorrect.	Check bypass. Contact Schneider Electric.
Bypass voltage out of tolerance	Bypass voltage is out of tolerance and UPS is prevented from going into requested bypass mode.	
Charge power is reduced	The battery charge power has been reduced.	The input for this functionality was activated, or the input current has reached the maximum limit.

Display text	Description	Corrective action
Charger shutdown due to high battery temperature	The charger has been shut down due to a high battery temperature.	Check the battery temperature.
Charger shutdown due to low battery temperature	The charger has been shut down due to a low battery temperature.	Check the battery temperature.
Confirm redundancy lost and/or transfer to forced static bypass	Inverter OFF button has been pushed and user must confirm that the redundancy will be lost and/or system will transfer to forced static bypass.	Confirm or abort using the display.
DC-DC current limitation threshold lowered due to high temperature	The DC current limitation threshold of the DC-DC has been lowered due to high ambient temperature.	Reduce ambient temperature.
Display communication lost - connected	Communication link between display and system management controller (SMC) is lost. The display is connected.	Contact Schneider Electric.
Display communication lost - disconnected	Communication link between display and system management controller (SMC) is lost. The display is disconnected.	Contact Schneider Electric.
Display communication not authenticated	Communication link between display and system management controller (SMC) is not authenticated.	Contact Schneider Electric.
EPO switch activated	An emergency power off (EPO) switch is activated.	Deactivate the emergency power off (EPO) switch.
External battery monitoring detected fault	Input contact indicates external battery monitoring detected fault.	
Genset is supplying the UPS	Input contact indicates that a genset is supplying the UPS.	
General parallel system event	The parallel system is not configured correctly or is not working correctly.	Contact Schneider Electric.
Ground fault detected	Input contact indicates that a ground wire fault has been detected.	Contact Schneider Electric.
High battery temperature level	The battery temperature is above the alarm setting.	Check the battery temperature. A high temperature may decrease the battery lifetime.
High battery temperature shutdown	The energy storage surveillance has detected a battery temperature above the shutdown limit.	Check the battery temperature.
High efficiency mode disabled	High efficiency mode is disabled from an input contact.	
High humidity threshold violation at remote sensor	A high humidity threshold violation exists for integrated environmental monitor sensor.	Check the environment.
High temperature threshold violation at remote sensor	A high temperature threshold violation exists for integrated environmental monitor sensor.	Check the environment.
IM communication lost - connected	Communication link between intelligence module (IM) and system management controller (SMC) is lost. The intelligence module (IM) is connected.	Contact Schneider Electric.
IM communication lost - disconnected	Communication link between intelligence module (IM) and system management controller (SMC) is lost. The intelligence module (IM) is disconnected.	Contact Schneider Electric.
IM communication not authenticated	Communication link between intelligence module (IM) and system management controller (SMC) is not authenticated.	Contact Schneider Electric.
IM in controller box is not working correctly	The intelligence module (IM) in the controller box is not working correctly.	Contact Schneider Electric.
IMB redundant monitoring not working correctly	The two redundant auxiliary contacts of the internal maintenance switch IMB do not report the same status.	Check auxiliary contact wiring of the internal maintenance switch IMB.
Incorrect UPS model number detected	The UPS model number does not match the UPS base model number.	Contact Schneider Electric.
Input frequency out of tolerance	Input frequency is out of tolerance.	Check input frequency and input frequency setting.
Input phase missing	Input is missing a phase.	Check input. Contact Schneider Electric.
Input phase sequence incorrect	The phase rotation on input is incorrect.	Check input. Contact Schneider Electric.
Input voltage out of tolerance	Input voltage is out of tolerance.	Check input voltage. Contact Schneider Electric.

Display text	Description	Corrective action
Installed power modules exceeds frame power rating	The total power rating for the installed power modules exceeds the frame power rating.	Reduce power modules.
Internal power module redundancy lost	The configured internal power module redundancy is lost because there are not enough power modules available.	Add more power modules.
Inverter is off due to a request by the user	The inverter is off due to a request by the user.	
Inverter output is not in phase with bypass input	The UPS inverter output is not in phase with the bypass input.	
Load on UPS is above warning level	Load on UPS has exceeded the warning level.	Reduce load on system.
Lost communication to remote sensor	Lost the local network management interface-to-integrated environmental monitor communication.	Check the environment.
Low battery temperature level	The battery temperature is below the alarm setting.	
Low humidity threshold violation at remote sensor	A low humidity threshold violation exists for integrated environmental monitor sensor.	Check the environment.
Low temperature threshold violation at remote sensor	A low temperature threshold violation exists for integrated environmental monitor sensor.	Check the environment.
Maximum humidity threshold violation at remote sensor	A maximum humidity threshold violation exists for integrated environmental monitor sensor.	Check the environment.
Maximum temperature threshold violation at remote sensor	A maximum temperature threshold violation exists for integrated environmental monitor sensor.	Check the environment.
MBB redundant monitoring not working correctly	The two redundant auxiliary contacts of the maintenance bypass switch MBB do not report the same status.	Check auxiliary contact wiring of the maintenance bypass switch MBB.
Minimum humidity threshold violation at remote sensor	A minimum humidity threshold violation exists for integrated environmental monitor sensor.	Check the environment.
Minimum temperature threshold violation at remote sensor	A minimum temperature threshold violation exists for integrated environmental monitor sensor.	Check the environment.
Multiple NTP server connections enabled	Multiple NTP server connections are enabled.	Disable NTP service.
Neutral displacement detected	Neutral displacement detected.	
NMC communication lost - connected	Communication link between network management card (NMC) and system management controller (SMC) is lost. The network management card (NMC) is connected.	Contact Schneider Electric.
NMC communication lost - disconnected	Communication link between network management card (NMC) and system management controller (SMC) is lost. The network management card (NMC) is disconnected.	Contact Schneider Electric.
NMC communication not authenticated	Communication link between network management card (NMC) and system management controller (SMC) is not authenticated.	Contact Schneider Electric.
NMC firmware incompatible	Firmware version of the network management card (NMC) is incompatible.	Contact Schneider Electric.
No power module(s) present	No power module(s) present.	Install power module(s).
No SBS present	No static bypass switch module (SBS) present.	Install static bypass switch module(s).
Not enough UPS units ready to turn on inverter	One or more parallel UPS units have been requested to turn on the inverter, but not enough UPS units are ready for system to enter inverter on operation.	Turn on the inverter of more UPS units and/or check the setting **Minimum number of parallel UPS required to supply load**.
Output frequency out of tolerance	Output frequency is out of tolerance.	Check output frequency settings.
Output voltage out of tolerance	The output voltage is out of tolerance.	Check output voltage settings.
Overload on UPS due to high ambient temperature	The load exceeds the rated UPS capacity when running in high ambient temperature.	Reduce load on system or ambient temperature.
Overload or short circuit on UPS	The load exceeds 100% of rated capacity or there is a short circuit on the output.	Reduce load on system or check for output short circuit.
Overload limitation threshold lowered due to high temperature	The overload limitation threshold has been lowered due to high ambient temperature.	Reduce ambient temperature.

Display text	Description	Corrective action
Parallel unit not present	UPS is unable to communicate with parallel UPS. The UPS might have been powered down or PBUS cables may be damaged.	Check PBUS cables. Replace if damaged. Contact Schneider Electric.
Parallel redundancy lost	The configured parallel redundancy is lost, either because the output load is too high, or because there are not enough parallel UPS units available.	Reduce load on system or add more parallel UPS units.
Parallel communication lost on PBUS cable 1	PBUS cable 1 may be damaged.	Check the PBUS cables. Replace PBUS cable 1 if needed.
Parallel communication lost on PBUS cable 2	PBUS cable 2 may be damaged.	Check the PBUS cables. Replace PBUS cable 2 if needed.
PFC AC current limitation threshold lowered due to high temperature	The AC current limitation threshold of the PFC has been lowered due to high ambient temperature.	Reduce ambient temperature.
PMC communication lost - connected	Communication link between power module controller (PMC) and intelligence module (IM) is lost. The power module controller (PMC) is connected.	Contact Schneider Electric.
PMC communication lost - disconnected	Communication link between power module controller (PMC) and intelligence module (IM) is lost. The power module controller (PMC) is disconnected.	Contact Schneider Electric.
PMC communication not authenticated	Communication link between power module controller (PMC) and intelligence module (IM) is not authenticated.	Contact Schneider Electric.
Power module disabled	The power module has been disabled.	Contact Schneider Electric.
Power module fan inoperable	The power module has one or more inoperable fans. Fan redundancy is lost.	Contact Schneider Electric.
Power module inoperable	Power module is inoperable.	Replace power module or contact Schneider Electric.
Power module overheated	Power module temperature exceeds critical level.	Contact Schneider Electric.
Power module surveillance detected fault	Power module surveillance detected a fault.	Contact Schneider Electric.
Power module temperature warning	Power module temperature exceeds warning level.	Contact Schneider Electric.
Product not registered	Your UPS is not registered.	Please register your product.
Redundant IM controller not available	The redundant intelligence module is not available.	Contact Schneider Electric.
Redundant IM controller ADC calibration unsuccessful	The ADC calibration for the redundant intelligence module is not successful.	Contact Schneider Electric.
SBS module disabled	The static bypass switch module (SBS) has been disabled by user.	Contact Schneider Electric.
SBSC communication lost - connected	Communication link between static bypass switch module controller (SBSC) and intelligence module (IM) is lost. The static bypass switch module controller (SBSC) is connected.	Contact Schneider Electric.
SBSC communication lost - disconnected	Communication link between static bypass switch module controller (SBSC) and intelligence module (IM) is lost. The static bypass switch module controller (SBSC) is disconnected.	Contact Schneider Electric.
SBSC communication not authenticated	Communication link between static bypass switch module controller (SBSC) and intelligence module (IM) is not authenticated.	Contact Schneider Electric.
SMC in controller box is not working correctly	The system management controller (SMC) in the controller box is not working correctly.	Contact Schneider Electric.
Static bypass switch fan inoperable	The static bypass switch module (SBS) has one or more inoperable fans. Fan redundancy is lost.	Contact Schneider Electric.
Static bypass switch inoperable	Static bypass switch is inoperable. UPS is prevented from going into static bypass operation.	Contact Schneider Electric.
Static bypass switch warning	The static bypass switch module needs a technical check but is still fully operational.	Contact Schneider Electric.
Synchronization unavailable - system is free running	The UPS is unable to synchronize to the bypass input, external source or parallel system.	

Display text	Description	Corrective action
System locked in bypass operation	The system is locked in bypass operation.	The system has toggled between inverter operation and bypass operation more than 10 times within 75 seconds. Please press inverter ON button to transfer back to normal operation.
System operation mode - Forced static bypass	The system is in bypass in response to a critical event or an inverter off request.	
System operation mode - Maintenance bypass	The system load is supplied through the maintenance bypass switch (MBB).	
System operation mode - Off	The system output power is turned off.	
System operation mode - Requested static bypass	The system is in bypass in response to the UPS front-panel or a user-initiated software command, typically for maintenance.	
System operation mode - Static bypass standby	The system is in static bypass standby operation in response to a critical event or an inverter off request.	
Technical check recommended	The product and its batteries need to be checked as preventive maintenance is recommended.	Contact Schneider Electric.
Unsupported power module type detected	The detected power module type is not supported by the current UPS power configuration.	Contact Schneider Electric.
Unsupported SBS module type detected	The detected static bypass switch module (SBS) type is not supported by the current UPS power configuration.	Contact Schneider Electric.
UOB redundant monitoring not working correctly	The two redundant auxiliary contacts of the unit output breaker UOB do not report the same status.	Check auxiliary contacts wiring of the unit output breaker UOB .
UPS locked in static bypass mode: Activated	Input contact for UPS locked in static bypass mode is activated.	
UPS operation mode - Battery	On battery power in response to an input power problem.	
UPS operation mode - Battery test	On battery power in response to a test of the performance of the batteries.	
UPS operation mode - Forced static bypass	The UPS is in forced static bypass.	Check active alarms and event log to get details about why UPS is in forced static bypass.
UPS operation mode - Inverter standby	The UPS is ready to enter battery operation but awaits permission from the system. UPS output is off.	
UPS operation mode - Maintenance bypass	The UPS load is supplied through maintenance bypass switch (MBB).	
UPS operation mode - Off	The output power is turned off.	
UPS operation mode - Requested static bypass	The UPS is in bypass in response to the UPS front-panel or a user-initiated software command, typically for maintenance.	
UPS operation mode - Static bypass standby	The UPS is ready to enter static bypass but awaits permission from the system. UPS output is off.	
UPS surveillance detected fault	UPS surveillance detected a fault.	Contact Schneider Electric.
User-defined input 1 activated	User-defined input contact 1 is activated.	
User-defined input 2 activated	User-defined input contact 2 is activated.	
Warranty expiring soon	The product is reaching the end of warranty.	Contact Schneider Electric.

Export UPS Event Logs to a USB Device

1. From the main menu, select **Maintenance > UPS report**.
2. Open the front door.
3. Insert your USB device in the USB port on the display.
4. Tap **Export**. When the screen shows the message **Confirm to export UPS event logs**, tap **OK** to start the export process.

   NOTE: Do not remove the USB device until the export process has finished.
5. The screen will show the completion status with the message **Event dump successful** or **Event dump unsuccessful**. Tap **OK** to proceed.
6. Send the UPS event logs to Schneider Electric customer support.

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

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