

# Galaxy VX

## UPS

## Operation

Latest updates are available on the Schneider Electric website

10/2024



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# Table of Contents

|  |    |
|--|----|
| Important Safety Instructions — SAVE THESE                       |    |
| INSTRUCTIONS .....   | 7  |
| FCC Statement .....  | 8  |
| Safety Precautions .....   | 8  |
| Electrical Safety .....  | 9  |
| Battery Safety .....   | 10 |
| Overview of UPS User Interface .....                             | 12 |
| Overview of Mimic Diagram .....                                  | 13 |
| Overview of Status LEDs .....                                    | 14 |
| Display Symbols .....  | 15 |
| Operation Modes .....  | 16 |
| UPS Modes .....  | 16 |
| System Modes .....   | 20 |
| Frequency Converter Mode .....                                   | 22 |
| UPS Display .....  | 23 |
| UPS Display Menu Tree .....                                      | 23 |
| Configuration from the UPS Display .....                         | 24 |
| Disable Password Request .....                                   | 24 |
| Add a New User or Edit an Existing User .....                    | 24 |
| Delete a User .....  | 25 |
| Configure the Display Preferences .....                          | 25 |
| Configure the Display Settings .....                             | 26 |
| Configure the UPS Output Voltage Compensation .....              | 27 |
| Configure High Efficiency Mode .....                             | 28 |
| Enable Peak Shaving Mode .....                                   | 29 |
| Configure Distributed Energy Reserve .....                       | 30 |
| Set the UPS Identification .....                                 | 31 |
| Configure the Input Contacts .....                               | 32 |
| Configure the Output Relays .....                                | 33 |
| Configure Reminder Settings .....                                | 35 |
| Configure Battery Alarm Threshold .....                          | 35 |
| Configure Automatic Battery Test .....                           | 36 |
| Configure the Network .....                                      | 37 |
| Configure the Modbus .....                                       | 39 |
| Restore Default Configuration .....                              | 40 |
| Operation Procedures from the UPS Display .....                  | 41 |
| Access Password-Protected Screens .....                          | 41 |
| View the System Status Information .....                         | 42 |
| Start Up Single System from Maintenance Bypass Operation .....   | 47 |
| Shut Down Single System from Normal to Maintenance Bypass        |    |
| Operation .....  | 48 |
| Transfer UPS from Normal to Requested Static Bypass              |    |
| Operation .....  | 49 |
| Transfer UPS from Requested Static Bypass Operation to Normal    |    |
| Operation .....  | 49 |
| Start Up Parallel System from Maintenance Bypass Operation ..... | 50 |

|  |    |
|--|----|
| Shut Down Parallel System from Normal to Maintenance Bypass            |    |
| Operation .....  | 51 |
| Start Up and Add UPS to a Running Parallel System .....                | 52 |
| Isolate this Single UPS from the Parallel System .....                 | 52 |
| Start-Up System Operating as Frequency Converters .....                | 53 |
| Shut Down System Operating as Frequency Converters .....               | 53 |
| Start a Boost Charge of the Batteries .....                            | 54 |
| Access a Configured Network Management Interface .....                 | 54 |
| Troubleshooting from the UPS .....                                     | 55 |
| Troubleshooting via the Mimic Diagram LEDs .....                       | 55 |
| Reboot the Display .....   | 57 |
| Logs .....   | 58 |
| View the Active Alarms .....   | 61 |
| Tests .....  | 68 |
| Perform a Battery Test .....   | 68 |
| Perform a Runtime Calibration .....                                    | 68 |
| Perform a Battery SPoT Mode Test .....                                 | 69 |
| Perform an Annunciators Test .....                                     | 70 |
| Calibrate the Display .....  | 70 |
| 10" System Bypass Display .....  | 71 |
| 10" System Bypass Display Menu Tree (Option) .....                     | 71 |
| Configuration from the 10" System Bypass Display (Option) .....        | 71 |
| Configure the Display Settings .....                                   | 71 |
| Change the User Password .....   | 72 |
| Change the System Names .....  | 73 |
| Configure the Output Distribution Breakers .....                       | 74 |
| Operation Procedures from the 10" System Bypass Display (Option) ..... | 75 |
| Access Password-Protected Screens .....                                | 75 |
| View the Parallel System Status .....                                  | 76 |
| View System Bypass Status .....  | 79 |
| View UPS Status Information .....                                      | 80 |
| Transfer the Parallel System from Normal to Requested Static           |    |
| Bypass Operation .....   | 84 |
| Transfer the Parallel System from Requested Static Bypass to           |    |
| Normal Operation .....   | 84 |
| Connect to the 10" System Bypass Display Remotely .....                | 85 |
| Troubleshooting from the 10" System Bypass Display (Option) .....      | 86 |
| View the Display Log .....   | 86 |
| View the Parallel System Log .....                                     | 87 |
| View the Active Alarms .....   | 87 |
| Maintenance .....  | 89 |
| Recommended Personal Protective Equipment (PPE) .....                  | 89 |
| Replace the Top Filter .....   | 89 |
| Replace the Three Bottom Filters .....                                 | 90 |
| Troubleshooting .....  | 91 |
| Determine if you need a Replacement Part .....                         | 91 |
| Find the Serial Numbers .....  | 91 |
| Return Parts to Schneider Electric .....                               | 91 |

# 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).

## FCC Statement

**NOTE:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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

## 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.**



## Electrical Safety

This manual contains important safety instructions that should be followed during the installation and maintenance of the UPS system.

### **⚠️⚠️ DANGER**

#### **HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

- Electrical equipment must be installed, operated, serviced, and maintained only by qualified personnel.
- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices.
- Disconnection devices for AC and DC must be provided by others, be readily accessible, and the function of the disconnect device marked for its function.
- Turn off all power supplying the UPS system before working on or inside the equipment.
- Before working on the UPS system, check for hazardous voltage between all terminals including the protective earth.
- The UPS contains an internal energy source. Hazardous voltage can be present even when disconnected from the mains supply. Before installing or servicing the UPS system, ensure that the units are OFF and that mains and batteries are disconnected. Wait five minutes before opening the UPS to allow the capacitors to discharge.
- The UPS must be properly earthed/grounded and due to a high touch current/leakage current, the earthing/grounding conductor must be connected first.

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

The label below must be added if:

1. The UPS input is connected through external isolators that, when opened, isolate the neutral, OR
2. The UPS input is connected via an IT power system.

The label must be placed adjacent to all upstream power disconnection devices that isolate the neutral.

The label below must be also added if backfeed protection is provided external to the equipment. See for more details. The label must be placed adjacent to all upstream power disconnection devices.

### **⚠️⚠️ DANGER**

#### **HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

Risk of voltage backfeed. Before working on this circuit: Isolate the UPS and check for hazardous voltage between all terminals including the protective earth.

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

### **⚠️ DANGER**

#### **HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

- Always perform correct Lockout/Tagout before working on the UPS.
- A UPS with autostart enabled will automatically restart when the mains supply returns.
- If autostart is enabled on the UPS, a label must be added on the UPS to warn about this functionality.

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

Add the label below on the UPS if autostart has been enabled:

## DANGER

### HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

Autostart is enabled. The UPS will automatically restart when the mains supply returns.

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

## DANGER

### HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

This product can cause a DC current in the PE conductor. If a residual current-operated protective device (RCD) is used for protection against electrical shock, only an RCD of Type B is allowed on the supply side of this product.

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

## Battery Safety

## DANGER

### HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Battery circuit breakers must be installed according to the specifications and requirements as defined by Schneider Electric.
- Servicing of batteries must only be performed or supervised by qualified personnel knowledgeable of batteries and the required precautions. Keep unqualified personnel away from batteries.
- Disconnect charging source prior to connecting or disconnecting battery terminals.
- Do not dispose of batteries in a fire as they can explode.
- Do not open, alter, or mutilate batteries. Released electrolyte is harmful to the skin and eyes. It may be toxic.

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

## DANGER

### HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

Batteries can present a risk of electric shock and high short-circuit current. The following precautions must be observed when working on batteries

- Remove watches, rings, or other metal objects.
- Use tools with insulated handles.
- Wear protective glasses, gloves and boots.
- Do not lay tools or metal parts on top of batteries.
- Disconnect the charging source prior to connecting or disconnecting battery terminals.
- Determine if the battery is inadvertently grounded. If inadvertently grounded, remove source from ground. Contact with any part of a grounded battery can result in electric shock. The likelihood of such shock can be reduced if such grounds are removed during installation and maintenance (applicable to equipment and remote battery supplies not having a grounded supply circuit).

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

## DANGER

### HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

When replacing batteries, always replace with the same type and number of batteries or battery packs.

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

## CAUTION

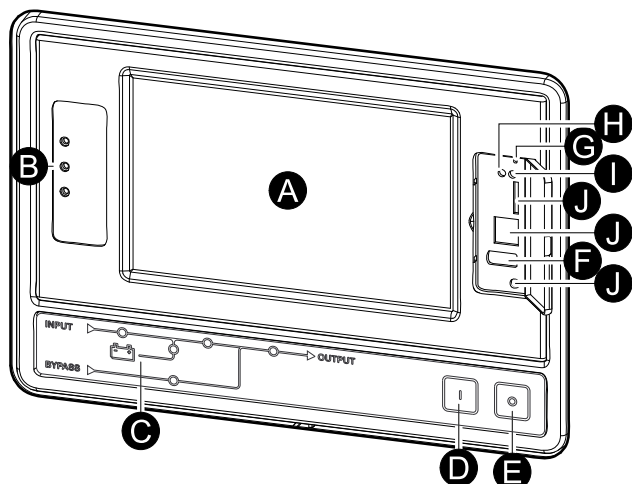
### RISK OF EQUIPMENT DAMAGE

- Mount the batteries in the UPS system, but do not connect the batteries until the UPS system is ready to be powered up. The time duration from battery connection until the UPS system is powered up must not exceed 72 hours or 3 days.
- Batteries must not be stored more than six months due to the requirement of recharging. If the UPS system remains de-energized for a long period, we recommend that you energize the UPS system for a period of 24 hours at least once every month. This charges the batteries, thus avoiding irreversible damage.

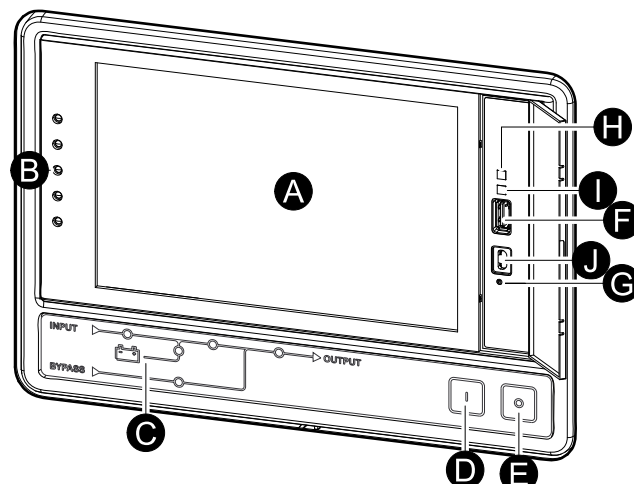
**Failure to follow these instructions can result in injury or equipment damage.**

# Overview of UPS User Interface

Display Model 1



Display Model 2



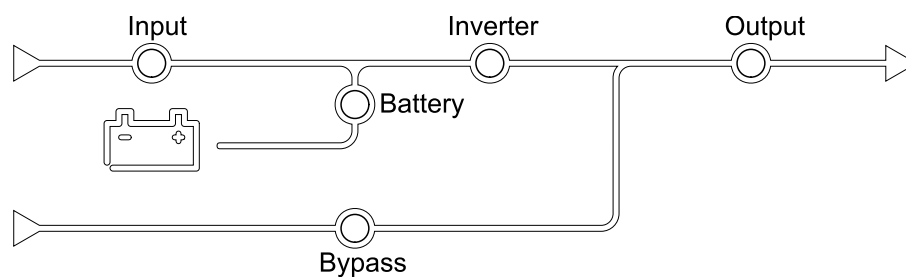
- A. Display<sup>1</sup>
- B. Status LEDs
- C. Mimic diagram
- D. Inverter ON button
- E. Inverter OFF button
- F. USB port for export of logs
- G. Display reboot button
- H. Network connection LED:
  - Solid green: The system has valid TCP/IP settings.  
See [Configure the Network](#), page 37.
  - Flashing green: The system does not have valid TCP/IP settings.
  - Solid orange: The display is inoperable. Contact Schneider Electric.
  - Flashing orange: The system is making BOOTP requests.  
See [Configure the Network](#), page 37.
  - Alternately flashing green and orange: If the LED is alternately flashing slowly, the system is making DHCP requests.  
See [Configure the Network](#), page 37.
  - If the LED is alternately flashing rapidly, the system is starting up.
  - Off: The display is not receiving input power or the display is inoperable.
- I. LED for indication of network connection type:
  - Solid green: The system is connected to a network operating at 10 Megabits per second (Mbps).
  - Flashing green: The system is receiving or transmitting data packets at 10 Megabits per second (Mbps).
  - Solid orange: The system is connected to a network operating at 100 Megabits per second (Mbps).
  - Flashing orange: The system is receiving or transmitting data packets at 100 Megabits per second (Mbps).
  - Off: One or more of the following exists: The display is not receiving input power, the cable that connects the system to the network is disconnected,

1. Note that the UPS comes with one of the two display models.

the device that connects the system to the network is turned off, or the display is inoperable. Check the connections and if the LED remains off, contact Schneider Electric.




J. Reserved for service.

## Overview of Mimic Diagram









The mimic diagram shows the power flow through the UPS system, and the status of the main functions.

Each LED can be in one of the below three states:







|       |  |   |
|-------|--|---|
| Green | The corresponding function is active and OK        |    |
| Red   | The corresponding function is not working properly |  |
| Off   | The corresponding function is not active           |  |

## Overview of Status LEDs

The status LEDs placed next to the display show the current status of the UPS system:

| Display Model 1 – LED symbols   | Display Model 2 – LED symbols   | LED color | LED description  |
|---|---|-----------|--|
|  |  | Green     | <ul style="list-style-type: none"> <li>Green LED on: The load is protected</li> <li>Green LED + orange LED on: The load is protected, but the system reports an alarm at warning level</li> <li>Orange LED + red LED on: The load is unprotected and the system reports an alarm at warning level and an alarm at critical level</li> <li>Red on: The load is unprotected and the system reports an alarm at critical level</li> </ul> |
|  |  | Yellow    |  |
|  |  | Red       |  |

## Display Symbols

| Symbol  | Description   |
|---|---|
|  | The locked home button appears when the system is locked by a password protection. Tap this button to go to the home screen of the display.     |
|  | The unlocked home button appears when the system has been unlocked using the password. Tap this button to go to the home screen of the display. |
|  | Tap the OK button to confirm your selections and exit the current screen.   |
|  | Tap the ESC button to cancel your changes and exit the current screen.  |
|  | Tap the filter button to set up the filters for your logs.  |
|  | Tap the recycle bin button to clear the log.  |

# Operation Modes

The Galaxy UPS has two different levels of operation mode:

- **UPS Operation Mode:** The operation mode of the operated UPS. See *UPS Modes*, page 16.
- **System Operation Mode:** The operation mode of the complete UPS system. See *System Modes*, page 20.

## UPS Modes

### eConversion Mode

eConversion provides a combination of maximum protection and highest efficiency, that permits to reduce the electricity absorbed by the UPS by a factor three compared with double conversion. eConversion is now the generally recommended operation mode and is enabled by default in the UPS but it can be disabled via the display menu. When enabled, eConversion can be set to always active or on a set schedule configured through the display menu.

In eConversion the UPS supplies the active part of the load through the static bypass as long as the utility/mains supply is within tolerance. The inverter is kept running in parallel so the input power factor of the UPS is maintained close to unity, regardless of the load power factor, as the reactive part of the load is significantly reduced in the UPS input current. In case of an interruption of the utility/mains supply, the inverter maintains the output voltage providing an uninterrupted transfer from eConversion to double conversion. The batteries are charged when the UPS is in eConversion mode and harmonics compensation is also provided.

eConversion mode can be used for the Galaxy VX UPS in the following conditions:

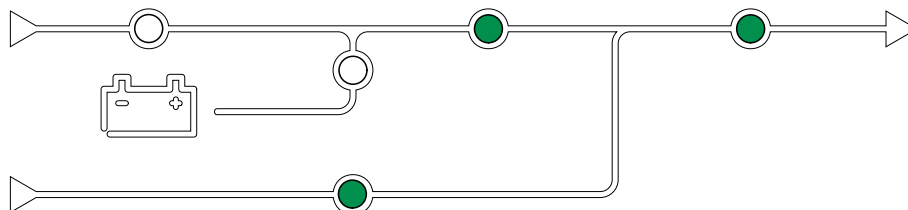
- The minimum load on the UPS is 5-10%.
- Voltage fluctuation is  $\leq 10\%$  versus nominal voltage (adjustable setting from 3% to 10%).
- THDU is  $\leq 5\%$ .

**NOTE:** When changes to eConversion mode settings are made on one UPS in a parallel system, the settings are shared to all UPSs in the parallel system.

**NOTE:** When a genset/generator is in use and frequency fluctuations are seen (typically due to downsizing), it is recommended to configure an input contact to disable high efficiency modes while the genset/generator is on.

**NOTE:** If external synchronization is required, it is generally recommended to disable eConversion.

While the UPS is in eConversion, the bypass, inverter, and load LEDs are green, and the battery and input LEDs are off.

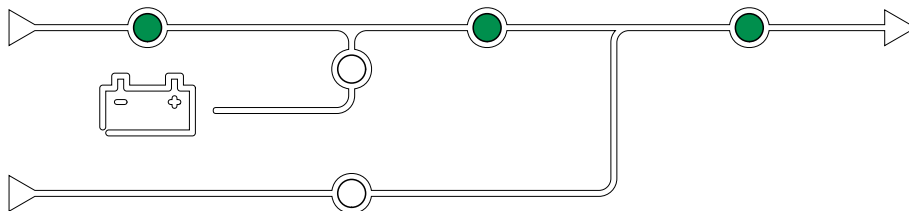




## Double Conversion (Normal Operation)

The UPS supports the load with conditioned power. Double conversion mode permanently creates a perfect sinewave at the system output, but this operation also uses more electricity.

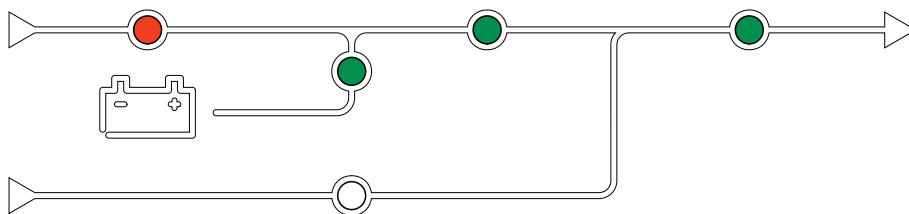
While the UPS is in double conversion, the input, inverter, and load LEDs are green, and the battery and bypass LEDs are off.



## Battery Operation

If the utility/mains supply fails, the UPS transfers to battery operation and supports the load with conditioned power from the DC source.

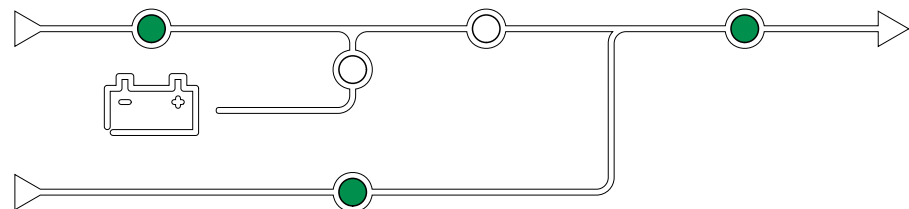
While the UPS system is in battery operation, the battery, inverter, and load LEDs are green, the bypass LED is off and the input LED is red.



## 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 double conversion (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.

During requested static bypass, the input, bypass and output LEDs are green and the battery and inverter LEDs are off.

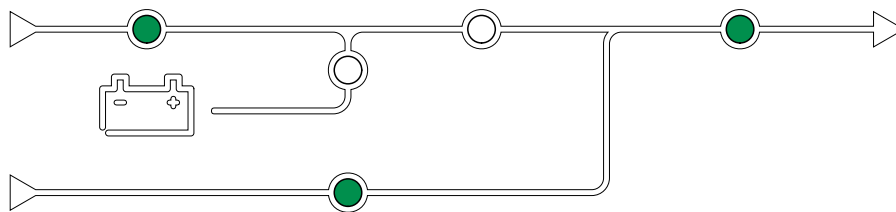


## Forced Static Bypass Operation

The UPS is in forced static bypass operation following a command from the UPS 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.

During forced static bypass, the input, bypass and output LEDs are green and the battery and inverter LEDs are off or red if an alarm is present.



## Maintenance Bypass Operation

When the maintenance bypass breaker MBB is closed in the external maintenance bypass cabinet, maintenance bypass panel, 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 maintenance bypass breaker MBB.

**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.

## Inverter Standby

**NOTE:** Inverter standby is only applicable to an individual UPS in a parallel system.

The UPS enters inverter standby if there is an interruption to the utility/mains supply of one UPS and the other UPS units of the parallel system can support the load with the configured redundancy level maintained. This is to avoid that the batteries are being drained in situations where it is not necessary.

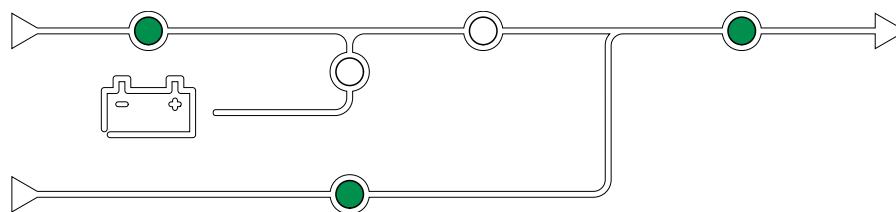
## ECO Mode

**NOTE:** ECO mode must be enabled by a Schneider Electric field service engineer.

In ECO mode the UPS uses requested static bypass to power the load as long as the power quality is within tolerance. If a fault is detected (bypass voltage out of tolerance, output voltage out of tolerance, power interruption, etc) the UPS will transfer to double conversion (normal operation) or forced static bypass. Depending on the transfer conditions, a minimal interruption of the load supply may happen (up to 10 ms). The batteries are charged when the UPS is in ECO mode. The main advantage of ECO mode is a reduction in the consumption of electrical power compared with double conversion.

**NOTE:** When changes to ECO mode settings are made on one UPS in a parallel system, the settings are shared to all UPSs in the parallel system.

During ECO mode, the input, bypass and output LEDs are green and the battery and inverter LEDs are off.



## Self-test

After start-up of the UPS system, the UPS will perform an automatic self-test. The status and progress of the self-test are indicated by the flashing LEDs on the mimic diagram.

When the self-test has been passed, the LEDs will indicate the operation mode of the UPS system.

**NOTE:** If an LED continues to flash after completion of the self-test, please call Schneider Electric.

## Battery Test Mode

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 is present and the UPS will return to normal operation upon return of utility/mains.

## OFF Mode

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

## System Modes

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

### eConversion Mode

eConversion provides a combination of maximum protection and highest efficiency, that permits to reduce the electricity absorbed by the UPS by a factor three compared with double conversion. eConversion is now the generally recommended operation mode and is enabled by default in the UPS but it can be disabled via the display menu. When enabled, eConversion can be set to always active or on a set schedule configured through the display menu.

In eConversion the UPS system supplies the active part of the load through the static bypass as long as the utility/mains supply is within tolerance. The inverter is kept running in parallel so the input power factor of the UPS system is maintained close to unity, regardless of the load power factor, as the reactive part of the load is significantly reduced in the UPS system input current. In case of an interruption of the utility/mains supply, the inverter maintains the output voltage providing an uninterrupted transfer from eConversion to double conversion. The batteries are charged when the UPS system is in eConversion mode and harmonics compensation is also provided.

eConversion mode can be used for the Galaxy VX UPS system in the following conditions:

- The minimum load on the UPSs is 5-10%.
- Voltage fluctuation is  $\leq 10\%$  versus nominal voltage (adjustable setting from 3% to 10%).
- THDU is  $\leq 5\%$ .

**NOTE:** When changes to eConversion mode settings are made on one UPS in a parallel system, the settings are shared to all UPSs in the parallel system.

**NOTE:** When a genset/generator is in use and frequency fluctuations are seen (typically due to downsizing), it is recommended to configure an input contact to disable high efficiency modes while the genset/generator is on.

**NOTE:** If external synchronization is required, it is generally recommended to disable eConversion.

### Inverter Operation

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

### Requested Static Bypass Operation

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

### Forced Static Bypass Operation

The UPS 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 UPS 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 via the maintenance bypass breaker MBB.

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

## ECO Mode

In ECO mode the UPS system uses requested static bypass to power the load as long as the power quality is within tolerance. If a fault is detected (bypass voltage out of tolerance, output voltage out of tolerance, power interruption, etc) the UPS system will transfer to double conversion (normal operation) or forced static bypass. Depending on the transfer conditions, a minimal interruption of the load supply may happen (up to 10 ms). The batteries are charged when the UPS system is in ECO mode. The main advantage of ECO mode is a reduction in the consumption of electrical power compared with double conversion.

**NOTE:** When changes to ECO mode settings are made on one UPS in a parallel system, the settings are shared to all UPSs in the parallel system.

## OFF Mode

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

## Frequency Converter Mode

In frequency converter mode the UPS is able to convert the frequency of the input source to a different frequency on the UPS output.

**NOTE:** Frequency converter mode must be configured by Schneider Electric during service configuration.

The possible input/output frequencies are 50/50 Hz, 50/60 Hz, 60/50 Hz and 60/60 Hz. This is set under output frequency.

When the UPS is configured as frequency converter static bypass is not available:

- Transfer to static bypass is disabled
- Alarms and events related to the static bypass switch and the bypass source are disabled (not shown)
- References to the static bypass switch and the MBB are removed from the mimic diagram in the display and UPS Tuner
- Guided sequences are changed to support startup and shutdown of the UPS with no bypass available

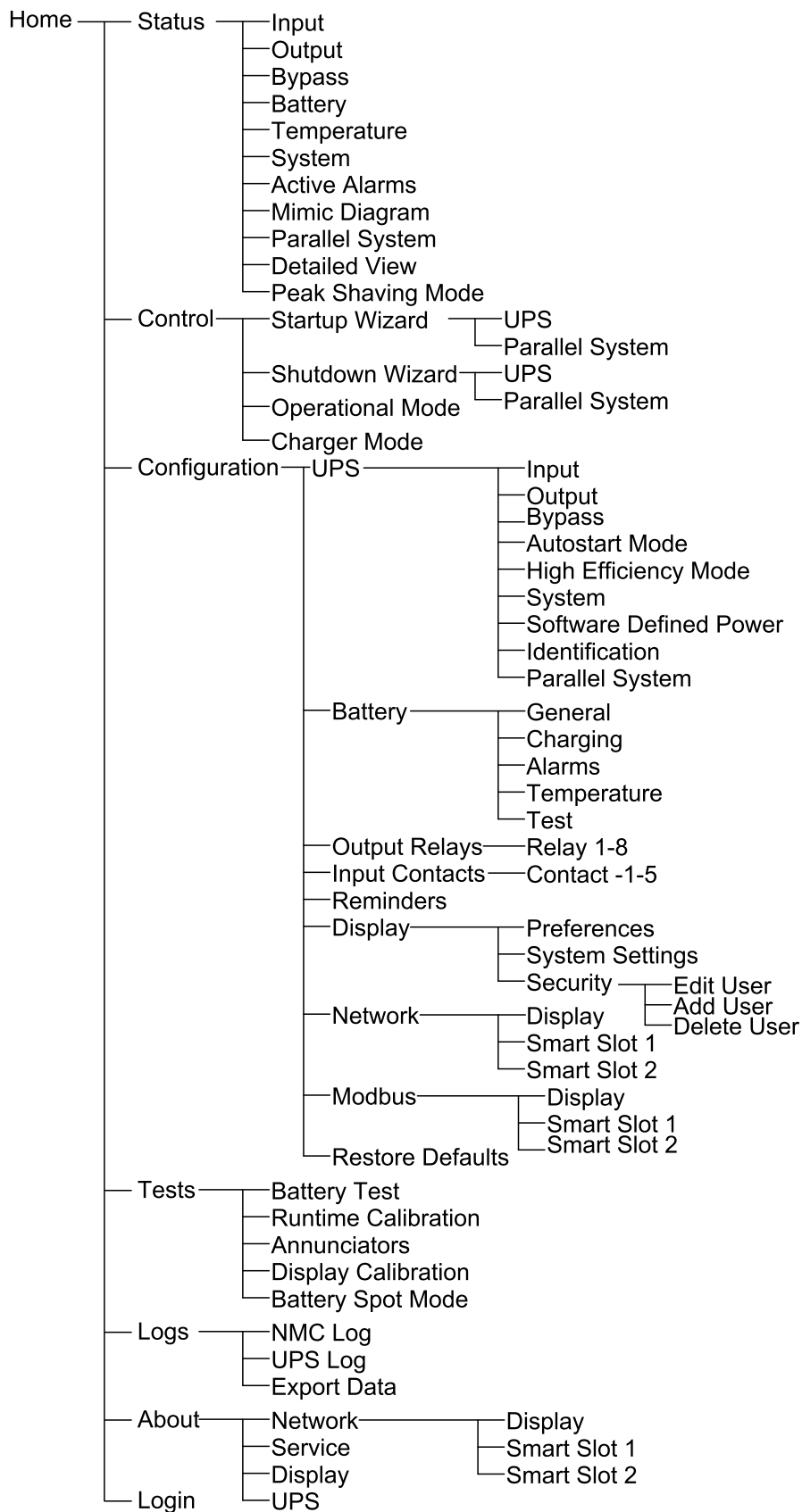
It is possible to run battery self-test and battery runtime calibration even when there is no bypass available.

**NOTE:** In frequency converter mode the capacitor lifetime is reduced by 40%.

# UPS Display

## UPS Display Menu Tree

**NOTE:** The display menu tree is dependent on your system configuration. All screens might not be available on your UPS.

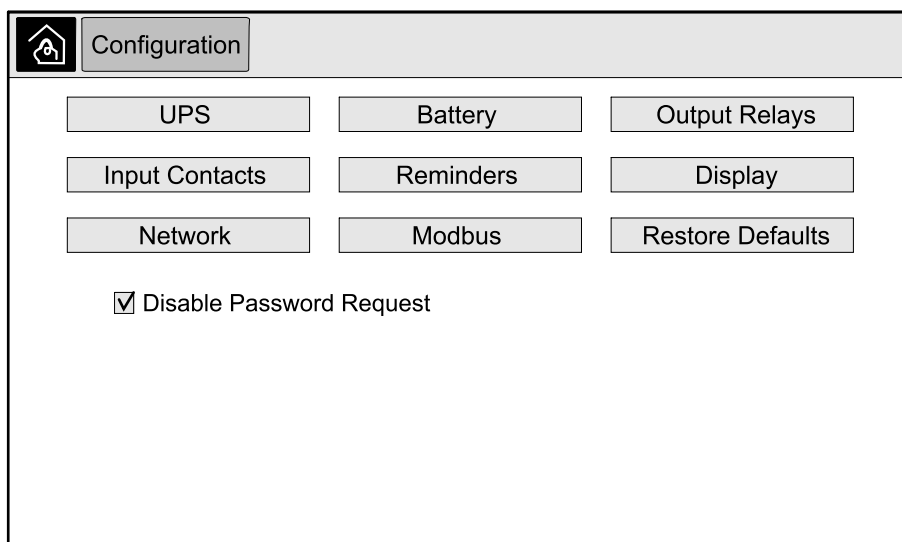


## Configuration from the UPS Display

### Disable Password Request

1. From the home screen on the display select **Configuration**.
2. Select **Disable Password Request**.


**NOTE:** When **Disable Password Request** has been enabled, it is no longer required to enter the password when configuring or operating the UPS. However when changing this setting, the password is required.



The screenshot shows the 'Configuration' menu on the UPS display. At the top, there is a home icon and a 'Configuration' header. Below the header, there are nine buttons arranged in a 3x3 grid: 'UPS', 'Battery', 'Output Relays', 'Input Contacts', 'Reminders', 'Display', 'Network', 'Modbus', and 'Restore Defaults'. At the bottom of the screen, there is a checkbox labeled 'Disable Password Request' which is currently checked.

### Add a New User or Edit an Existing User

1. From the home screen on the display select **Configuration > Display > Security**.
2. Select **Add User** to add a new user or select **Edit User** to edit an existing user of the system.



The screenshot shows the 'Add User' screen on the UPS display. At the top, there is a home icon and a navigation bar with four buttons: 'Configuration', 'Display', 'Security', and 'Add User'. Below the navigation bar, there are three input fields labeled 'Name:', 'Pin:', and 'Confirm Pin:'. At the bottom right of the screen, there are two buttons labeled 'ESC' and 'OK'.

3. In the **Name** field, type in the name of the user. Complete with **Enter**.
4. In the **Pin** field, type in a pin code for the user. Complete with **Enter**.
5. In the **Confirm Pin** field, retype the pin code of the user. Complete with **Enter**.



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

## Delete a User

1. From the home screen on the display select **Configuration > Display > Security > Delete User**.
2. Browse to the user that you wish to delete using the up and down arrows and tap **OK**.
3. Tap **Yes** to confirm deletion of an existing user of the system.

## Configure the Display Preferences

1. From the home screen on the display select **Configuration > Display > Preferences**.

The screenshot shows the 'Display Preferences' screen. At the top, there are three tabs: 'Configuration', 'Display', and 'Preferences'. The 'Preferences' tab is selected. Below the tabs, the settings are as follows:

- Language:** A dropdown menu showing 'English' with up and down arrow buttons.
- Date Format:** A dropdown menu showing 'mm/dd/yyyy' with up and down arrow buttons.
- Temperature:** Two radio button options: 'US Customary' (selected) and 'Metric'.
- Manual:** A radio button option that is currently unselected.
- Current Date:** A text input field.
- Current Time:** A text input field.
- Synchronize with NTP Server:** A radio button option that is currently unselected.

At the bottom right of the screen, there are two buttons: 'ESC' and 'OK'.

2. Select the preferred language using the up and down arrows.
3. Select the preferred date format using the up and down arrows.
4. Select the preferred temperature units: **US Customary** (°Fahrenheit) or **Metric** (°Celsius).
5. Set the current date and time using one of the below two methods:
  - Set the date and time manually on the display by selecting **Manual** and typing the actual date and time and completing with **Enter**.
  - Set the date and time automatically by selecting **Synchronize with NTP server** (Network Time Protocol server).

**NOTE:** NTP server settings can be configured in the network management interface via the Web, command line, or config file.

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

## Configure the Display Settings

1. From the home screen on the display select **Configuration > Display > System Settings**.

The screenshot shows the 'System Settings' menu on a UPS display. At the top, there are three tabs: 'Configuration' (with a home icon), 'Display', and 'System Settings'. The 'System Settings' tab is selected. Below the tabs, the settings are as follows:

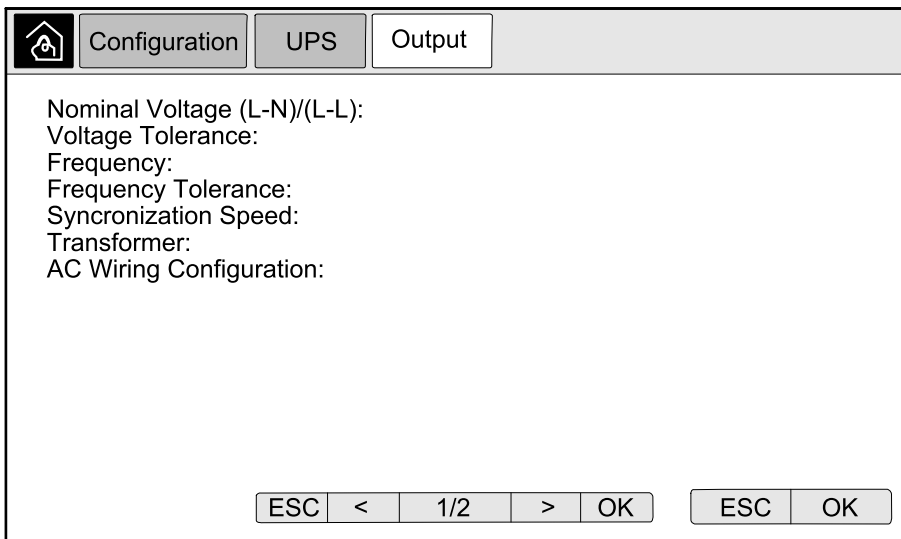
- Alarm Volume:** A slider control set to 'Low'.
- Button Volume:** A slider control set to 'Medium'.
- Brightness:** A slider control set to 'High'.
- Backlight Timeout:** A checkbox labeled 'Enable' is checked. Below it is a slider control set to '10' minutes.
- Auto Log Off:** A slider control set to '1' minutes.
- Intensity:** A slider control set to 'Off'.

At the bottom right of the screen, there are two buttons: 'ESC' and 'OK'.

2. Set the **Alarm Volume**. Choose between: **Off**, **Low**, **Medium**, and **High**.
3. Set the **Button Volume**. Choose between: **Off**, **Low**, **Medium**, and **High**.
4. Set the **Brightness** of the display. Choose between: **Low**, **Medium**, and **High**.
5. Enable or disable **Backlight Timeout**. If you wish to enable backlight timeout, set the time limit in minutes for enabling backlight timeout. Choose between: **60**, **30**, **10**, **5**, and **1**.
6. Set the intensity of the backlight. Choose between: **Off**, **Very Low**, **Low**, and **Medium**.
7. Set the time limit in minutes for automatic log off. Choose between: **60**, **30**, **10**, **5**, and **1**.
8. Tap **OK** to save your settings.

## Configure the UPS Output Voltage Compensation

1. From the home screen on the display select **Configuration > UPS > Output**.
2. Tap arrow to the right to go to the next output configuration screen.



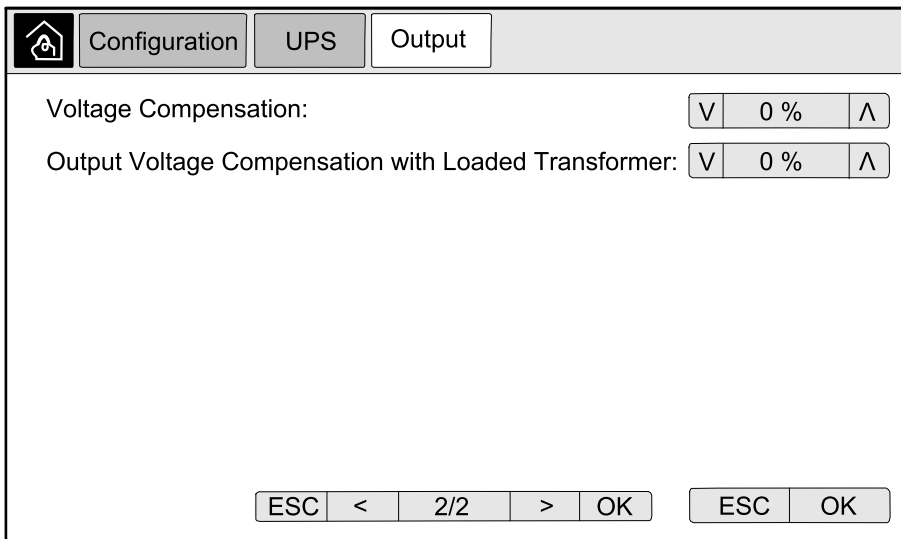
The screenshot shows the 'Output' configuration screen. At the top, there are three tabs: 'Configuration' (with a home icon), 'UPS', and 'Output'. Below the tabs, the following settings are listed:

- Nominal Voltage (L-N)/(L-L):
- Voltage Tolerance:
- Frequency:
- Frequency Tolerance:
- Synchronization Speed:
- Transformer:
- AC Wiring Configuration:

At the bottom, there are two sets of navigation buttons. The first set includes 'ESC', '<', '1/2', '>', and 'OK'. The second set includes 'ESC' and 'OK'.

3. Under **Voltage Compensation** select the preferred voltage compensation for your system. Choose between **-3%**, **-2%**, **-1%**, **0%**, **1%**, **2%**, or **3%**.

**NOTE:** This setting is shared between all UPSs in a parallel system.



The screenshot shows the 'Output' configuration screen with the 'Voltage Compensation' settings. At the top, there are three tabs: 'Configuration' (with a home icon), 'UPS', and 'Output'. Below the tabs, the following settings are listed:

- Voltage Compensation: V 0 % ^
- Output Voltage Compensation with Loaded Transformer: V 0 % ^

At the bottom, there are two sets of navigation buttons. The first set includes 'ESC', '<', '2/2', '>', and 'OK'. The second set includes 'ESC' and 'OK'.

4. Under **Output Voltage Compensation with Loaded Transformer** select the preferred output voltage compensation to compensate for load dependent transformer voltage drop. Choose between **0%**, **1%**, **2%**, or **3%**.

**NOTE:** This setting must be identical for all UPSs in a parallel system.

**NOTE:** When this setting is set to 0%, the output transformer voltage compensation is disabled.

5. Tap **OK** to confirm your setting.

## Configure High Efficiency Mode

**NOTE:** ECO Mode must be enabled by Schneider Electric during service configuration to make this selection available.

The UPS returns to high efficiency mode after 10 seconds under normal operating conditions. If an unstable mains forces the UPS to exit high efficiency mode more than one to ten times (this setting must be configured by Schneider Electric) within 24 hours, the UPS will disable high efficiency mode. An informational alarm will be generated, and **Disabled by system** will be shown on the screen **Configuration > UPS > High Efficiency Mode**. High efficiency must then be manually reactivated.

- From the home screen on the display select **Configuration > UPS > High Efficiency Mode** and configure the following settings:

Configuration   UPS   High Efficiency Mode

ECO Mode:  
Feature Enabled in Tuner

Select High Efficiency Mode:

☐ Disable

☐ ECO Mode

☐ eConversion

☐ eConversion Harmonics Compensator

☐ Disabled by system

ESC   <   1/2   >   OK

- Select High Efficiency Mode:** Choose between **Disable**, **ECO Mode**, **eConversion**, and **eConversion Harmonics Compensator**.

- Tap **>** and configure the schedule settings:

Configuration   UPS   High Efficiency Mode

Schedule:   [V] Programmed   [^]

Active Schedules List:   None

Schedule Settings

[V] 1 [^]   [x] Enable

Start Day:   Start Time:

[V] Monday [^]   [00:00] hr [0 - 23]

End Day:   End Time:

[V] Monday [^]   [00:00] hr [0 - 23]

ESC   <   2/2   >   OK

- Schedule:** Select when the system should enter the selected eConversion or ECO mode. Choose between **Always**, **Programmed** and **Never**.
- Active Schedules List:** If you chose **Programmed** above, select **Enable** and set the time and date for when the system should enter the selected eConversion or ECO mode.

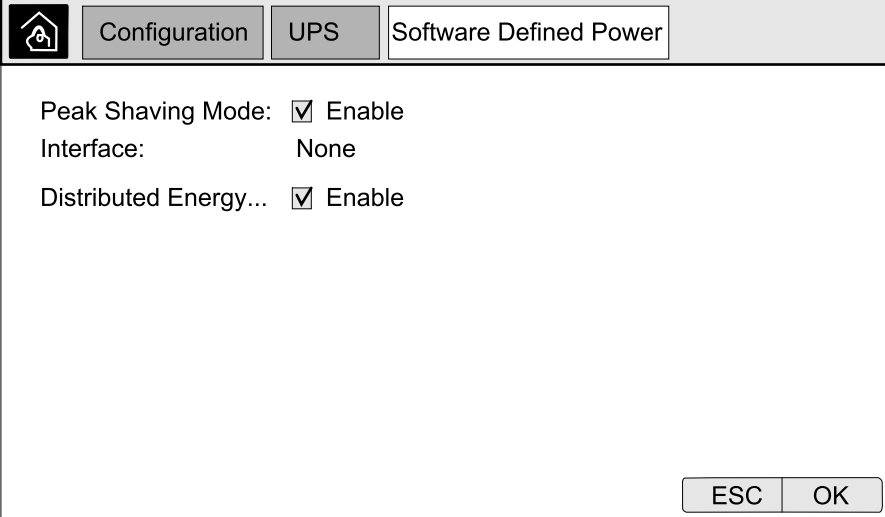
- Tap **OK** to confirm your settings.

## Enable Peak Shaving Mode

**Peak Shaving Mode** allows the UPS to reduce peak power consumed from the utility/mains supply.

**NOTE:** Peak shaving mode must be enabled locally by Schneider Electric during service configuration to make this selection available, but it must be controlled via a remote software application. Contact Schneider Electric for more details.

1. From the home screen on the display select **Configuration > UPS > Software Defined Power**.
2. For **Peak Shaving Mode** select **Enable**.



The screenshot shows a touch-screen interface with a top navigation bar containing a home icon and three menu items: 'Configuration', 'UPS', and 'Software Defined Power'. The 'Software Defined Power' menu is currently selected. Below the navigation bar, the 'Peak Shaving Mode' is set to 'Enable' with a checked checkbox. The 'Interface' is set to 'None'. The 'Distributed Energy...' option is also set to 'Enable' with a checked checkbox. At the bottom right of the screen, there are two buttons labeled 'ESC' and 'OK'.

| Configuration  | UPS | Software Defined Power |
|--|-----|------------------------|
| Peak Shaving Mode: <input checked="" type="checkbox"/> Enable    |     |                        |
| Interface: None  |     |                        |
| Distributed Energy... <input checked="" type="checkbox"/> Enable |     |                        |
| ESC OK   |     |                        |

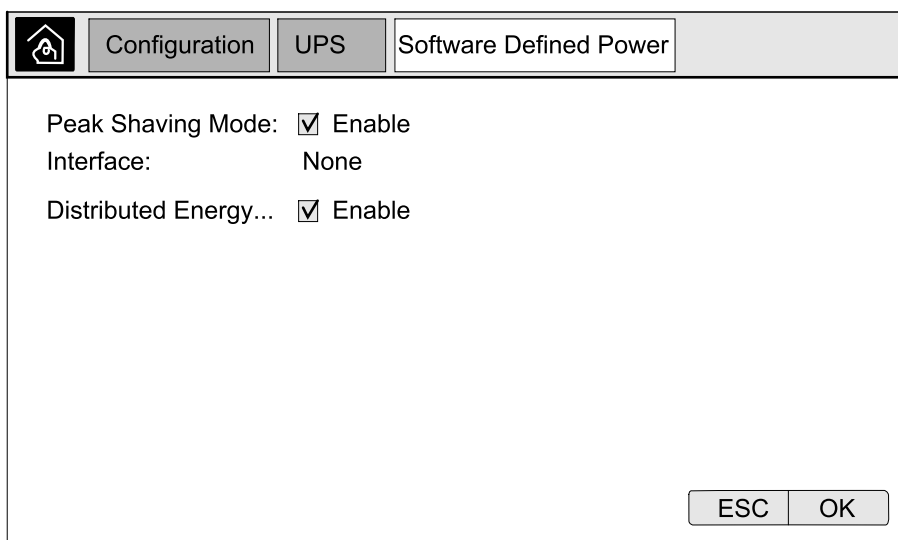
3. Tap **OK** to confirm your settings.

## Configure Distributed Energy Reserve

**Software Defined Power** must be enabled before the feature **Distributed Energy Reserve** can be used. **Software Defined Power** must be enabled by Schneider Electric.

**NOTE: Distributed Energy Reserve** must be enabled locally by Schneider Electric during service configuration to make this selection available, but it must be controlled via an external controller that monitors the grid frequency. In the event of a sudden decrease in grid frequency, the UPS can be commanded remotely via a dedicated input contact to transfer to **Distributed Energy Reserve** mode. Contact Schneider Electric for more details.

1. Configure an input contact for **Distributed Energy Reserve**, see [Configure the Input Contacts](#), page 32.
2. From the home screen on the display select **Configuration > UPS > Software Defined Power**.



The screenshot shows a three-level menu structure on a display. The top bar contains three buttons: a home icon, 'Configuration', and 'UPS'. The 'Configuration' button is selected, and the 'UPS' button is highlighted. Below this, the 'Software Defined Power' menu is open, showing three settings: 'Peak Shaving Mode' with a checked checkbox and the word 'Enable', 'Interface' with the value 'None', and 'Distributed Energy...' with a checked checkbox and the word 'Enable'. At the bottom right of the menu are two buttons: 'ESC' and 'OK'.

3. Set **Distributed Energy Reserve** to **Enable** or **Disable**. When the feature **Distributed Energy Reserve** is set to **Enable**, the UPS delivers power back to the grid for a short period (up to 30 seconds) to stabilize the frequency (Hz) of the grid, when activated by a signal from the dedicated input contact. When the feature **Distributed Energy Reserve** is set to **Disable**, the UPS will transfer to forced battery operation, when activated by a signal from the dedicated input contact, but will not deliver power back to the grid.
4. Tap **OK** to confirm your settings.

## Set the UPS Identification

**NOTE:** **User Defined Name** and **User Defined Location** must be configured via the network management interface. For more information see [Access a Configured Network Management Interface](#), page 54.

1. From the home screen on the display select **Configuration > UPS > Identification**.
2. Select to have the UPS identified via **Model Name**, **User Defined Name** or **User Defined Location**.

Configuration   UPS   Identification

Identification: Galaxy VX 1000 kVA

UPS Title:

☒ Model Name

☐ User Defined Name

☐ User Defined Location

ESC   <   1/2   >   OK

3. Tap arrow to the right to go to the next configuration screen.
4. Tap the text box and type a name for the individual breakers or keep the default settings. The alias is limited to four characters.

Configuration   UPS   Identification

| <u>Breaker Identification</u> | <u>Default</u> | <u>Alias</u> |
|-------------------------------|----------------|--------------|
| System Isolation Breaker:     | SIB            | XXXX         |
| Unit Input Breaker:           | UIB            | XXXX         |
| Static Switch Input Breaker:  | SSIB           | XXXX         |
| Maintenance Bypass Breaker:   | MBB            | XXXX         |
| Unit Output Breaker:          | UOB            | XXXX         |
| Bypass Backfeed Breaker:      | BF2            | XXXX         |
| Battery Breaker:              | BB             | XXXX         |

ESC   <   2/2   >   OK

5. Tap **OK** to confirm your settings.

## Configure the Input Contacts

1. On the display select **Configuration > Input Contacts** and select the input contact that you wish to configure.

Configuration Input Contacts Contact 1

Signal Alarm/Event when:

V None ^

ESC OK

2. Choose between the below options:

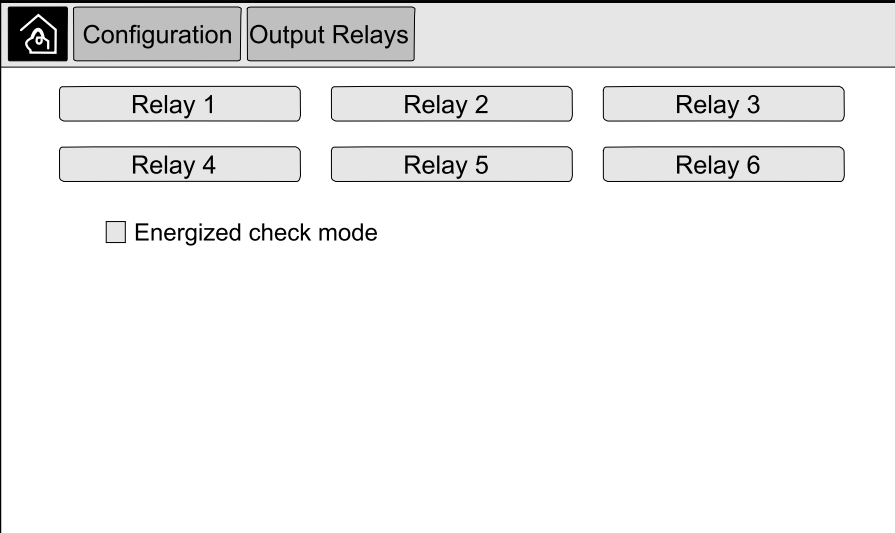
|  |   |
|--|---|
| <b>Custom Input 1:</b> General purpose input.  | <b>External Battery Monitoring Detected Fault:</b> Input to indicate that the external battery monitor has detected a fault.  |
| <b>Custom Input 2:</b> General purpose input.  | <b>Battery Room Ventilation Inoperable:</b> Input to indicate that the battery room ventilation is inoperable. When the input is active, the battery charger will turn off.           |
| <b>Ground fault:</b> Input to indicate that a ground fault is present.   | <b>Supplied By Genset:</b> Input to indicate that the UPS is running on generator. The battery charge current will be reduced to the value set by Schneider Electric during start-up. |
| <b>Inhibit Transfer from Static Bypass:</b> When this input is active, and the system enters requested static bypass or forced static bypass, the system will be locked in static bypass as long as the input is active. | <b>External energy storage: minor alarm:</b> Input to indicate that the external energy storage monitor reports a minor alarm.  |
| <b>External energy storage: major alarm:</b> Input to indicate that the external energy storage monitor reports a major alarm.   | <b>Force the Charger to Turn Off:</b> Input that forces the charger to turn off.  |
| <b>Flywheel inoperable:</b> Input to indicate that the flywheel is inoperable.   | <b>Disable High Efficiency Mode:</b> Input to disable the use of high efficiency mode   |
| <b>Request bypass operation:</b> Input that will transfer the UPS into requested static bypass operation if the conditions for a transfer are met.   | <b>Force battery operation:</b> Input that will force a transfer to battery operation.  |
| <b>Distributed Energy Reserve:</b> Input that will activate <b>Distributed Energy Reserve</b> mode.  | <b>DC ground fault present:</b> Input that will activate the alarms for DC ground fault.  |
| <b>Command the UPS to inhibit bypass transfer:</b> Input that will inhibit the UPS from transferring to bypass operation.  |   |

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



## Configure the Output Relays

1. On the display select **Configuration > Output Relays**.
2. Select to enable or disable **Energized check mode**.
  - When **Energized check mode** is enabled the output relays are ON. If a signal is received or the power supply to the relay is lost, the circuit will open and the relay will be deactivated.
  - When **Energized check mode** is disabled the output relays are OFF. If a signal is received, the circuit will close and the relay will be activated.



The screenshot shows the 'Configuration' menu with 'Output Relays' selected. Below the menu, there are six buttons labeled 'Relay 1' through 'Relay 6' arranged in two rows of three. Below the relay buttons is a checkbox labeled 'Energized check mode'.

3. Select the output relay that you wish to configure.

4. Select the function that you wish to use the specific output relay for from the list below:

|   |  |
|---|--|
| <b>Common Alarm:</b> The output is triggered when any alarm is present.   | <b>Normal Operation:</b> The output is triggered when the UPS is running in normal operation.  |
| <b>Battery Operation</b> <sup>2</sup> : The output is triggered when the UPS is running in battery operation.   | <b>Maintenance Bypass</b> <sup>3</sup> : The output is triggered when the UPS is running in maintenance bypass operation.                        |
| <b>Static Bypass</b> <sup>2</sup> : The output is triggered when the UPS is running in forced static bypass operation or requested static bypass operation. | <b>High Efficiency Mode:</b> The output is triggered when the UPS is running in eConversion or ECO mode.   |
| <b>Output Overload:</b> The input is triggered when there is an overload condition.   | <b>Fan Inoperable:</b> The output is triggered when one or more fans are inoperable.   |
| <b>Battery is not Working Correctly</b> <sup>2</sup> : The output is triggered when the batteries are not working correctly.                                | <b>Battery Disconnected</b> <sup>2</sup> : The output is triggered when the batteries have been disconnected or the battery breaker(s) are open. |
| <b>Battery Voltage Low</b> <sup>2</sup> : The output is triggered when the battery voltage is below the threshold.  | <b>Input Out of Tolerance:</b> The output is triggered when the input is out of tolerance.   |
| <b>Bypass Out of Tolerance</b> <sup>3</sup> : The output is triggered when the bypass is out of tolerance.  | <b>UPS Warning:</b> The output is triggered when a warning alarm is present.   |
| <b>UPS Critical:</b> The output is triggered when a critical alarm is present.  | <b>Parallel Redundancy Lost:</b> The output is triggered when the specified redundancy has been lost.  |
| <b>External Fault:</b> The output is triggered when a fault external to the UPS is present.   | <b>UPS Maintenance Mode:</b> The output is triggered when the unit output breaker (UOB) is open.   |
| <b>System Warning:</b> The output is triggered when a warning alarm is present in a parallel system.  | <b>System Critical:</b> The output is triggered when a critical alarm is present in a parallel system.   |
| <b>System Common Alarm:</b> The output is triggered when any alarm is present in a parallel system.   | <b>Emergency power off activated:</b> The output is triggered when the EPO has been activated.   |
| <b>Transfer to static bypass disabled</b>   | <b>UPS informational alarm:</b> The output is triggered when an information alarm is present.  |
| <b>System informational alarm:</b> The output is triggered when an information alarm is present in a parallel system.                                       |  |

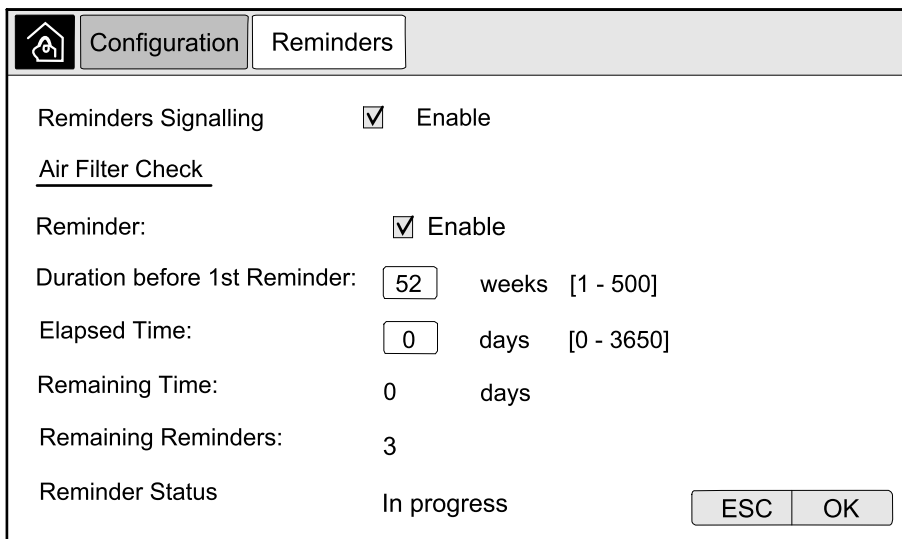
5. Set the delay in seconds for the specific output to activate. Select a value between 0 and 60 seconds.
6. Tap **OK** to save your settings.

2. Not available when operating as a frequency converter without batteries.  
 3. Not available when operating as a frequency converter.

## Configure Reminder Settings

When the air filters have been replaced, the reminders settings must be updated.

1. From the home screen on the display select **Configuration > Reminders**.



Configuration Reminders

Reminders Signalling ☒ Enable

Air Filter Check

Reminder: ☒ Enable

Duration before 1st Reminder:  weeks [1 - 500]

Elapsed Time:  days [0 - 3650]

Remaining Time: 0 days

Remaining Reminders: 3

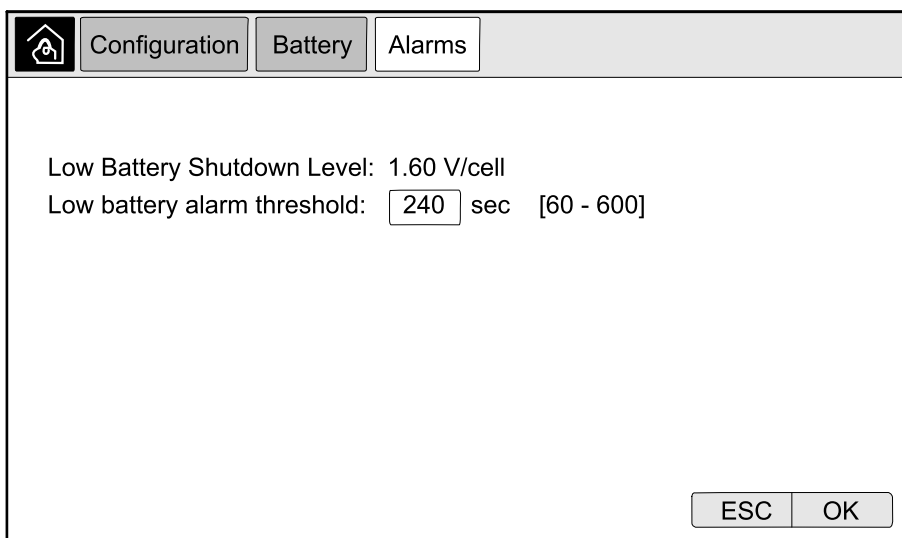
Reminder Status In progress

ESC OK

2. Configure the following settings:
  - a. **Reminders Signalling**: Select **Enable** to enable the display of all reminders.
  - b. **Reminder**: Select **Enable** to enable the display of reminders for air filter replacement.
  - c. **Duration before 1st Reminder**: Set the time in weeks before the first reminder is shown.
  - d. **Elapsed Time**: Manually set the number of days that the air filters have been used.
3. Tap **OK** to confirm your settings.

## Configure Battery Alarm Threshold

1. From the home screen on the display select **Configuration > Battery > Alarms**.



Configuration Battery Alarms

Low Battery Shutdown Level: 1.60 V/cell

Low battery alarm threshold:  sec [60 - 600]

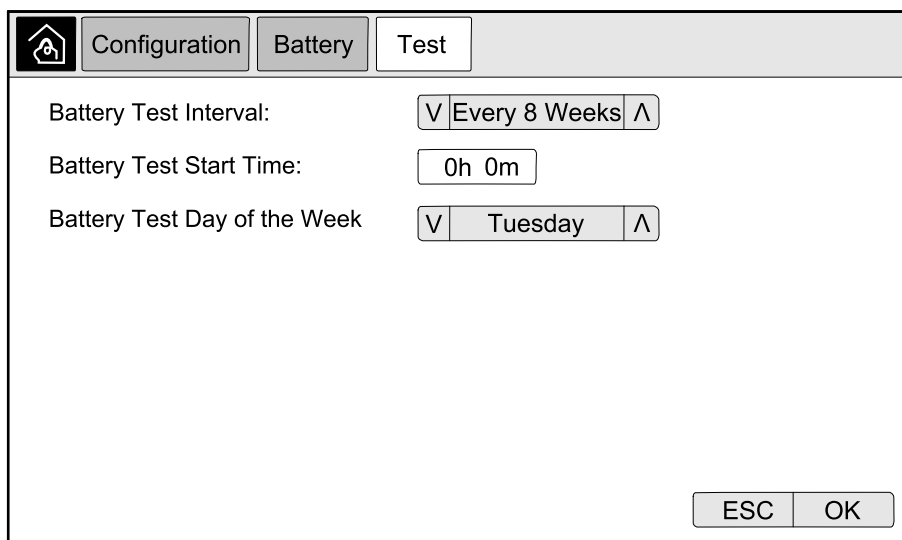
ESC OK

2. Select your preferred battery alarm threshold in seconds. Select a value between 60 and 6000 seconds and complete with **Enter**.

3. Tap **OK** to confirm your setting.

## Configure Automatic Battery Test

1. From the home screen on the display select **Configuration > Battery > Test**.



The screenshot shows the 'Test' configuration screen for the battery. The top bar contains three tabs: 'Configuration', 'Battery', and 'Test'. The 'Test' tab is active. Below the tabs, the following settings are displayed:

- Battery Test Interval:** A dropdown menu showing 'Every 8 Weeks' with up and down arrow buttons.
- Battery Test Start Time:** A time selection field showing '0h 0m'.
- Battery Test Day of the Week:** A dropdown menu showing 'Tuesday' with up and down arrow buttons.

At the bottom right of the screen, there are two buttons: 'ESC' and 'OK'.

2. Set your preferred settings for the automatic battery test:
  - a. **Battery Test Interval:** Select your preferred interval for battery tests. Choose between: **Never**, **Every 52 Weeks**, **Every 26 Weeks**, **Every 12 Weeks**, **Every 8 Weeks**, **Every 4 weeks**, **Every 2 Weeks**, or **Once a Week**.  
**NOTE:** If you run battery tests too frequently it can reduce the lifetime of the batteries.
  - b. **Battery Test Start Time:** Select the time of the day in 24 hour format that the test should take place and complete with **Enter**.
  - c. **Battery Test Day of the Week:** Select the day of the week that the test should take place and complete with **Enter**.
3. When all settings have been completed, tap **OK** to confirm your settings.

## Configure the Network

The network can be configured for the display and for the cards in Smart Slot 1 and Smart Slot 2.

1. From the home screen on the display select **Configuration > Network** and select either **Display**, **Smart Slot 1**, or **Smart Slot 2** if present.
2. Configure the following settings:
  - a. **TCP/IPv4: Enable IPv4** (if applicable), and select the **Address Mode** (**Manual**, **DCHP**, or **BOOTP**).

The screenshot shows a configuration menu on a UPS display. At the top, there is a navigation bar with a home icon and four tabs: Configuration, Network, Display, and TCP/IPv4. The TCP/IPv4 tab is selected. Below the tabs, there is a checkbox labeled 'Enable IPv4' which is checked. Underneath, the 'Address Mode' is set to 'DHCP' using a dropdown menu with 'V' and '^' indicators. Below the dropdown, there is an unchecked checkbox labeled 'Require vendor specific cookies to accept DHCP'. Further down, the 'Manual Settings' section is visible, showing three rows: 'System IP', 'Subnet Mask', and 'Default Gateway'. Each row has two input fields, both containing '0.0.0.0'. At the bottom right, there are two buttons: 'ESC' and 'OK'.

- b. **TCP/IPv6: Enable IPv6** (if applicable), select **Auto Configuration** or **Manual Configuration**, and select the **DHCPv6 Mode** (**Router controlled**, **Non-Address Information Only**, **Never**, or **Address and Other Information**).

**NOTE:** Tap **Addresses** to see all valid IPv6 addresses.

Configuration Network Display TCP/IPv6

☒ Enable IPv6

☒ Auto Configuration Addresses

☐ Manual Configuration

Manual Settings

System IP

Default Gateway

DHCPv6 Mode

☒ Router Controlled ☐

ESC OK

- c. **Web Access: Enable Web** (if applicable) and select the **Access Mode** (**HTTP** or **HTTPS**).

**NOTE:** Not available for Smart Slots.

Configuration Network Display Web Access

☒ Enable Web

Access Mode

☒ HTTP ☐

Port  [80, 5000 - 32768]

Restore Port To Default

ESC OK

- d. **FTP server: Enable FTP** (if applicable).

**NOTE:** Not available for Smart Slots.

Configuration Network Display FTP server

☒ Enable FTP

Port  [21, 5001 - 32768]

Restore Port To Default

ESC OK

## Configure the Modbus

The modbus can be configured for the display and for the cards in Smart Slot 1 and Smart Slot 2.

**NOTE:** Only the display and optional Network Management Card AP9635 can be used for serial modbus.

1. From the home screen on the display select **Configuration > Modbus** and select either **Display**, **Smart Slot 1**, or **Smart Slot 2**.
2. Configure the modbus by enabling **Serial** or **TCP** access, and adding the needed values.

The screenshot shows the Modbus configuration interface. At the top, there are three tabs: 'Configuration' (with a home icon), 'Modbus', and 'Display'. The 'Modbus' tab is selected. Below the tabs, there are two sections: 'Serial' and 'TCP'. The 'Serial' section has the following settings: 'Access' is checked (Enable), 'Address' is 1 (range [1-247]), 'Baud Rate' is 9600 (range [9600-115200]), and 'Parity' is Even (range [Even-Odd]). The 'TCP' section has the following settings: 'Access' is unchecked (Disable), and 'Port' is 502 (range [502, 5000-32768]). At the bottom right, there are two buttons: 'ESC' and 'OK'.

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

## Restore Default Configuration

1. From the home screen on the display select **Configuration > Restore Defaults**.


The screenshot shows the 'Restore Defaults' screen. At the top, there is a navigation bar with a home icon, a 'Configuration' tab, and a 'Restore Defaults' tab. Below the tabs, there are three radio button options: 'Restart Network Interface', 'Reset All', and 'Reset Only'. Under 'Reset All', there is a checkbox labeled 'Exclude TCP/IP'. Under 'Reset Only', there are three checkboxes: 'TCP/IP', 'Event Configuration', and 'Display Settings'. At the bottom right of the screen, there are two buttons: 'ESC' and 'OK'.

2. Select one of the below options:
  - **Restart Network Interface:** Select this option to restart network interface.
  - **Reset All:** Select this option to reset all settings to default. You can select to leave out the TCP/IP settings from the reset procedure.
  - **Reset Only:** Select this option if you only wish to reset parts of the settings to default values. You can select to reset the following settings: **TCP/IP**, **Event Configuration**, and **Display Settings**.
3. When you have made your selection, tap **OK** to reset the selected settings to default.



# Operation Procedures from the UPS Display

## Access Password-Protected Screens

|                      |     |     |   |   |
|----------------------|-----|-----|---|---|
| V                    |     |     |   | Λ |
| Pin                  |     |     |   |   |
| <input type="text"/> |     |     |   |   |
| 1                    | 2   | 3   | ±   |   |
| 4                    | 5   | 6   | :   |   |
| 7                    | 8   | 9   | .   |   |
| 0                    | ESC | DEL |  |   |

1. When prompted for the password, select your username.
2. Type in the pin code for your username.  
**NOTE:** The default pin code is 1234.
3. Change the password. For more information see [Change the User Password](#), page 72.

## View the System Status Information

**NOTE:** The display does not show real time data, and a comparison between the display and an external power analyzer will not show the same data. Please allow for a tolerance of  $\pm 1\%$  for voltages,  $\pm 3\%$  for power, and  $\pm 3\%$  for currents.

1. From the home screen on the display select **Status**.

## 2. Select the area for which you wish to see the status. Choose between:

**Input**

|  |   |
|--|---|
| <b>Voltage</b> (phase-to-neutral) <sup>4</sup> | The present phase-to-neutral input voltage in volts (V).  |
| <b>Current</b>                                 | The present input current from the AC utility power source per phase in amperes (A).  |
| <b>Maximum RMS Current</b>                     | The maximum current for the latest 30 days.   |
| <b>Apparent Power</b>                          | The present apparent power input for each phase in kVA. Apparent power is the product of RMS (root mean square) volts and RMS amperes.  |
| <b>Active Power</b>                            | 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. |
| <b>Power Factor</b>                            | The ratio of the active power to apparent power.  |
| <b>Voltage</b> (phase-to-phase)                | The present phase-to-phase input voltage.   |
| <b>Total Apparent Power</b>                    | The present total apparent power input (for all three phases) in kVA.   |
| <b>Total Active Power</b>                      | The present total active power input (for all three phases) in kW.  |
| <b>Frequency</b>                               | The present input frequency in hertz (Hz).  |
| <b>Energy</b>                                  | The total energy consumption since the time of installation or since the number was reset.  |

**Output**

|  |  |
|--|--|
| <b>Voltage</b> (phase-to-neutral) <sup>4</sup> | The phase-to-neutral output voltage at the inverter in volts (V).  |
| <b>Current</b>                                 | The present output current for each phase in amperes (A).  |
| <b>Maximum RMS Current</b>                     | The maximum current for the latest 30 days.  |
| <b>Apparent Power</b>                          | The present apparent power output for each phase in kVA. Apparent power is the product of RMS (root mean square) volts and RMS amperes.  |
| <b>Active Power</b>                            | 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. |
| <b>Power Factor</b>                            | The present output power factor for each phase. Power factor is the ratio of active power to apparent power.   |
| <b>Current Crest Factor</b>                    | The present output crest factor for each phase. The output crest factor is the ratio of the peak value of the output current to the RMS (root mean square) value.  |
| <b>Current THD</b>                             | The THD (total harmonic distortion) for each phase, as a percentage, for the present output current.   |
| <b>Voltage</b> (phase-to-phase)                | The phase-to-phase output voltage at the inverter in volts (V).  |
| <b>Total Apparent Power</b>                    | The present apparent power output for each phase in thousands of Volt-Amps (kVA). Apparent power is the product of RMS (root mean square) volts and RMS amperes.   |
| <b>Total Active Power</b>                      | The present total active output power (for all three phases) in kilowatts (kW).  |
| <b>Load</b>                                    | The percentage of the UPS capacity presently used across all phases. The load percentage for the highest phase load is displayed.  |
| <b>Neutral Current</b> <sup>4</sup>            | The present output neutral current in amperes (A).   |
| <b>Frequency</b>                               | The present output frequency in hertz (Hz).  |
| <b>Inverter Status</b>                         | The general condition of the inverter.   |
| <b>PFC Status</b>                              | The general condition of the PFC.  |
| <b>Energy</b>                                  | The total energy supplied since the time of installation or since the value was reset.   |

**Bypass**

|  |  |
|--|--|
| <b>Voltage</b> (phase-to-neutral) <sup>4</sup> | The present phase-to-neutral bypass voltage (V).           |
| <b>Current</b>                                 | The present bypass current for each phase, in amperes (A). |

4. Only applicable in systems with neutral connection.

**Bypass (Continued)**

|                                 |   |
|---------------------------------|---|
| <b>Maximum RMS Current</b>      | The maximum current for the latest 30 days.   |
| <b>Apparent Power</b>           | The present apparent bypass power for each phase in kVA. Apparent power is the product of RMS (root mean square) volts and RMS amperes.                 |
| <b>Active Power</b>             | 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. |
| <b>Power Factor</b>             | The present bypass power factor for each phase. Power factor is the ratio of active power to apparent power.  |
| <b>Voltage</b> (phase-to-phase) | The present phase-to-phase bypass voltage (V).  |
| <b>Total Apparent Power</b>     | The present total apparent bypass power (for all three phases) in thousands of Volt-Amps (kVA).   |
| <b>Total Active Power</b>       | The present total active bypass power (for all three phases) in kilowatts (kW).   |
| <b>Frequency</b>                | The present bypass frequency in hertz (Hz).   |

**Battery**

|                               |   |
|-------------------------------|---|
| <b>Voltage</b>                | The present battery voltage.  |
| <b>Current</b>                | The present battery current in amperes (A).<br>A positive current indicates that the battery is charging; a negative current indicates that the battery is discharging. |
| <b>Power</b>                  | The present DC power being drawn from the battery, in kilowatts (kW).   |
| <b>Estimated Charge Level</b> | The present battery charge, as a percentage of full charge capacity.  |
| <b>Estimated Charge Time</b>  | The estimated time, in minutes, until the batteries reach 100% charge.  |
| <b>Runtime Remaining</b>      | The amount of time in hours and minutes before the batteries reach the low-voltage shutdown level.  |
| <b>Charger Mode</b>           | The operation mode of the charger (Off, Float, Boost, Equalization, Cyclic, Test).  |
| <b>Battery Status</b>         | The general condition of the battery.   |
| <b>Charger Status</b>         | The general condition of the charger.   |
| <b>Total Battery Capacity</b> | The total capacity available from the available batteries.  |
| <b>Temperature</b>            | The highest battery temperature from the connected temperature sensors.   |

**Temperature**

|                            |  |
|----------------------------|--|
| <b>Ambient Temperature</b> | Ambient temperature in degrees Celsius or Fahrenheit for the I/O cabinet and each power cabinet. |
|----------------------------|--|

**System**

|                              |  |
|------------------------------|--|
| <b>Output Voltage</b>        | The phase-to-phase output voltage at the inverter in volts (V).                                    |
| <b>Output Current</b>        | The present output current for each phase in amperes (A).  |
| <b>Output Frequency</b>      | The present output frequency in hertz (Hz).  |
| <b>Runtime Remaining</b>     | The amount of time in hours and minutes before the batteries reach the low-voltage shutdown level. |
| <b>System Time</b>           | The time of the UPS system.  |
| <b>UPS Operation Mode</b>    | The operation mode of the operated UPS.  |
| <b>System Operation Mode</b> | The operation mode of the complete UPS system.   |
| <b>Total Output Power</b>    | The apparent and active power (or real power) output for each phase.                               |

## System (Continued)

|                                   |   |
|-----------------------------------|---|
| <b>Overload Timer<sup>5</sup></b> | The time in seconds before the UPS changes to forced static bypass due to an overload condition on the system.<br><b>NOTE:</b> The system can be in an overload condition even though the <b>Total Output Power</b> is below 100% if the load is not equally shared between the three phases. |
| <b>Output Power</b>               | The phase-to-phase apparent and active power (or real power) output for each phase.   |

## Parallel System

|                                    |  |
|------------------------------------|--|
| <b>Input Current</b>               | The present phase-to-phase input current in amperes (A).   |
| <b>Output Current</b>              | The present phase-to-phase output current in amperes (A).  |
| <b>Bypass Current</b>              | The present phase-to-phase bypass current in amperes (A).  |
| <b>Parallel UPS Number</b>         | The parallel UPS number of the operated UPS.   |
| <b>Parallel system redundancy</b>  | The redundancy for the parallel system.  |
| <b>Number of Parallel Units</b>    | The total number of UPSs in the parallel system.   |
| <b>Parallel Units</b>              | The numbers of all UPSs in the parallel system.  |
| <b>Output Total Apparent Power</b> | The present total apparent output power (for all three phases) in thousands of Volt-Amps (kVA).  |
| <b>Output Total Load</b>           | The percentage of the UPS system capacity presently used across all phases. The load percentage for the highest phase load is displayed. |

## Active Alarms

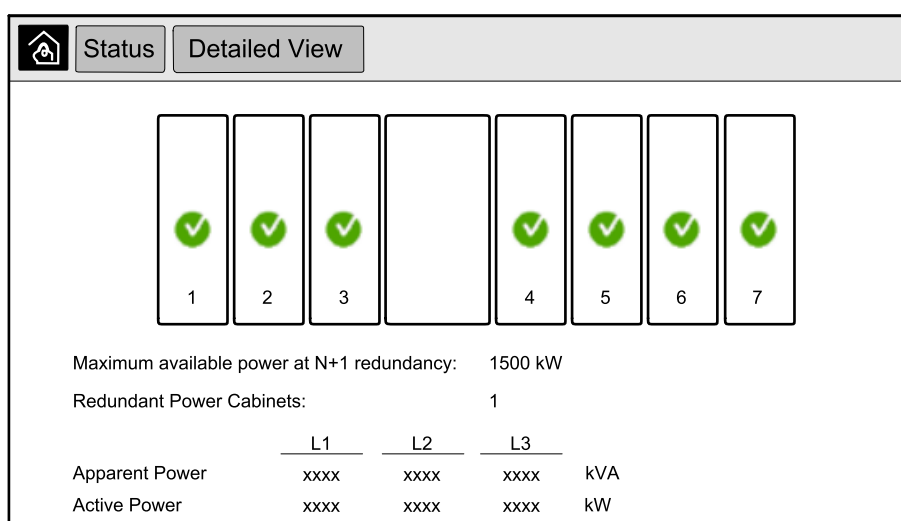
|                      |  |
|----------------------|--|
| <b>Active Alarms</b> | For more information on active alarms, go to <a href="#">View the Active Alarms</a> , page 61. |
|----------------------|--|

## Mimic Diagram

|                      |   |
|----------------------|---|
| <b>Mimic Diagram</b> | The mimic diagram shows the current status of the main parts of the UPS system: power sources, converters, bypass static switch and breakers, and it shows the power flow through the system. |
|----------------------|---|





## Detailed View

|                      |   |
|----------------------|---|
| <b>Detailed view</b> | The detailed view shows the system with a status icon on each individual power cabinet and the actual number of redundant power cabinets. The detailed view also shows the apparent power and active power per phase. |
|----------------------|---|



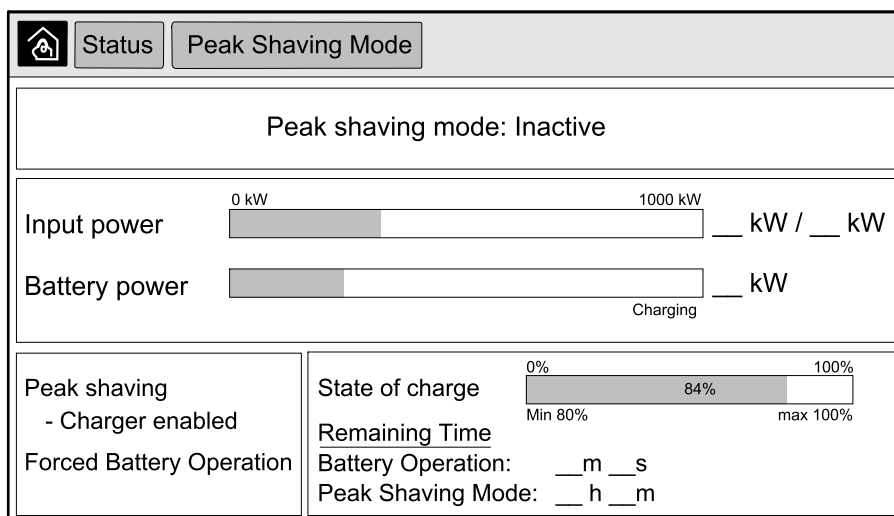
5. The overload timer is only visible when it is active.

## Symbols on the Detailed View Screen

|   |   |
|---|---|
|  | Indicates that the power cabinet is operational and working correctly   |
|  | Indicates that there is an informational alarm.   |
|  | Indicates that the power cabinet redundancy has been lost and/or an alarm of severity level <b>Warning</b> is present in the power cabinet. The power cabinet is still operational. |
|  | Indicates that the power cabinet is inoperable due to a critical event. The customer alarm <b>Power cabinet inoperable</b> is also displayed.                                       |

## Peak Shaving Mode

|                          |  |
|--------------------------|--|
| <b>Peak shaving mode</b> | The status of the peak shaving mode — <b>Active</b> or <b>Inactive</b>   |
| <b>Input power</b>       | The present input power (kW).  |
| <b>Battery power</b>     | The present battery power (kW). The bar is green when the batteries are charging and yellow when the batteries are discharging.      |
| <b>Peak shaving</b>      | Indicates if the charger is <b>enabled</b> or <b>disabled</b> and if forced battery operation is <b>enabled</b> or <b>disabled</b> . |
| <b>State of charge</b>   | The current charge status of the batteries.  |
| <b>Remaining time</b>    | The remaining time in battery operation and peak shaving mode.   |



- Tap the home button to exit the screens and return to the home screen.

## Start Up Single System from Maintenance Bypass Operation

Use this procedure to start up a single system from maintenance bypass operation with the load supplied through the MBB and all other breakers open.

**NOTE:** Only operate a breaker when the associated breaker LED is green.

1. Close the unit input breaker UIB.

This will power up the display interface after approximately 30 seconds.

2. From the home screen on the display, select **Control > Startup Wizard**. Select **Startup from Maintenance Bypass** and follow the steps which appear on the screen.

The following is a generic start-up procedure. Always follow the steps of the **Startup Wizard** which are specific to your system.

3. Close the static switch input breaker SSIB.
4. Close the backfeed protection switch (BF2) (if present), if it is open.
5. Close the battery breakers in your specific battery solution.
6. Initiate transfer to static bypass by tapping the **Transfer Load to static bypass** button on the display interface.  
  
In systems with kirk-keys, the key is released from the solenoid key release unit.  
  
If the UPS system does not transfer to requested static bypass, go to **Status > Active Alarms** to see if there are active alarms that prevent the UPS system from transferring to static bypass.
7. In systems with kirk-keys, insert the key in the lock on the unit output breaker UOB and turn to unlock.
8. Close the unit output breaker UOB.
9. Open the maintenance bypass breaker MBB.  
  
The system automatically transfers to normal operation.
10. In systems with kirk-keys, turn the key in the lock of the maintenance bypass breaker MBB to lock open.  
  
The key is released.
11. In systems with kirk-keys, insert the key in the solenoid key release unit and turn to capture the key.

## Shut Down Single System from Normal to Maintenance Bypass Operation

Use this procedure to shut down a single system to maintenance bypass operation with the load supplied through the MBB.

**NOTE:** Only operate a breaker when the associated breaker LED is green.

1. From the home screen on the display, select **Control > Shutdown Wizard**. Select **Shutdown ending in Maintenance Bypass** and follow the steps which appear on the screen.

**NOTE:** The following is a generic shutdown procedure. Always follow the steps of the **Shutdown Wizard** which are specific to your system.

2. Initiate transfer to static bypass by tapping the **Transfer Load to static bypass** button on the display interface.

In systems with kirk-keys, the key is released from the solenoid key release unit.

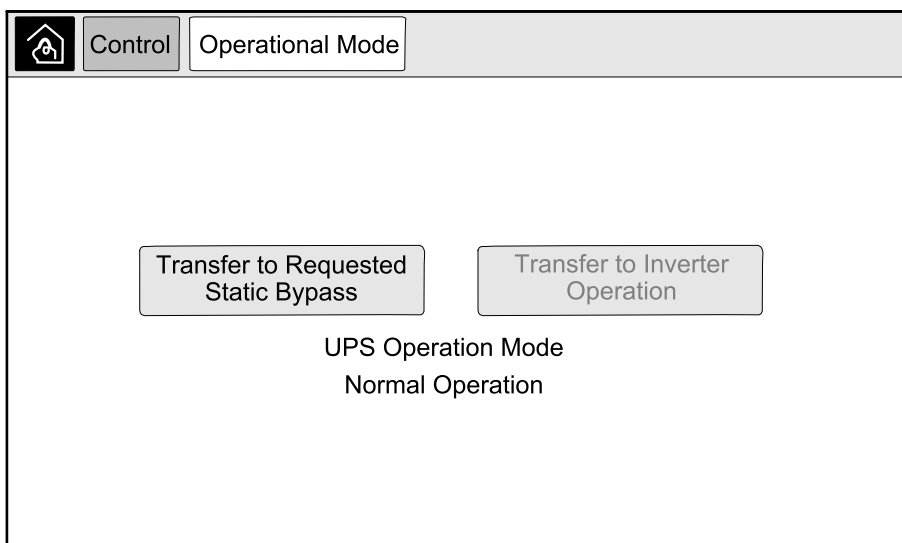
If the UPS system does not transfer to requested static bypass, go to **Status > Active Alarms** to see if there are active alarms that prevent the UPS system from transferring to static bypass.

3. In systems with kirk-keys, insert the key in the lock on the maintenance bypass breaker MBB and turn to unlock.
4. Close the maintenance bypass breaker MBB.  
In systems with kirk-keys, the key is held in the lock.
5. Open the unit output breaker UOB.
6. In systems with kirk-keys, turn the key in the lock on the unit output breaker UOB to lock open.  
The key is released.
7. In systems with kirk-keys, insert the key in the solenoid key release unit and turn to capture the key.
8. Open the static switch input breaker SSIB.
9. Initiate transfer to forced static bypass by tapping the Inverter OFF button on the front of the UPS system.
10. Open the battery breakers in your specific battery solution.
11. Open the unit input breaker UIB.



## Transfer UPS from Normal to Requested Static Bypass Operation

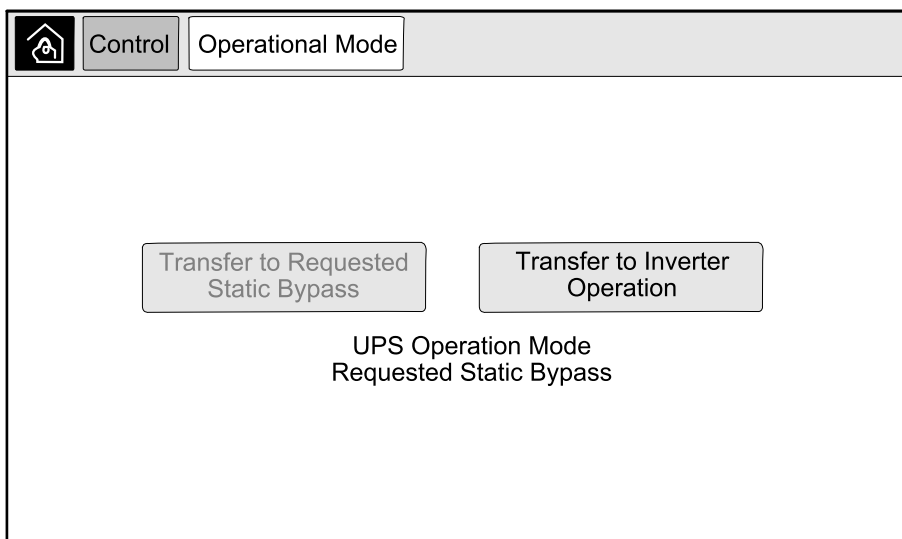
1. From the home screen on the display select **Control > Operational Mode**.



2. Tap the **Transfer to Requested Static Bypass** button.  
**NOTE:** If the conditions for performing a transfer are not met, the button will be grayed out.
3. Verify that the **UPS Operation Mode** changes to **Requested Static Bypass**.

## Transfer UPS from Requested Static Bypass Operation to Normal Operation

1. From the home screen on the display select **Control > Operational Mode**.



2. Tap the **Transfer to Inverter Operation** button.  
**NOTE:** If the conditions for performing a transfer are not met, the button will be grayed out.
3. Verify that the **UPS Operation Mode** changes to **Normal Operation**.

## Start Up Parallel System from Maintenance Bypass Operation

Use this procedure to start up a parallel system from maintenance bypass operation with the load supplied through the MBB and all other breakers open.

**NOTE:** Only operate a breaker when the associated breaker LED is green.

1. Close the unit input breaker UIB.

This will power up the display interface after approximately 30 seconds.

2. From the home screen on the display, select **Control > Startup Wizard**. Select **Startup from Maintenance Bypass** and follow the steps which appear on the screen.

**NOTE:** The following is a generic start-up procedure. Always follow the steps of the **Startup Wizard** which are specific to your system.

3. Close the static switch input breaker SSIB.
4. Close the backfeed protection switch (BF2) (if present), if it is open.
5. Close the battery breakers in your specific battery solution.
6. Initiate transfer to static bypass by tapping the **Transfer Load to static bypass** button on the display interface.  
In systems with kirk-keys, the key is released from the solenoid key release unit.  
If the UPS system does not transfer to static bypass, go to **Status > Active Alarms** to see if there are active alarms that prevent the UPS system from transferring to static bypass.
7. Close the unit output breaker UOB.
8. Repeat steps 1 to 7 for the remaining UPS units in the parallel system before continuing.
9. In systems with kirk-keys, insert the key from the solenoid key release unit in the lock on the system isolation breaker SIB and turn to unlock.
10. Close the system isolation breaker SIB.
11. Open the maintenance bypass breaker MBB.  
The system automatically transfers to normal operation.
12. In systems with kirk-keys, turn the key in the lock of the maintenance bypass breaker MBB to lock open.  
The key is released.
13. In systems with kirk-keys, insert the key in the solenoid key release unit and turn to capture the key.

## Shut Down Parallel System from Normal to Maintenance Bypass Operation

Use this procedure to shut down a parallel system to maintenance bypass operation with the load supplied through the MBB.

**NOTE:** Only operate a breaker when the associated breaker LED is green.

1. From the home screen on the display, select **Control > Shutdown Wizard**. Select **Shutdown ending in Maintenance Bypass** and follow the steps which appear on the screen.

**NOTE:** The following is a generic shutdown procedure. Always follow the steps of the **Shutdown Wizard** which are specific to your system.

2. Initiate transfer to static bypass by tapping the **Transfer Load to static bypass** button on the display interface.

In systems with kirk-keys, the key is released from the solenoid key release unit in the system bypass cabinet.

If the UPS system does not transfer to requested static bypass, go to **Status > Active Alarms** to see if there are active alarms that prevent the UPS system from transferring to static bypass.

3. Close the maintenance bypass breaker MBB.

In systems with kirk-keys, the key is held in the lock.

4. Open the system isolation breaker SIB.

5. In systems with kirk-keys, turn the key in the lock on the system isolation breaker SIB to lock open.

The key is released.

6. In systems with kirk-keys, insert the key in the solenoid key release unit and turn to capture the key.

7. Perform the following steps for each UPS unit in the parallel system:

- a. Open the unit output breaker UOB.
- b. Open the static switch input breaker SSIB.
- c. Initiate transfer to forced static bypass by tapping the Inverter OFF button on the front of the UPS system.
- d. Open the battery breakers in your specific battery solution.
- e. Open the unit input breaker UIB.

## Start Up and Add UPS to a Running Parallel System

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

**NOTE:** Only operate a breaker when the associated breaker LED is green.

1. Close the unit input breaker UIB.

This will power up the display interface after approximately 30 seconds.

2. From the home screen on the display, select **Control > Startup Wizard**. Select **Startup UPS into a parallel system** and follow the steps which appear on the screen.

**NOTE:** The following is a generic start-up procedure. Always follow the steps of the Startup Wizard which are specific to your system.

3. Close the static switch input breaker SSIB.
4. Close the backfeed protection switch (BF2) (if present), if it is open.
5. Close the battery breakers in your specific battery solution.
6. Close the unit output breaker UOB.
7. Turn the inverter on by tapping the Inverter ON button on the front of the UPS.

## Isolate this Single UPS 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 UPS units can supply the load.

**NOTE:** Only operate a breaker when the associated breaker LED is green.

1. From the home screen on the display, select **Control > Shutdown Wizard**. Select **Shut down UPS in a parallel system** and follow the steps which appear on the screen.

**NOTE:** The following is a generic shutdown procedure. Always follow the steps of the Shutdown Wizard which are specific to your system.

2. Turn off the UPS by pressing the Inverter OFF key on the front of the UPS.
3. Open the unit output breaker UOB.
4. Open the static switch input breaker SSIB.
5. Open the battery breakers in your specific battery solution.
6. Open the unit input breaker UIB.

## Start-Up System Operating as Frequency Converters

Use this procedure to start up a single system, a parallel system working as frequency converters, or to start up a single frequency converter and add it into a running parallel system working as frequency converters.

**NOTE:** Only operate a breaker when the associated breaker LED is green.

1. Close the unit input breaker UIB.  
This will power up the display interface after approximately 30 seconds.
2. From the home screen on the display, select **Control > Startup Wizard**. Select **Startup from Off Operation** and follow the steps which appear on the screen.

**NOTE:** The following is a generic startup procedure. Always follow the steps of the **Startup Wizard** which are specific to your system.

3. Close the battery breakers (if present).
4. Close the unit output breaker UOB.
5. Close the system isolation breaker SIB.
6. Tap **Turn Inverter On** on the display interface.

## Shut Down System Operating as Frequency Converters

Use this procedure to shut down a single system, a parallel system operating as frequency converters.

**NOTE:** Only operate a breaker when the associated breaker LED is green.

1. From the home screen on the display, select **Control > Shutdown Wizard**. Select **Shutdown ending in Off Operation** and follow the steps which appear on the screen.

**NOTE:** The following is a generic shutdown procedure. Always follow the steps of the **Shutdown Wizard** which are specific to your system.

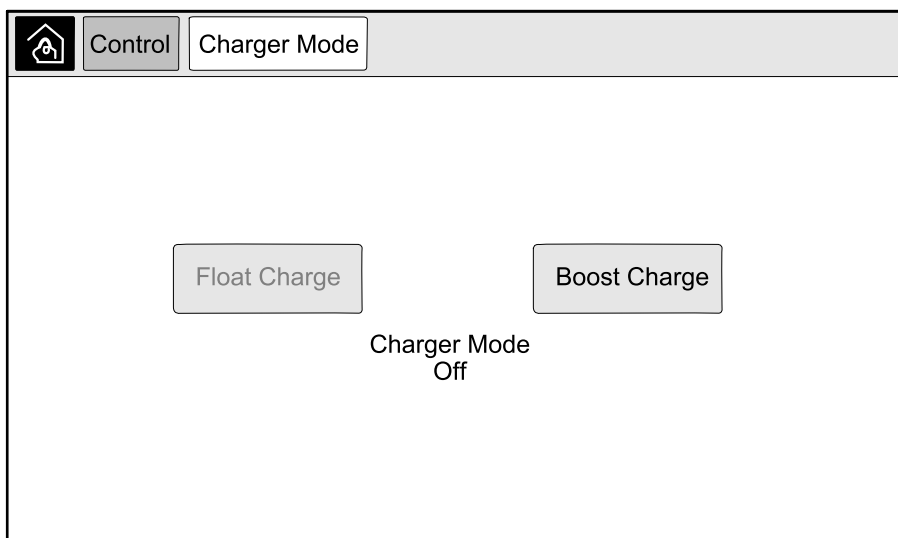
2. Open the unit output breaker UOB.
3. Open battery breakers (if present).
4. Open the unit input breaker UIB.
5. Repeat steps 1 to 4 on each Galaxy VX in the parallel system.
6. Open the system isolation breaker (if present).

## Start a Boost Charge of the Batteries

Boost charge gives the possibility of doing a fast recharge of a discharged battery.

**NOTE:** Boost charge must be enabled by Schneider Electric during start-up for this option to be available.

1. From the home screen on the display select **Control > Charger Mode**.



2. Select **Boost Charge** to initiate a single boost charge of the batteries.  
The UPS system starts boost charging the batteries.  
To stop the boost charge and go back to float charge, select **Float Charge**.

## Access a Configured Network Management Interface

The below procedure describes how to access the network management interface from a web interface. It is also possible to use the following interfaces:

- Telnet and SSH
- SNMP
- FTP
- SCP

**NOTE:** Ensure that only one network management interface in the entire system is set to synchronize time.

Use Microsoft Internet Explorer® 7.x or higher on Windows operating systems only or Mozilla® Firefox® 3.0.6 or higher on all operating systems to access the web interface of the network management interface. Other commonly available browsers may work but have not been fully tested.

You can use either of the following protocols when you use the web interface:

- The HTTP protocol, which provides authentication by user name and Pin but no encryption.
- The HTTPS protocol, which provides extra security through Secure Socket Layer (SSL); encrypts user names, Pin, and data being transmitted; and authenticates Network Management Cards by means of digital certificates.

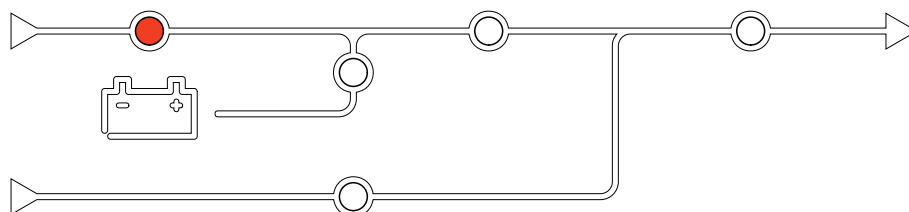
1. Access the network management interface by its IP address (or its DNS name, if a DNS name is configured).
2. Enter the user name and password.
3. To enable or disable the HTTP or HTTPS protocol, use the **Network** menu on the **Administration** tab, and select the **Access** option under the **Web** heading on the left navigation menu.

# Troubleshooting from the UPS

## Troubleshooting via the Mimic Diagram LEDs

The mimic diagram shows the status of the main functions and the energy flow supplying the load. The different LEDs are either green, red or turned off depending on the status of the system functions. In this section it is listed what a red LED on the mimic diagram is indicating to help troubleshooting.

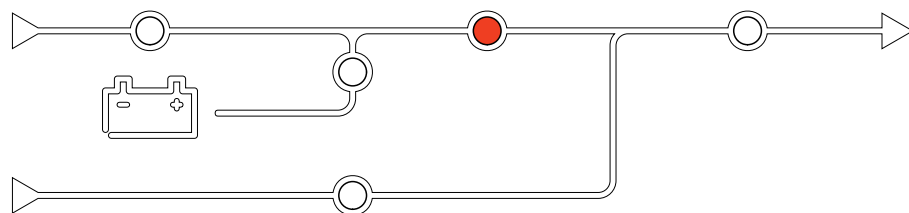
### Input LED



If the input LED is red, it can be caused by the following:

- UIB is open
- Input out of tolerance (waveform-, voltage-, or frequency out of tolerance)

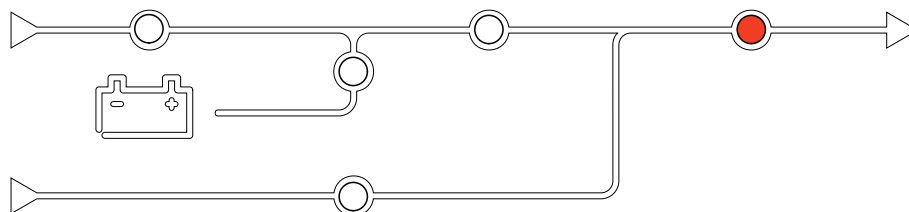
### Inverter LED



If the inverter LED is red, it can be caused by the following:

- Inverter inoperable

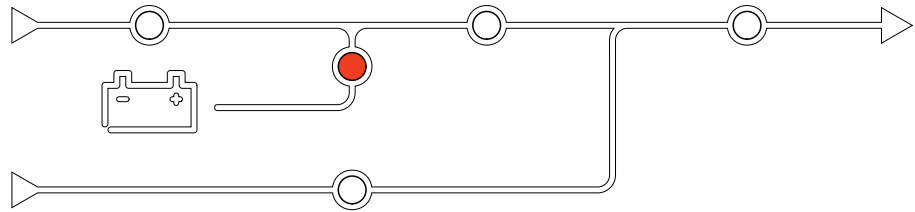
### Load LED



If the load LED is red, it can be caused by the following:

- UOB is open
- SIB is open
- Output voltage out of tolerance

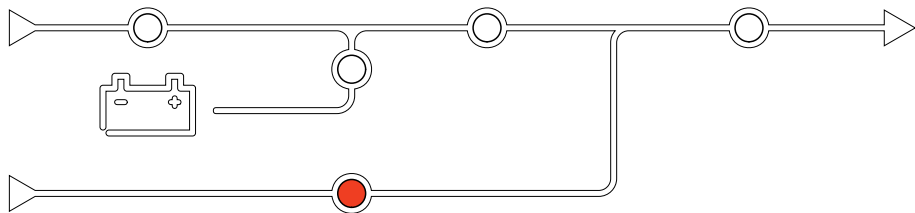
## Battery LED



If the Battery LED is red, it can be caused by the following:

- Critical battery alarm active
- Charger inoperable
- Battery breaker disconnected

## Bypass LED



If the bypass LED is red, it can be caused by the following:

- SSIB is open
- Static bypass switch inoperable
- Bypass out of tolerance
- BF2 (if present) is open

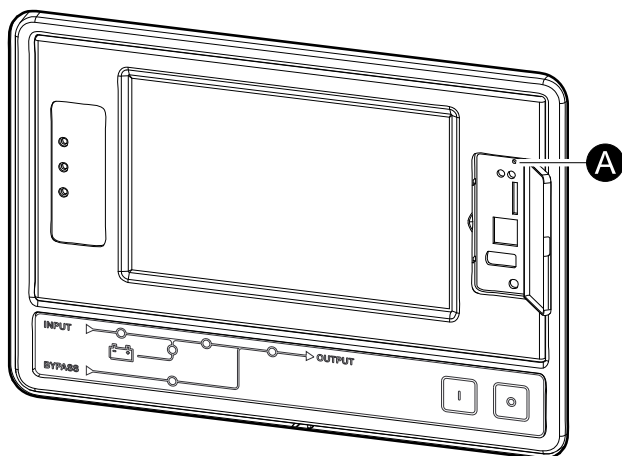


## Reboot the Display

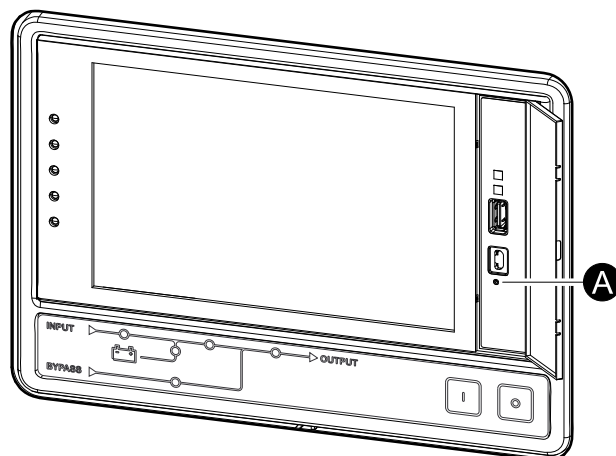
**NOTE:** A reboot of the display does not impact the settings made.

1. Open the shutter door on the front right side of the display.
2. Press the reboot button (A) with a pointed object like a pen or a paper clip.

**Display Model 1**



**Display Model 2**



The display is rebooted.

# Logs

There are two types of logs:

- NMC Log: Contains information about the display and network activities.
- UPS Log: Contains information about the system status and operation modes.

## View the NMC Log

1. From the home screen on the display select **Logs > NMC Log**.
2. You can browse through the list of the events using the arrows.

Logs

NMC Log

| Date/Time              | Event |
|------------------------|-------|
| XX:XX:XX<br>XX/XX/XXXX |       |
| XX:XX:XX<br>XX/XX/XXXX |       |
| XX:XX:XX<br>XX/XX/XXXX |       |
| XX:XX:XX<br>XX/XX/XXXX |       |
| XX:XX:XX<br>XX/XX/XXXX |       |

1 / 16

3. You can now perform the following operations in the event log:
  - a. Tap the filter button to filter the events. Different filter settings are available, including:

Logs

NMC Log

Filter

Event Time

☐ Last

V

All Logs

^

☐ From

01/01/2000

00:00

To

01/01/2000

00:00

Filter by Severity

☒ Show Critical Events

☒ Show Warning Events

☒ Show Informational Events

Power Events

System Events

ESC

OK








Filters for **Power Events**: **Communication, Device, Output, Input, Battery, UPS Operation Mode, Parallel System, Reminders, Switchgear, and/or RFC 1628 MIB.**

Filters for **System Events**: **Mass Configuration and/or Security.**

- b. Tap the recycle bin button to clear the event log and select **Yes** to confirm.
4. Tap the home button to exit the log.

## View the UPS Log

1. From the home screen on the display select **Logs > UPS Log**.

| <div><div></div><div>Logs</div></div> <div>UPS Log</div>  |  |       |
|--|--|-------|
| Date/Time  |  | Event |
| XX:XX:XX<br>XX/XX/XXXX   |  |       |
| XX:XX:XX<br>XX/XX/XXXX   |  |       |
| XX:XX:XX<br>XX/XX/XXXX   |  |       |
| XX:XX:XX<br>XX/XX/XXXX   |  |       |
| XX:XX:XX<br>XX/XX/XXXX   |  |       |
| <div>Refresh</div> <div></div> <div></div> <div></div> <div>1 / 16</div> <div></div> <div></div> <div></div> |  |       |

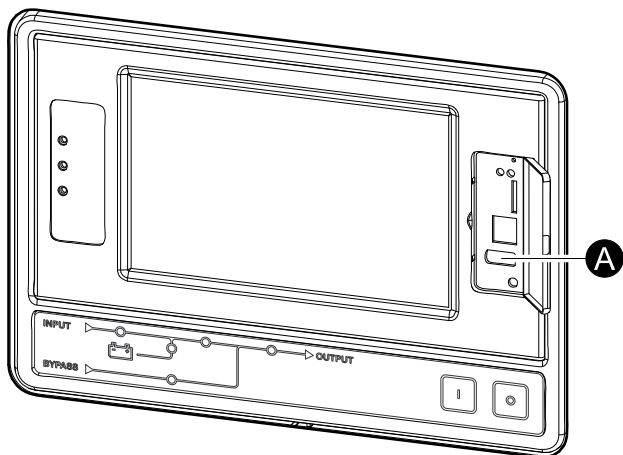
2. You can now browse through the list of the UPS events using the arrows.
3. You can perform the following operations in the UPS log:
  - a. Tap the filter button to filter the events. Different filter settings are available, including:  
Filters for **Power Events**: **Communication**, **Device**, **Output**, **Input**, **Battery**, **UPS Operation Mode**, **Parallel System**, **Reminders**, **Switchgear**, and/or **RFC 1628 MIB**.  
Filters for **System events**: **Mass Configuration** and/or **Security**.
  - b. Tap the recycle bin button to clear the UPS log and select **Yes** to confirm.
4. Tap the home button to exit the log.

## Export Data from Logs

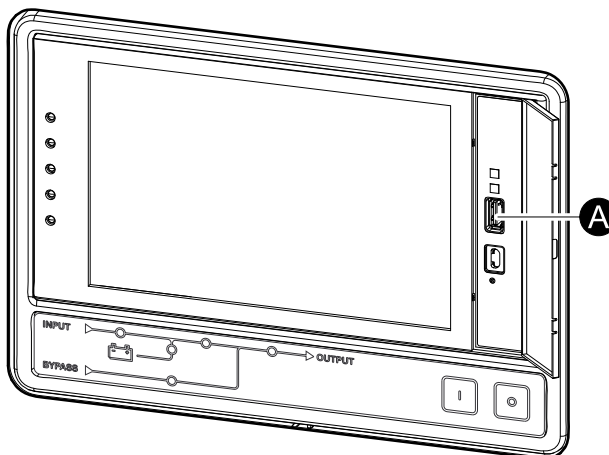
The exported log can only be used by Schneider Electric customer support for analysis.

1. From the home screen on the display select **Logs > Export Data**.
2. Insert a USB device in the USB port (A) located on the front of the display.

Display Model 1



Display Model 2



3. Tap the **Start Data Export** button.  
When the download is complete, the following message will be shown on the screen: **Data Exported Successfully. Remove USB device.**
4. Remove the USB device and tap the home button to exit the screen.
5. The exported data on the USB device can now be sent to Schneider Electric support for analyzing.

## View the Active Alarms

When there is an active alarm in the system, a symbol indicating the alarm level is shown in the top right corner of the screen and the buzzer is active.

1. From the home screen on the display select **Status > Active Alarms**.  
Tapping the display will also silence the buzzer temporarily without login. By logging in and tapping the display, the buzzer will be silenced permanently.
2. You can now browse through the list of active alarms using the left and right arrows.
3. Tap the **Refresh** button to update the list with the latest active alarms.

## Alarm Levels

There are three alarm levels:

- Critical: Take immediate action and call Schneider Electric.
- Warning: The load remains supported, but action must be taken. Call Schneider Electric.
- Informational: No immediate action required. Check the cause of the alarm as soon as possible.

## Alarm Messages

| Alarm/Event | Severity      | Display text  | Description  | Corrective action  |
|-------------|---------------|---|--|--|
| Alarm       | Warning       | <b>Abnormal state at input contact zone A</b>             | An abnormal state exists for integrated Environmental Monitor input contact zone A.                                    | Please check the environment.                                    |
| Alarm       | Warning       | <b>Abnormal state at input contact zone B</b>             | An abnormal state exists for integrated Environmental Monitor input contact zone B.                                    | Please check the environment.                                    |
| Alarm       | Warning       | <b>Air Filter technical check recommended</b>             | The air filters need to be checked as preventive maintenance is recommended.   | The air filters may need to be replaced.                         |
| Alarm       | Warning       | <b>Ambient temperature high</b>                           | Ambient temperature is high.   |  |
| Alarm       | Warning       | <b>Ambient temperature out of tolerance</b>               | The ambient temperature out of tolerance.  |  |
| Alarm       | Warning       | <b>Batteries are discharging</b>                          | The load is drawing more power than the UPS can draw from the input, causing the UPS to draw power from the batteries. |  |
| Alarm       | Warning       | <b>Battery breaker BB1 open</b>                           | Battery breaker BB1 is open.   |  |
| Alarm       | Warning       | <b>Battery breaker BB2 open</b>                           | Battery breaker BB2 is open.   |  |
| Alarm       | Warning       | <b>Battery breaker BB3 open</b>                           | Battery breaker BB3 open.  |  |
| Alarm       | Warning       | <b>Battery breaker BB4 open</b>                           | Battery breaker BB4 open.  |  |
| Alarm       | Warning       | <b>Battery capacity is below minimum acceptable level</b> | 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. |
| Event       | Informational | <b>Battery breakers tripped</b>                           | To prevent the batteries deep discharging, the battery breakers have been tripped by the system.                       | Close the battery breakers manually.                             |
| Alarm       | Warning       | <b>Battery condition is poor</b>                          | Battery capacity is lower than 50%.  | Batteries should be replaced.                                    |
| Alarm       | Warning       | <b>Battery condition is weak</b>                          | Battery capacity is between 50% to 75%.  |  |

| Alarm/<br>Event | Severity      | Display text   | Description   | Corrective action  |
|-----------------|---------------|--|---|--|
| Alarm           | Warning       | <b>Battery is below minimum acceptable runtime</b>                     | The battery runtime is below configured minimum acceptable value.   |  |
| Alarm           | Critical      | <b>Battery is not working correctly</b>                                | A battery is not working correctly.   | Please contact Schneider Electric.   |
| Alarm           | Warning       | <b>Battery room ventilation inoperable</b>                             | Input relay indicates that the battery room ventilation is not working correctly.   |  |
| Alarm           | Warning       | <b>Bypass backfeed breaker (BF2) open</b>                              | Bypass backfeed breaker (BF2) is open, and the UPS is prevented from running in normal operation.   |  |
| Alarm           | Warning       | <b>Breaker MBB closed</b>  | Maintenance bypass breaker MBB is closed, feeding the load with unprotected power from bypass.  |  |
| Alarm           | Warning       | <b>Breaker SIB open</b>  | System isolation breaker SIB is open, and system cannot feed the load.  |  |
| Alarm           | Warning       | <b>Breaker SSIB open</b>   | Bypass static switch input breaker SSIB is open, making static bypass operation unavailable.  |  |
| Alarm           | Warning       | <b>Breaker UIB open</b>  | Unit input breaker UIB is open, and the UPS is prevented from running in normal operation.  |  |
| Alarm           | Warning       | <b>Breaker UOB open</b>  | Unit output breaker UOB is open, and UPS cannot feed the load.  |  |
| Alarm           | Warning       | <b>Bypass frequency out of tolerance</b>                               | Bypass input frequency is out of tolerance.   | Check bypass input frequency and bypass input frequency setting.   |
| Alarm           | Warning       | <b>Bypass phase missing</b>  | Bypass input is missing a phase.  | Check bypass input. Please contact Schneider Electric.   |
| Alarm           | Warning       | <b>Bypass phase sequence incorrect</b>                                 | The phase rotation on bypass input is incorrect.  | Check bypass input. Please contact Schneider Electric.   |
| Alarm           | Warning       | <b>Bypass voltage out of tolerance</b>                                 | Bypass input voltage is out of tolerance and UPS is prevented from going into requested bypass mode.  |  |
| Alarm           | Warning       | <b>Charge power is reduced</b>   | The battery charge power has been reduced.  | The input for this functionality was activated, or the input current has reached the maximum limit. Please contact Schneider Electric. |
| Alarm           | Warning       | <b>Communication cable termination missing or damaged</b>              | One or more communication cable terminators is/are missing or damaged.  |  |
| Alarm           | Warning       | <b>Confirm redundancy lost and/or transfer to Forced Static Bypass</b> | Off button has been pushed and user must confirm that the redundancy will be lost and/or system will transfer to Forced Static Bypass.        |  |
| Alarm           | Warning       | <b>Confirm Turn Load Off</b>   | Off button has been pushed while inverter is on and with no bypass available. User must confirm that the UPS turns off the power to the load. | Confirm turn off either via display or by pushing the off button again.  |
| Alarm           | Informational | <b>Customer Input 1 activated</b>                                      | Customer input relay 1 is activated.  |  |
| Alarm           | Informational | <b>Customer Input 2 activated</b>                                      | Customer input relay 2 is activated.  |  |
| Alarm           | Warning       | <b>Delayed transfer from battery to normal operation</b>               | The delayed transfer from battery to normal operation is active.  |  |
| Alarm           | Warning       | <b>Display communication is lost</b>                                   | Main Controller is unable to communicate with the display.  | Please contact Schneider Electric.   |
| Alarm           | Warning       | <b>Display firmware incompatibility detected</b>                       | The firmware of the display is detected as incompatible with the rest of the system.  | Perform a firmware update.   |

| Alarm/Event | Severity      | Display text   | Description  | Corrective action  |
|-------------|---------------|--|--|--|
| Alarm       | Critical      | <b>EPO Switch Activated</b>  | An emergency power off (EPO) switch is activated.  | Deactivate the Emergency Power Off (EPO) switch.                                     |
| Alarm       | Warning       | <b>External battery monitoring detected fault</b>                                    | Input relay indicates external battery monitoring detected fault   |  |
| Alarm       | Critical      | <b>External charger off command: activated</b>                                       | Input relay for charger off is activated.  | Please contact Schneider Electric.   |
| Alarm       | Critical      | <b>External energy storage monitoring: major alarm</b>                               | Input relay indicates external energy storage monitoring has detected a major alarm.                             | Please contact Schneider Electric.   |
| Alarm       | Warning       | <b>External energy storage monitoring: minor alarm</b>                               | Input relay indicates external energy storage monitoring has detected a minor alarm                              | Please contact Schneider Electric.   |
| Alarm       | Warning       | <b>External sync frequency out of tolerance</b>                                      | External sync frequency is out of tolerance.   | Check external sync frequency.   |
| Alarm       | Warning       | <b>External sync phase missing</b>   | External sync is missing a phase.  | Check external sync.   |
| Alarm       | Warning       | <b>External sync phase sequence incorrect</b>  | The phase rotation on external sync is incorrect.  | Please contact Schneider Electric.   |
| Alarm       | Warning       | <b>External sync temporarily disabled</b>  | External sync has been temporarily disabled because UPS cannot lock and synchronize to the external sync source. | Check external sync.   |
| Alarm       | Warning       | <b>External sync voltage out of tolerance</b>  | External sync voltage is out of tolerance and UPS is prevented from going into external sync mode.               |  |
| Alarm       | Warning       | <b>Fan inoperable</b>  | UPS has one or more inoperable fans. Fan redundancy is lost.   |  |
| Alarm       | Critical      | <b>Firmware update - Incorrect UPS operation mode</b>                                | The UPS is no longer in the correct operation mode during firmware update. Risk of load drop.                    | Transfer UPS to maintenance bypass.  |
| Alarm       | Warning       | <b>Firmware versions in parallel UPS units are not identical</b>                     | The firmware versions in parallel UPS units are not identical.   | Firmware update all UPS units in the parallel system to the same version.            |
| Alarm       | Critical      | <b>Flywheel inoperable</b>   | Input relay indicates that the flywheel is not working correctly.  |  |
| Alarm       | Informational | <b>Forced battery operation activated</b>  | Forced battery operation has been activated by user.   |  |
| Alarm       | Critical      | <b>General parallel system event</b>   | The parallel system is not configured correctly or is not working correctly.                                     | Please contact Schneider Electric.   |
| Alarm       | Informational | <b>Genset is supplying the UPS</b>   | Input relay indicates that a genset is supplying the UPS.  |  |
| Alarm       | Warning       | <b>Ground fault detected</b>   | Input relay indicates that a ground fault has been detected.   | Please contact Schneider Electric.   |
| Alarm       | Warning       | <b>High Battery Temperature Level</b>  | The battery temperature is above the Alarm setting.  | Check the battery temperature. A high temperature may decrease the battery lifetime. |
| Alarm       | Informational | <b>High Efficiency Mode disabled</b>   | High efficiency mode is disabled from an input relay.  |  |
| Alarm       | Informational | <b>High efficiency mode has been disabled by the system</b>                          | High Efficiency Mode is disabled by the system as the maximum number of transitions has been exceeded.           | Enable high efficiency mode again, or disable it permanently.                        |
| Alarm       | Informational | <b>High efficiency mode is disabled due to bypass UTHD is above configured limit</b> | High efficiency mode is disabled due to bypass UTHD is above configured limit.                                   |  |
| Alarm       | Warning       | <b>High humidity threshold violation at remote sensor</b>                            | A high humidity threshold violation exists for integrated Environmental Monitor sensor.                          | Please check the environment.  |

| Alarm/Event | Severity      | Display text   | Description  | Corrective action   |
|-------------|---------------|--|--|---|
| Alarm       | Warning       | <b>High temperature threshold violation at remote sensor</b>     | A high temperature threshold violation exists for integrated Environmental Monitor sensor.           | Please check the environment.                             |
| Alarm       | Warning       | <b>Incorrect UPS configuration detected</b>                      | Incorrect UPS configuration detected.  |   |
| Alarm       | Warning       | <b>Input frequency out of tolerance</b>                          | Mains input frequency is out of tolerance.   | Check input frequency and input frequency setting.        |
| Alarm       | Warning       | <b>Input phase missing</b>                                       | Input is missing a phase.  | Check input. Please contact Schneider Electric.           |
| Alarm       | Warning       | <b>Input phase sequence incorrect</b>                            | The phase rotation on input is incorrect.  | Check input. Please contact Schneider Electric.           |
| Alarm       | Warning       | <b>Input voltage out of tolerance</b>                            | Mains input voltage is out of tolerance.   |   |
| Alarm       | Warning       | <b>Inverter is Off due to a request by the user</b>              | The inverter is off due to a request by the user.  |   |
| Alarm       | Warning       | <b>Inverter output is not in phase with bypass input</b>         | The UPS inverter output is not in phase with the bypass input.                                       |   |
| Alarm       | Warning       | <b>Li-Ion AC Supply Breaker BMS: B1/BMS:B2 open</b>              | One or both Li-Ion BMS AC Supply Breakers are open.  |   |
| Alarm       | Warning       | <b>Lost communication to remote sensor</b>                       | Lost the local network management interface-to-integrated Environmental Monitor.                     | Please check the environment.                             |
| Alarm       | Warning       | <b>Lost parallel redundancy</b>                                  | The load exceeds limit for an N+x UPS in redundancy (x is the configurable parallel redundancy).     | Reduce the load on the system.                            |
| Alarm       | Warning       | <b>Low Battery Temperature Level</b>                             | The battery temperature is below the Alarm setting.  |   |
| Alarm       | Warning       | <b>Low humidity threshold violation at remote sensor</b>         | A low humidity threshold violation exists for integrated Environmental Monitor sensor.               | Please check the environment.                             |
| Alarm       | Warning       | <b>Low temperature threshold violation at remote sensor</b>      | A low temperature threshold violation exists for integrated Environmental Monitor sensor.            | Please check the environment.                             |
| Alarm       | Warning       | <b>Magelis 10 inch display firmware incompatibility detected</b> | The firmware of the Magelis 10 inch display is detected as incompatible with the rest of the system. | Perform a firmware update.                                |
| Alarm       | Warning       | <b>Maintenance bypass breaker (MBB) closed</b>                   | Maintenance bypass breaker (MBB) is closed, feeding the load with unprotected power from bypass.     |   |
| Alarm       | Warning       | <b>Maximum humidity threshold violation at remote sensor</b>     | A maximum humidity threshold violation exists for integrated Environmental Monitor sensor.           | Please check the environment.                             |
| Alarm       | Warning       | <b>Maximum temperature threshold violation at remote sensor</b>  | A maximum temperature threshold violation exists for integrated Environmental Monitor sensor.        | Please check the environment.                             |
| Alarm       | Informational | <b>Mega Tie is activated</b>                                     | Dry contact input indicates that Mega Tie is activated.  |   |
| Alarm       | Warning       | <b>Minimum humidity threshold violation at remote sensor</b>     | A minimum humidity threshold violation exists for integrated Environmental Monitor sensor.           | Please check the environment.                             |
| Alarm       | Warning       | <b>Minimum temperature threshold violation at remote sensor</b>  | A minimum temperature threshold violation exists for integrated Environmental Monitor sensor.        | Please check the environment.                             |
| Alarm       | Warning       | <b>Modular battery breaker open</b>                              | Modular battery breaker is open.   |   |
| Alarm       | Warning       | <b>Modular battery cabinet is not working correctly</b>          | Modular battery cabinet is not working correctly.  | Check battery cabinet. Please contact Schneider Electric. |



| Alarm/Event | Severity | Display text   | Description  | Corrective action  |
|-------------|----------|--|--|--|
| Alarm       | Warning  | <b>NMC 1 firmware incompatibility detected</b>                           | The firmware of the NMC in Smart Slot 1 is detected as incompatible with the rest of the system.   | Perform a firmware update.   |
| Alarm       | Warning  | <b>NMC 2 firmware incompatibility detected</b>                           | The firmware of the NMC in Smart Slot 2 is detected as incompatible with the rest of the system.   | Perform a firmware update.   |
| Alarm       | Warning  | <b>Not enough UPS units ready to turn on inverter</b>                    | One or more parallel UPS units have been requested to turn on inverter, but not enough UPS units are ready for system to enter inverter on operation.  | Turn on inverter of more UPS units and/or check the setting <b>Minimum Number of UPS Required to Supply Load</b> . |
| Alarm       | Warning  | <b>Output frequency out of tolerance</b>                                 | Output frequency is out of tolerance.  | Check output frequency and output frequency setting.   |
| Alarm       | Warning  | <b>Output voltage out of tolerance</b>                                   | The output voltage is out of tolerance.  |  |
| Alarm       | Warning  | <b>Overload on installation</b>  | The load exceeds 100% of rated installation capacity.  | Reduce load on system.   |
| Alarm       | Warning  | <b>Overload on UPS due to high ambient temperature</b>                   | The load exceeds the rated capacity when running with high ambient temperature.  | Reduce load on system or ambient temperature.  |
| Alarm       | Warning  | <b>Overload on UPS present. Load below continuous overload threshold</b> | Reduce load on system or check for output short circuit.   | The load exceeds 100% of rated capacity. Load is below the continuous overload threshold.                          |
| Alarm       | Warning  | <b>Overload or short circuit on UPS</b>                                  | Reduce load on system or check for output short circuit.   | The load exceeds 100% of rated capacity or there is a short circuit on the output.                                 |
| Alarm       | Warning  | <b>Parallel communication lost on PBUS cable 1</b>                       | PBUS cable 1 may be damaged.   | Replace parallel cable 1 (PBUS1).  |
| Alarm       | Warning  | <b>Parallel communication lost on PBUS cable 2</b>                       | PBUS cable 2 may be damaged.   | Replace parallel cable 2 (PBUS2).  |
| Alarm       | Warning  | <b>Parallel mixed operation mode</b>                                     | One or more parallel UPS units are operating in battery operation, while others are operating in normal operation.                                     |  |
| Alarm       | Warning  | <b>Parallel unit not present</b>   | Main Controller is unable to communicate with parallel UPS X. The UPS might have been powered down or communication cables may be damaged.             |  |
| Alarm       | Warning  | <b>Power cabinet inoperable</b>  | Power cabinet is inoperable.   | Please contact Schneider Electric.   |
| Alarm       | Warning  | <b>Power cabinet mixed operation mode</b>                                | One or more power cabinets are operating in battery operation, while others are operating in normal operation.   |  |
| Alarm       | Warning  | <b>Power cabinet redundancy lost</b>                                     | The configured power cabinet redundancy is lost, either because the output load is too high, or because there are not enough power cabinets available. | Reduce the load on the system.   |
| Alarm       | Critical | <b>Power cabinet surveillance internal event detected</b>                | Power Cabinet Surveillance detected an internal event.   | Please contact Schneider Electric.   |
| Alarm       | Warning  | <b>Requested Bypass command from input contact activated</b>             | Requested Bypass command from input contact activated.   |  |
| Alarm       | Critical | <b>Restricted air flow</b>   | Restricted air flow.   | This could be caused by a clogged air filter or other obstacle blocking air flow.                                  |
| Alarm       | Warning  | <b>RTC backup battery is discharged</b>                                  | The RTC backup battery is discharged or the time is not set correctly.   |  |
| Alarm       | Critical | <b>Self-test - Did not pass</b>  | Self-test did not complete correctly.  | Check event log and active alarms for more details.  |

| Alarm/Event | Severity      | Display text   | Description   | Corrective action  |
|-------------|---------------|--|---|--|
| Alarm       | Warning       | <b>Startup recommended</b>                                       | The product has been running overtime without startup.  | Please contact Schneider Electric for secure start-up.   |
| Alarm       | Critical      | <b>Static bypass switch inoperable</b>                           | Static bypass switch is inoperable. UPS is prevented from going into static bypass operation.                               | Please contact Schneider Electric.   |
| Alarm       | Warning       | <b>Static bypass switch warning</b>                              | The static bypass switch needs a technical check but is still fully operational.  | Please contact Schneider Electric.   |
| Alarm       | Critical      | <b>Surveillance detected fault</b>                               | Surveillance detected fault.  | Please contact Schneider Electric.   |
| Alarm       | Warning       | <b>Synchronization unavailable - system is freerunning</b>       | The UPS is unable to synchronize to the bypass input, external source or parallel system.                                   |  |
| Alarm       | Warning       | <b>System isolation breaker (SIB) open</b>                       | System isolation breaker (SIB) is open, and system cannot feed the load.  |  |
| Alarm       | Critical      | <b>System locked in bypass operation</b>                         | The system is locked in bypass operation.   | The system has toggled between inverter operation and bypass operation more than 10 times within 1 minute. Please activate on button to transfer back to normal operation. |
| Alarm       | Critical      | <b>System operation mode - Forced Static Bypass</b>              | The system is in bypass in response to a critical event or an inverter off request.   |  |
| Alarm       | Warning       | <b>System operation mode - Maintenance Bypass</b>                | The system load is supplied through Maintenance Bypass Breaker (MBB).   |  |
| Alarm       | Critical      | <b>System operation mode - Off</b>                               | The system output power is turned off.  |  |
| Alarm       | Warning       | <b>System operation mode - Requested Static Bypass</b>           | The system is in bypass in response to the UPS front-panel or a user-initiated software command, typically for maintenance. |  |
| Alarm       | Critical      | <b>System operation mode - Static Bypass Standby</b>             | The system is in static bypass standby operation in response to a critical event or an inverter off request.                |  |
| Alarm       | Warning       | <b>Technical Check recommended</b>                               | The product and its batteries need to be checked as preventive maintenance is recommended.                                  | Please contact Schneider Electric.   |
| Alarm       | Warning       | <b>Transfer from battery to normal operation delay activated</b> | Input relay indicates that the transfer from battery to normal operation delay is activated.                                |  |
| Alarm       | Warning       | <b>Unit input breaker (UIB) open</b>                             | Unit input breaker (UIB) is open, and the UPS is prevented from running in normal operation                                 |  |
| Alarm       | Warning       | <b>Unit output breaker (UOB) aux wiring not correct</b>          | Unit output breaker (UOB) aux wiring is not correct.  | Please check UOB aux wiring. Both circuits must connect to a normally open switch.   |
| Alarm       | Warning       | <b>Unit output breaker (UOB) open</b>                            | Unit output breaker (UOB) is open, and UPS cannot feed the load.  |  |
| Alarm       | Warning       | <b>UPS locked in static bypass mode is activated</b>             | Input relay for UPS locked in static bypass mode is activated.  |  |
| Alarm       | Critical      | <b>UPS configuration incorrect</b>                               | UPS is configured incorrectly.  | Please contact Schneider Electric.   |
| Alarm       | Warning       | <b>UPS operation mode - Battery</b>                              | On battery power in response to an input power problem.   |  |
| Alarm       | Informational | <b>UPS operation mode - Battery Test</b>                         | On battery power in response to a test of the performance of the batteries.   |  |

| Alarm/<br>Event | Severity      | Display text  | Description  | Corrective action                  |
|-----------------|---------------|---|--|------------------------------------|
| Alarm           | Critical      | <b>UPS operation mode - Forced Static Bypass</b>    | The UPS is in bypass in response to a critical event or an inverter off request.   |                                    |
| Alarm           | Informational | <b>UPS operation mode - Initialize</b>              | The UPS is initializing.   |                                    |
| Alarm           | Informational | <b>UPS operation mode - Inverter Standby</b>        | The UPS is ready to enter battery operation but awaits permission from the system. UPS output is off.                    |                                    |
| Alarm           | Warning       | <b>UPS operation mode - Maintenance Bypass</b>      | The UPS load is supplied through Maintenance Bypass Breaker (MBB).   |                                    |
| Alarm           | Critical      | <b>UPS operation mode - Off</b>                     | The output power is turned off.  |                                    |
| Alarm           | Warning       | <b>UPS operation mode - Requested Static Bypass</b> | The UPS is in bypass in response to the UPS front-panel or a user-initiated software command, typically for maintenance. |                                    |
| Alarm           | Warning       | <b>UPS operation mode - Static Bypass Standby</b>   | The UPS is ready to enter static bypass but awaits permission from the system. UPS output is off.                        |                                    |
| Alarm           | Critical      | <b>UPS settings reset to default</b>                | Unit settings has been reset to default. The UPS is locked in off operation until settings are confirmed.                | Please contact Schneider Electric. |
| Alarm           | Warning       | <b>Warranty expiring soon</b>                       | The product is reaching the end of warranty.   | Please contact Schneider Electric. |

# Tests

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

- **Battery Test**
- **Runtime Calibration**
- **Battery SPoT Mode**
- **Annunciators**
- **Display Calibration**

## Perform a Battery Test

Prerequisites:

- The batteries must be more than 50% charged.
- The runtime available must be more than 4 minutes.
- The operation mode must be normal operation, eConversion, or ECO mode.
- The system operation mode must be normal, eConversion, or ECO mode.

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

1. From the home screen on the display select **Tests > Battery Test**.
2. Tap the **Start Battery Self-Test** button.

**NOTE:** If you wish to manually stop the battery self-test, tap the **Abort Battery Self-Test** button.

## Perform a Runtime Calibration

This feature is used for calibrating the estimated remaining battery runtime value. In this test the UPS transfers to battery operation and the 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 battery runtime calibration at start-up, when batteries are replaced, or when changes are made to the battery cabinets.

**NOTICE**

**RISK OF EQUIPMENT DAMAGE**

- During a runtime calibration the batteries will be at a very low level and therefore not capable of supporting your system load in case of a input power failure.
- Batteries will be discharged to 10% capacity and this will result in a low battery runtime after the calibration.
- Repeated battery testing or calibration can affect the lifetime of the battery.

**Failure to follow these instructions can result in equipment damage.**

Prerequisites:

- Batteries must be 100% charged.
- The load percentage must be at least 10% and must not change more than 20% during test.

- The bypass supply must be available.
  - The operation mode must be normal operation, eConversion, or ECO mode.
  - The system operation mode must be inverter, eConversion, or ECO mode.
1. From the home screen on the display select **Tests > Runtime Calibration**.
  2. Tap the **Start Runtime Calibration** button.

**NOTE:** If you wish to manually stop the runtime calibration, tap the **Abort Runtime Calibration** button.

## Perform a Battery SPoT Mode Test

**NOTE:** Battery SPoT Mode test is only legal in some countries/areas. Please refer to local/national legislation.

Prerequisites:

- The unit output breaker UOB must be open
- The UPS operation mode must be requested static bypass
- The battery breaker(s) BB must be closed
- There must be no detected surveillance faults
- The static switch input breaker SSIB must be closed
- The output voltage and frequency must be within predefined limits

This feature performs a battery discharge test without the need for a load bank. During the battery SPoT mode test, the inverter is turned ON while the UPS is in requested static bypass. During the test, the UPS performs a battery runtime calibration test and adjusts the estimated runtime accordingly.

The output power can be manually adjusted from 0 to 100% load to be as closed as possible to the operating conditions.

The battery SPoT mode test stops when the battery voltage has reached its shutdown level, or when the predefined discharge level has been reached.

**NOTE: Battery SPoT Mode** must be enabled by Schneider Electric during service configuration to make battery SPoT mode available.

1. From the home screen on the display select **Tests > Battery SPoT Mode**.
2. Go through the **Battery SPoT Mode** screens and verify that the prerequisites for performing a test is met.
3. Set the battery discharge level and the output power level.

The screenshot shows the 'Battery Spot Mode' configuration screen. At the top, there is a navigation bar with a home icon, a 'Tests' button, and a 'Battery Spot Mode' button. Below the navigation bar, the screen displays two configuration options: 'Battery Discharge Level:' and 'Output Power Setting:'. Each option has a corresponding input field (a small rectangle) and a range indicator '% [0 - 100]'. At the bottom of the screen, there is a row of five buttons: 'ESC', '<', '3/4', '>', and 'OK'.

4. Tap the **Start Battery SPoT Mode** button.

**NOTE:** If you wish to manually stop the battery SPoT mode test, tap the **Abort Battery SPoT Mode** button.

## Perform an Annunciators Test

1. From the home screen on the display select **Tests > Annunciators**.
2. Tap the **Start** button to initiate the test.

During the annunciators test the LEDs on the display and the mimic diagram and the audible alarm are tested.

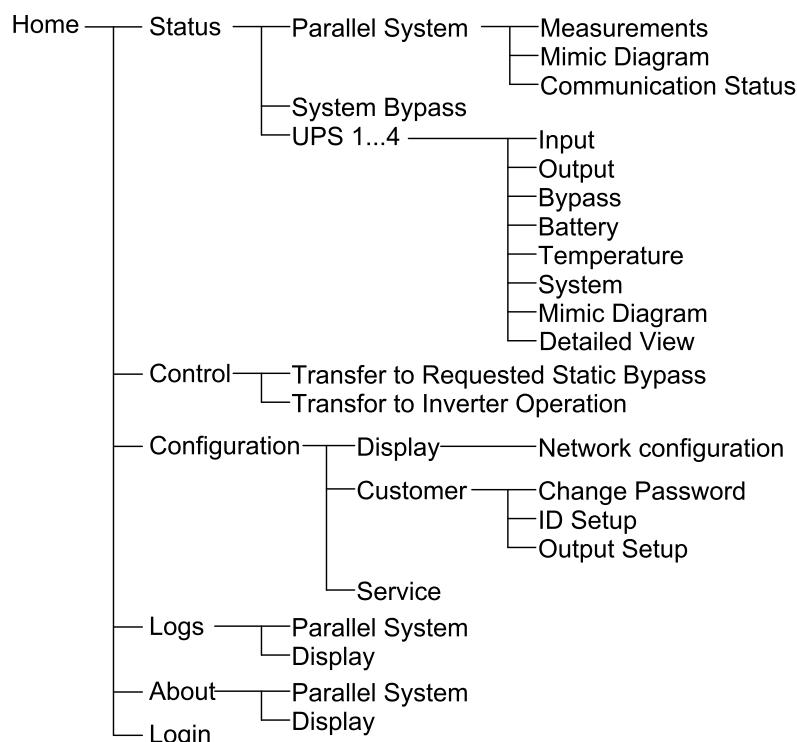
## Calibrate the Display

From the home screen on the display select **Tests > Display Calibration** and then select the calibration you want to perform.

- **Calibrate:** Tests and adjusts the touch screen target sensitivity.
- **Calibration Check:** Checks the calibration adjustments.

# 10" System Bypass Display

## 10" System Bypass Display Menu Tree (Option)



## Configuration from the 10" System Bypass Display (Option)

### Configure the Display Settings

1. From the home screen on the display select **Configuration > Display**.

Configuration Display

Display

Brightness

Backlight Timeout

☐ 1 min ☐ 2 min ☒ 5 min ☐ 10 min ☐ 15 min ☐ 30 min

Language

☒ English ☐ French ☐ Spanish ☐ Portuguese

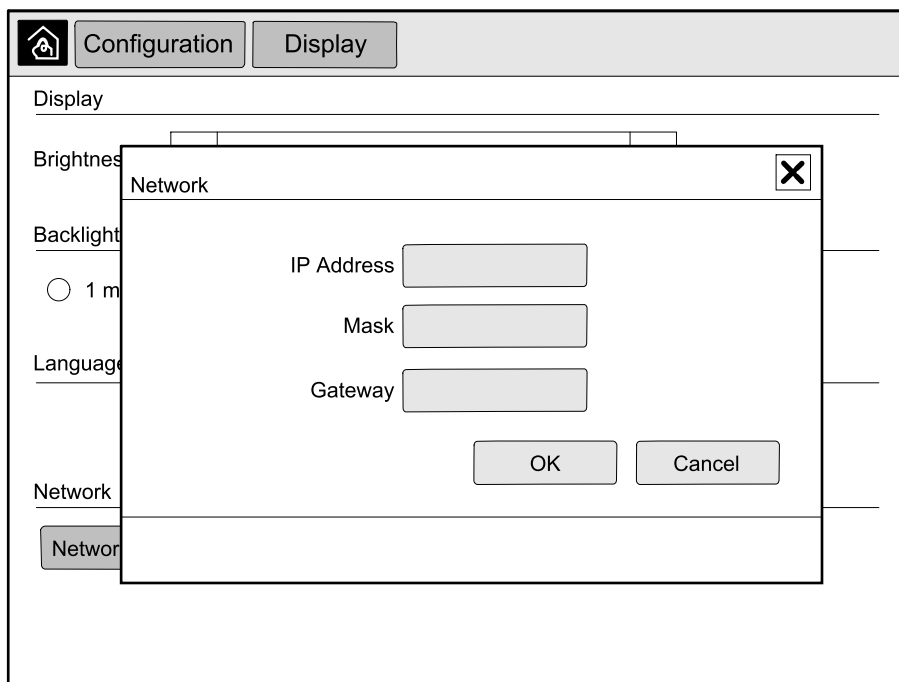
☐ Korean ☐ Chinese ☐ German ☐ Russian

☐ Italian ☐ Dutch ☐ Finnish ☐ Norwegian

☐ Turkish ☐ Polish

Network

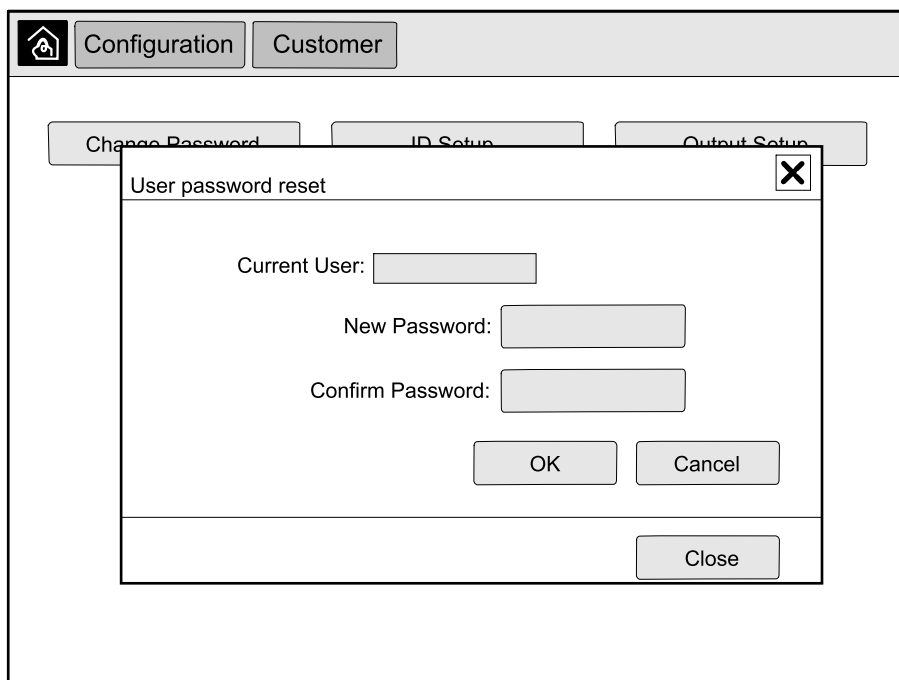
- Set the brightness of the display via the **Brightness** indicator. Tap **+** to increase the brightness and tap **–** to decrease the brightness.
- Set the backlight timeout. Choose between **1**, **2**, **5**, **10**, **15**, or **30** minutes.
- Set the language of the display.
- Configure the network by tapping the **Network configuration** button and typing in the **IP Address**, **Mask**, and **Gateway**. Complete with **OK**.



- Tap the home button to exit the configuration screen.

## Change the User Password

- From the home screen on the display select **Configuration > Customer > Change Password**.



- Type in **New Password** and **Confirm Password** and complete with **OK**.



3. Tap **Close** or the **X** button to exit the **User password reset** pop-up screen.
4. Tap the home button to exit the configuration screen.

## Change the System Names

1. From the home screen on the display select **Configuration > Customer > ID Setup**.

The screenshot shows the 'ID Setup' screen with the following fields:


- UPS (10 Characters)**
  - UPS 1
  - UPS 2
  - UPS 3
- Output (14 Characters)**
  - System Output
- Input (10 Characters)**
  - Input 1
  - Input 2
  - Input 3
- Bypass (18 Characters)**
  - Maintenance Bypass
  - Bypass
  - System Bypass

Buttons: OK, Cancel

2. The following names can be changed.
  - UPS
  - Input
  - System Output
  - Maintenance Bypass
  - Bypass
  - System Bypass
3. Tap **OK** to confirm your settings.
4. Tap the home button to exit the configuration screen.

# Configure the Output Distribution Breakers

- 1. From the home screen on the display select **Configuration > Customer > Output Setup**.



ConfigurationCustomerOutput Setup

| Output Distribution Breaker |  | Normal State   |  |
|-----------------------------|--|--|--|
| ODB1                        | <input checked="" type="radio"/> Not Present <input type="radio"/> Present | <input type="radio"/> Open <input checked="" type="radio"/> Closed |  |
| ODB2                        | <input checked="" type="radio"/> Not Present <input type="radio"/> Present | <input type="radio"/> Open <input checked="" type="radio"/> Closed |  |
| ODB3                        | <input checked="" type="radio"/> Not Present <input type="radio"/> Present | <input type="radio"/> Open <input checked="" type="radio"/> Closed |  |
| ODB4                        | <input checked="" type="radio"/> Not Present <input type="radio"/> Present | <input type="radio"/> Open <input checked="" type="radio"/> Closed |  |
| ODB5                        | <input checked="" type="radio"/> Not Present <input type="radio"/> Present | <input type="radio"/> Open <input checked="" type="radio"/> Closed |  |

| Load Bank Breaker                 |  | Normal State   |  |
|-----------------------------------|--|--|--|
| <input type="radio"/> Not Present | <input checked="" type="radio"/> Present           | <input checked="" type="radio"/> Open <input type="radio"/> Closed |  |
|                                   | <input checked="" type="radio"/> Downstream of SIB |  |  |
|                                   | <input type="radio"/> Upstream of SIB              |  |  |

OKCancel

- 2. Select **Present** for the output distribution breakers that are available in the parallel system.
- 3. Select **Present** for the **Load Bank Breaker** if it is part of the parallel system and indicate whether the load bank breaker is **Upstream of SIB** or **Downstream of SIB**.
- 4. Tap **OK** to confirm your settings.
- 5. Tap the home button to exit the configuration screen.

# Operation Procedures from the 10" System Bypass Display (Option)

## Access Password-Protected Screens

**NOTE:** The default administrator username/password are admin/admin. Change the password after logging in the first time, and change the password regularly.

**NOTE:** The default user username/password are config/config.

1. When prompted for the password, tap the **Username** field to access the keyboard.
2. Tap the username field, type in your username, and tap **Enter**.
3. Tap the **Password** field, type in your password, and tap **Enter**.
4. Tap **Login**.
5. Tap **Close** or the **X** button to exit the **Login** pop-up screen.

## View the Parallel System Status

1. From the home screen on the display select **Status > Parallel System**.

2. Select the area for which you wish to see the status. Choose between:

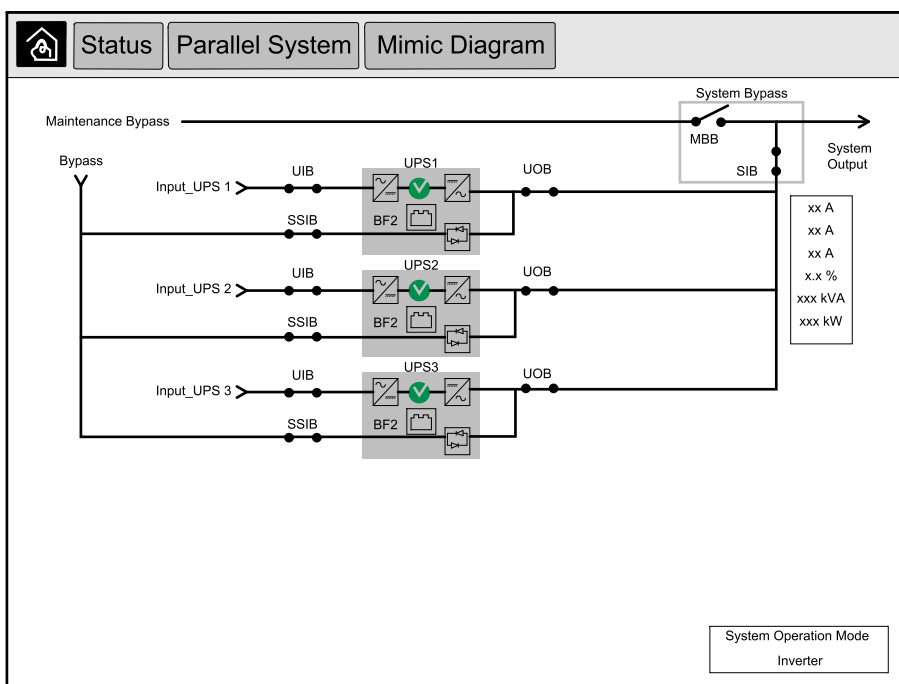
### Measurements

|  |  |
|--|--|
| Input Current (A)                          | The present phase-to-phase input current in amperes (A).   |
| Output Current (A)                         | The present phase-to-phase output current in amperes (A).  |
| Bypass Current (A)                         | The present phase-to-phase bypass current in amperes (A).  |
| Number of Parallel UPS                     | The total number of UPSs in the parallel system.   |
| Number of Redundant UPS                    | The redundancy for the parallel system.  |
| Number of Redundant Power Cabinets per UPS | The number of redundant power cabinets in each UPS.  |
| Output Total Apparent Power (kVA)          | The present total apparent output power (for all three phases) in thousands of Volt-Amps (kVA).  |
| Output Total Active Power (kW)             | The present total active output power (for all three phases) in kilowatts (kW).  |
| Output Total Load (%)                      | The percentage of the UPS system capacity presently used across all phases. The load percentage for the highest phase load is displayed. |

### Mimic Diagram

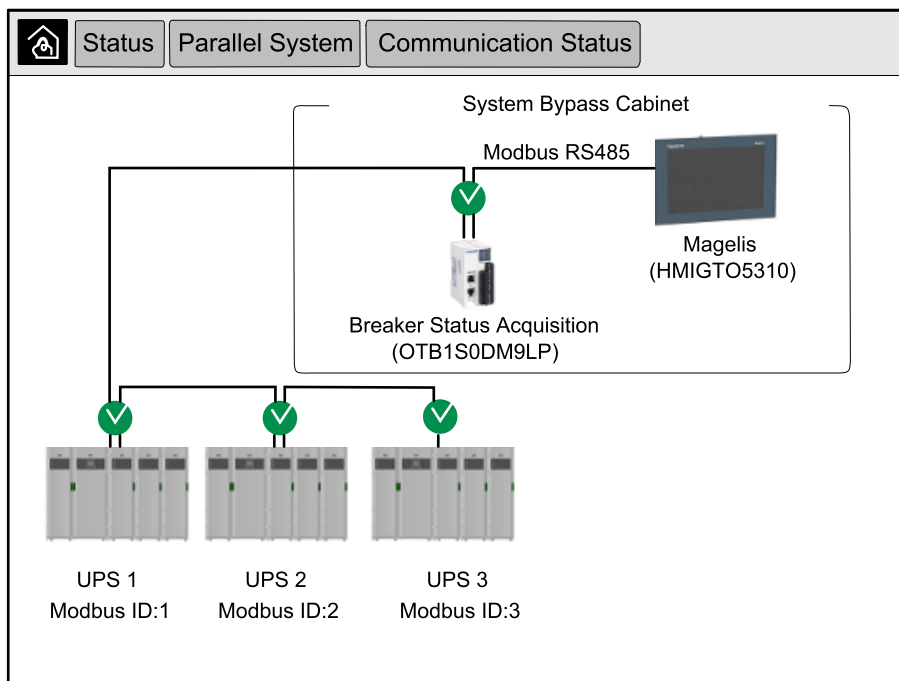
|               |   |
|---------------|---|
| Mimic Diagram | The mimic diagram shows the current status of the main parts of the UPS system: power sources, converters, bypass static switch and breakers, and it shows the power flow through the system. |
|---------------|---|

**NOTE:** You can click the UPS or the system bypass to get a more detailed mimic diagram.



### Communication Status

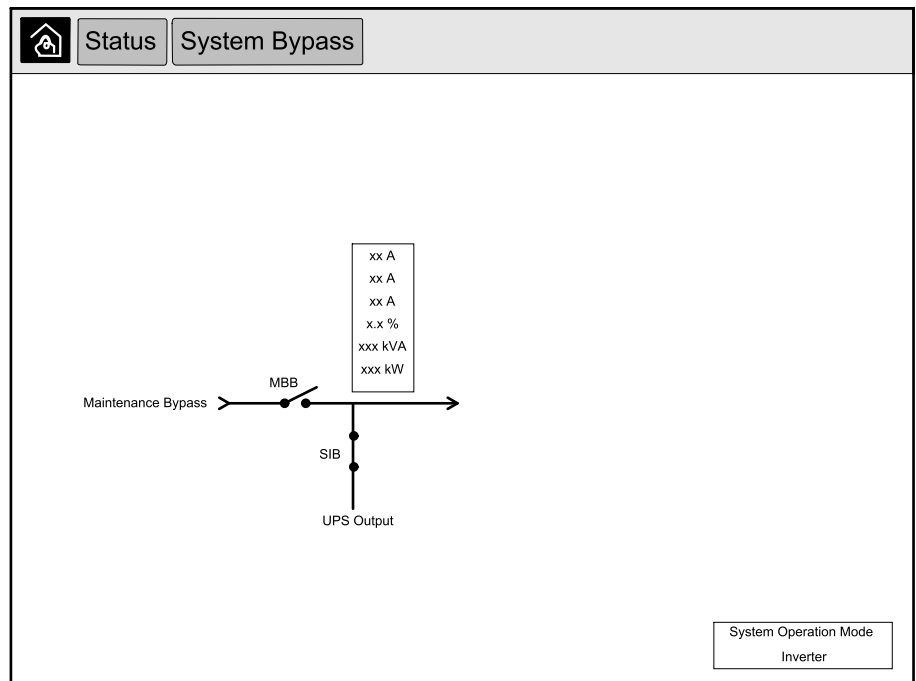
|                      |  |
|----------------------|--|
| Communication Status | The communication status diagram shows the communication status between the display and the UPSs of the parallel system. |
|----------------------|--|



3. Tap the home button to exit the screens and return to the home screen.

## View System Bypass Status

1. From the home screen on the display select **Status > System Bypass**.



2. Tap the home button to exit the screens and return to the home screen.

## View UPS Status Information

1. From the home screen on the display select **Status > UPS X**.



## 2. Select the area for which you wish to see the status. Choose between:

**Input**

|   |   |
|---|---|
| <b>Voltage (V) phase-to-neutral<sup>6</sup></b> | The present phase-to-neutral input voltage in volts (V).  |
| <b>Current (A)</b>                              | The present input current from the AC utility power source per phase in amperes (A).  |
| <b>Peak RMS Current (A)</b>                     | The maximum current for the latest 30 days.   |
| <b>Apparent Power (kVA)</b>                     | The present apparent input power for each phase in kVA. Apparent power is the product of RMS (root mean square) volts and RMS amperes.  |
| <b>Active Power (kW)</b>                        | The present active input power (or real power) 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. |
| <b>Power Factor</b>                             | The ratio of the active power to apparent power.  |
| <b>Voltage (V) phase-to-phase</b>               | The present phase-to-phase input voltage.   |
| <b>Total Apparent Power (kVA)</b>               | The present total apparent input power (for all three phases) in kVA.   |
| <b>Total Active Power (kW)</b>                  | The present total active input power (for all three phases) in kW.  |
| <b>Frequency (Hz)</b>                           | The present input frequency in hertz (Hz).  |
| <b>Energy (kWh)</b>                             | The total energy consumption since the time of installation or since the number was reset.  |

**Output**

|   |  |
|---|--|
| <b>Voltage (V) phase-to-neutral<sup>6</sup></b> | The phase-to-neutral output voltage at the inverter in volts (V).  |
| <b>Current (A)</b>                              | The present output current for each phase in amperes (A).  |
| <b>Peak RMS Current (A)</b>                     | The maximum current for the latest 30 days.  |
| <b>Apparent Power (kVA)</b>                     | The present apparent output power for each phase in kVA. Apparent power is the product of RMS (root mean square) volts and RMS amperes.  |
| <b>Active Power (kW)</b>                        | The present active output power (or real power) 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. |
| <b>Power Factor</b>                             | The present output power factor for each phase. Power factor is the ratio of active power to apparent power.   |
| <b>Current Crest Factor</b>                     | The present output crest factor for each phase. The output crest factor is the ratio of the peak value of the output current to the RMS (root mean square) value.  |
| <b>Current THD (%)</b>                          | The THD (total harmonic distortion) for each phase, as a percentage, for the present output current.   |
| <b>Voltage (V) phase-to-phase</b>               | The phase-to-phase output voltage at the inverter in volts (V).  |
| <b>Total Apparent Power (kVA)</b>               | The present apparent output power for each phase in thousands of Volt-Amps (kVA). Apparent power is the product of RMS (root mean square) volts and RMS amperes.   |
| <b>Total Active Power (kW)</b>                  | The present total active output power (for all three phases) in kilowatts (kW).  |
| <b>Load (%)</b>                                 | The percentage of the UPS capacity presently used across all phases. The load percentage for the highest phase load is displayed.  |
| <b>Neutral Current (A)<sup>1</sup></b>          | The present output neutral current in amperes (A).   |
| <b>Frequency (Hz)</b>                           | The present output frequency in hertz (Hz).  |
| <b>Inverter Status</b>                          | The general condition of the inverter.   |
| <b>PFC Status</b>                               | The general condition of the PFC.  |
| <b>Energy (kWh)</b>                             | The total energy supplied since the time of installation or since the value was reset.   |

**Bypass**

|   |  |
|---|--|
| <b>Voltage (V) phase-to-neutral<sup>6</sup></b> | The present phase-to-neutral bypass voltage (V).           |
| <b>Current (A)</b>                              | The present bypass current for each phase, in amperes (A). |

6. Only applicable in systems with neutral connection.

**Bypass (Continued)**

|                                   |   |
|-----------------------------------|---|
| <b>Peak RMS Current (A)</b>       | The maximum current for the latest 30 days.   |
| <b>Apparent Power (kVA)</b>       | The present apparent bypass power for each phase in kVA. Apparent power is the product of RMS (root mean square) volts and RMS amperes.                 |
| <b>Active Power (kW)</b>          | 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. |
| <b>Power Factor</b>               | The present bypass power factor for each phase. Power factor is the ratio of active power to apparent power.  |
| <b>Voltage (V) phase-to-phase</b> | The present phase-to-phase bypass voltage (V).  |
| <b>Total Apparent Power (kVA)</b> | The present total apparent bypass power (for all three phases) in thousands of Volt-Amps (kVA).   |
| <b>Total Active Power (kW)</b>    | The present total active bypass power (for all three phases) in kilowatts (kW).   |
| <b>Frequency (Hz)</b>             | The present bypass frequency in hertz (Hz).   |

**Battery**

|                                     |   |
|-------------------------------------|---|
| <b>Voltage (V)</b>                  | The present battery voltage.  |
| <b>Current (A)</b>                  | The present battery current in amperes (A).<br>A positive current indicates that the battery is charging; a negative current indicates that the battery is discharging. |
| <b>Power (kW)</b>                   | The present DC power being drawn from the battery, in kilowatts (kW).   |
| <b>Estimated Charge Level (%)</b>   | The present battery charge, as a percentage of full charge capacity.  |
| <b>Estimated Charge Time (h:mn)</b> | The estimated time, in minutes, until the batteries reach 100% charge.  |
| <b>Runtime Remaining (h:mn)</b>     | The amount of time in hours and minutes before the batteries reach the low-voltage shutdown level.  |
| <b>Charger Mode</b>                 | The operation mode of the charger (Off, Float, Boost, Equalization, Cyclic, Test).  |
| <b>Battery Status</b>               | The general condition of the battery.   |
| <b>Charger Status</b>               | The general condition of the charger.   |
| <b>Total Battery Capacity (Ah)</b>  | The total capacity available from the available batteries.  |
| <b>Battery Temperature C°</b>       | The highest battery temperature from the connected temperature sensors.   |

**Temperature**

|                    |  |
|--------------------|--|
| <b>Temperature</b> | Ambient temperature in degrees Celsius or Fahrenheit for the I/O cabinet and each power cabinet. |
|--------------------|--|

**System**


|                              |  |
|------------------------------|--|
| <b>Output Voltage</b>        | The phase-to-phase output voltage at the inverter in volts (V).                                    |
| <b>Output Current</b>        | The present output current for each phase in amperes (A).  |
| <b>Output Frequency</b>      | The present output frequency in hertz (Hz).  |
| <b>Runtime Remaining</b>     | The amount of time in hours and minutes before the batteries reach the low-voltage shutdown level. |
| <b>System Time</b>           | The time of the UPS system.  |
| <b>UPS Operation Mode</b>    | The operation mode of the operated UPS.  |
| <b>System Operation Mode</b> | The operation mode of the complete UPS system.   |
| <b>Total Output Power</b>    | The apparent and active power (or real power) output for each phase.                               |
| <b>Output Power</b>          | The phase-to-phase apparent and active output power (or real power) for each phase.                |


Mimic Diagram

|               |   |
|---------------|---|
| Mimic Diagram | The mimic diagram shows the current status of the main parts of the UPS: power sources, converters, bypass static switch and breakers, and it shows the power flow through the UPS. |
|---------------|---|

Detailed View

|               |   |
|---------------|---|
| Detailed view | The detailed view shows the system with a status icon on each individual power cabinet and the actual number of redundant power cabinets. The detailed view also shows the apparent power and active power per phase. |
|---------------|---|

StatusUPS 1Detailed View



Maximum available power at N+0 redundancy: xxxx kVA  
Redundant Power Cabinets: 1

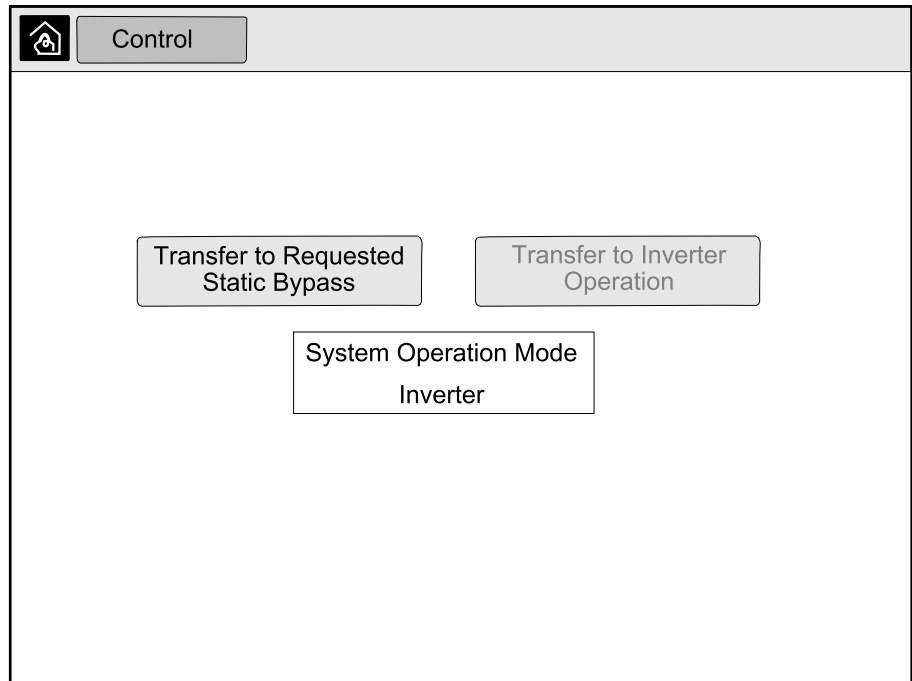
|                      | L1   | L2   | L3   |
|----------------------|------|------|------|
| Apparent Power (kVA) | xxxx | xxxx | xxxx |
| Active Power (kVA)   | xxxx | xxxx | xxxx |

3. Tap the home button to exit the screens and return to the home screen.

## Transfer the Parallel System from Normal to Requested Static Bypass Operation

Please note that only the administrator can change operation mode.

1. From the home screen on the display select **Control**.



2. Tap the **Transfer to Requested Static Bypass** button.

**NOTE:** If the conditions for performing the transfer are not met, the button will be grayed out.

3. Verify that the **System Operation Mode** changes to **Requested Static Bypass**.

## Transfer the Parallel System from Requested Static Bypass to Normal Operation

Please note that only the administrator can change operation mode.

1. From the home screen on the display select **Control**.

2. Tap the **Transfer to Inverter Operation** button.

**NOTE:** If the conditions for performing the transfer are not met, the button will be grayed out.

3. Verify that the **System Operation Mode** changes to **Inverter**.

## Connect to the 10" System Bypass Display Remotely

1. In Internet Explorer 10 or newer, type in the IP address of the display. If you want to disable this feature, ensure that the IP address of the display is left blank.
2. If requested, follow Active X installation instructions.
3. Select the **Monitoring** tab and then select **Web Gate > New Window** in the left pane.

You now have access to the status and log information of the parallel system.

4. Log in with your username and password. Please ensure that you change your password before using the remote feature in order to secure your connection. It is recommended to change your password regularly.

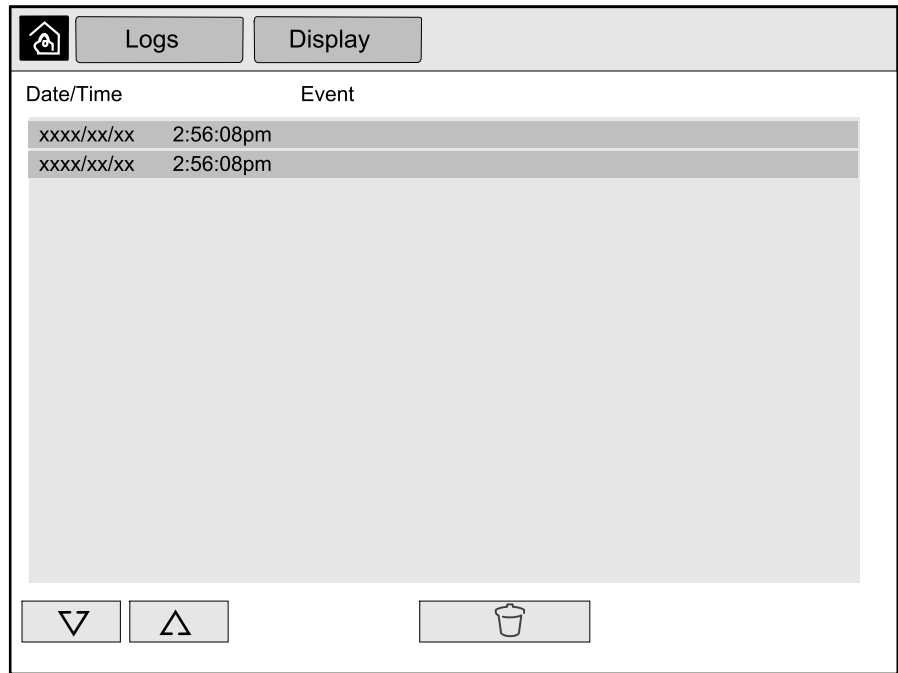


# Troubleshooting from the 10" System Bypass Display (Option)

## View the Display Log

**NOTE:** This log is only related to the display operation and not to the operation of the UPS system.

- 1. From the home screen on the display select **Logs > Display**.

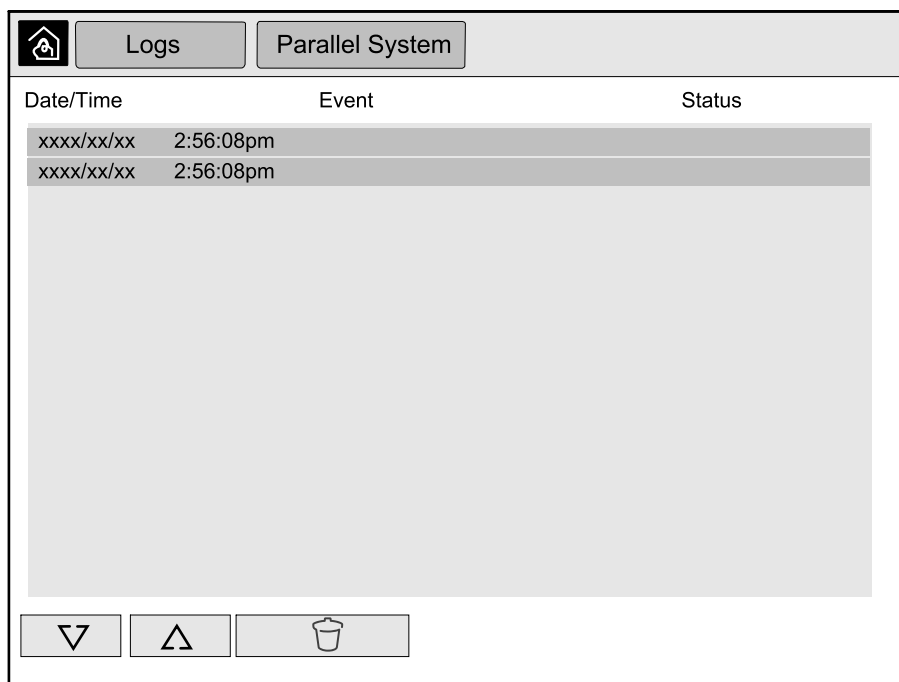


- 2. You can perform the following operations in the log:
  - a. Tap the arrows to browse through the list of events.
  - b. Tap the recycle bin button to clear the log.<sup>7</sup>
- 3. Tap the home button to exit the log.

<sup>7</sup>. This action is only available to the administrator.

## View the Parallel System Log

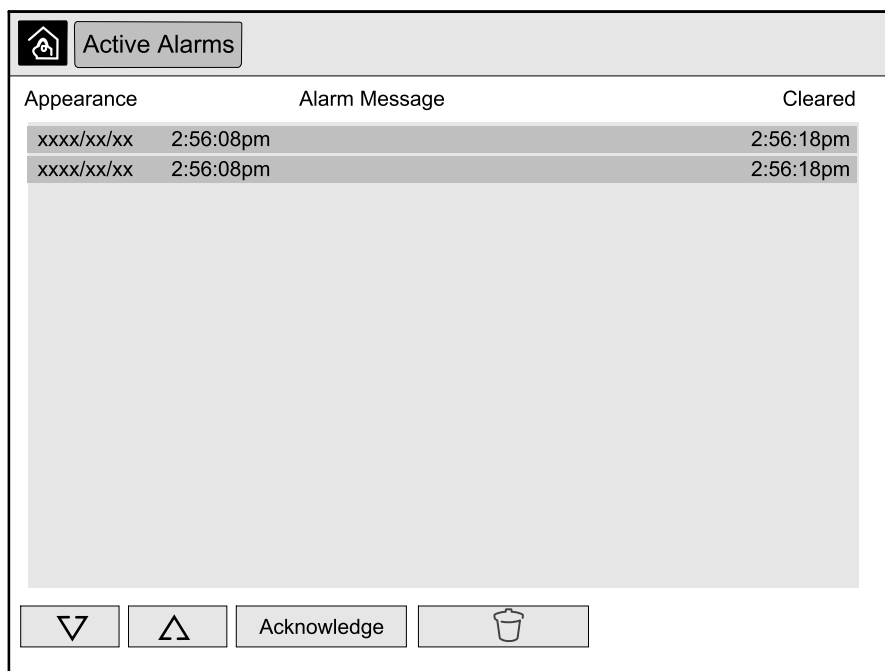
1. From the home screen on the display select **Logs > Parallel System**.



2. You can perform the following operations in the log:
  - a. Tap the arrows to browse through the list of events.
  - b. Tap the recycle bin button to clear the log.<sup>8</sup>
3. Tap the home button to exit the log.

## View the Active Alarms

1. Tap the symbol in the top right corner of the screen.



<sup>8</sup> This action is only available to the administrator.

2. You can perform the following operations on the **Active Alarms** screen:
  - a. Tap the arrows to browse through the list of active alarms.

The active alarms are colored according to the alarm level:

    - Green: No active alarms present
    - Blue: Informational alarm present
    - Yellow: Warning alarm present
    - Red: Critical alarm present
  - b. Tap the recycle bin button to clear the active alarms list.<sup>9</sup>
  - c. Tap the Acknowledge button to stop the flashing of the active alarms.
3. Tap the home button to exit the active alarms list.

---

9. This action is only available to the administrator.



# Maintenance

## Recommended Personal Protective Equipment (PPE)

For all procedures where the outermost front door on the unit is opened, Schneider Electric recommends the following personal protective equipment (PPE) as a minimum:

- Non-flammable cotton clothing
- Eye protection (e.g. glasses or goggles)
- Safety shoes
- Any personal protective equipment required or recommended by local or national regulation

### ⚠ CAUTION

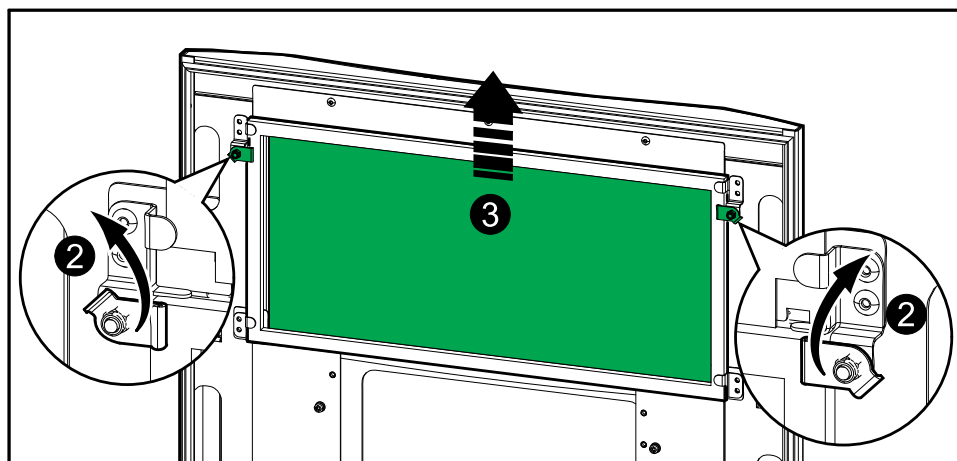
#### RISK OF PERSONAL INJURY

Always perform a risk assessment before operating or maintaining this equipment. Use appropriate personal protection equipment.

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

## Replace the Top Filter

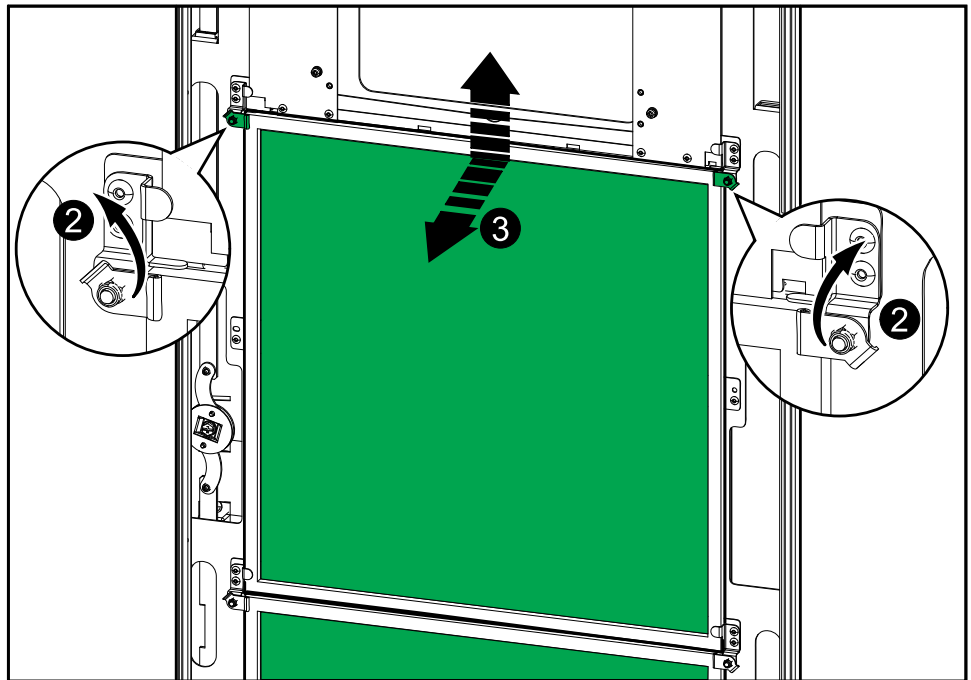
### Rear View of the Front Door



1. Open the front door of the cabinet.
2. Turn the filter locks to release the filter.
3. Lift up the filter.
4. Take the replacement filter from the installation kit and install the new filter.
5. Turn the filter locks to fasten the filter.

## Replace the Three Bottom Filters

Rear View of the Front Door



1. Open the front door of the cabinet.
2. Turn the filter locks to release the filters.
3. Tilt the filters out and lift them up.
4. Take the replacement filters from the installation kit and install the new filters.
5. Turn the filter locks to fasten the filters.

# Troubleshooting

## 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, if possible, or will assign a return material authorization (RMA) number to you. If a module is returned to Schneider Electric, this RMA number must be clearly printed on the outside of the package.
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

**NOTE:** If the display is not available, the serial number can also be found on a label in each specific cabinet.

1. From the home screen on the display interface select **About > UPS**.
2. On the first page note down the serial number of the I/O cabinet and have it ready for customer support.
3. Press the arrow to go to the next page and note down the serial numbers of the power cabinets and have them ready for customer support.

## Return Parts to Schneider Electric

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

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, RMA number, 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.

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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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