Galaxy VS

UPS

Operation

10/2018



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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.

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.

Electromagnetic Compatibility

NOTICE

RISK OF ELECTROMAGNETIC DISTURBANCE

This is a product category C2 UPS product. In a residential environment, this product may cause radio inference, in which case the user may be required to take additional measures.

Failure to follow these instructions can result in equipment damage.

Safety Precautions

⚠DANGER

HAZARD OF ELECTRICAL SHOCK, EXPLOSION OR ARC FLASH

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

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

⚠DANGER

HAZARD OF ELECTRICAL SHOCK, EXPLOSION OR ARC FLASH

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

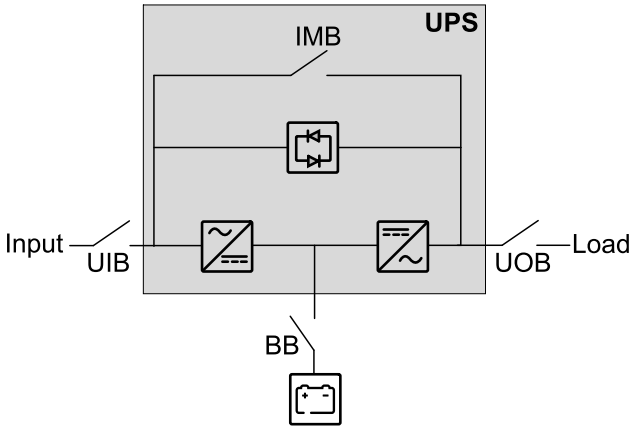
Failure to follow these instructions will result in death or serious injury.

Single System Overview

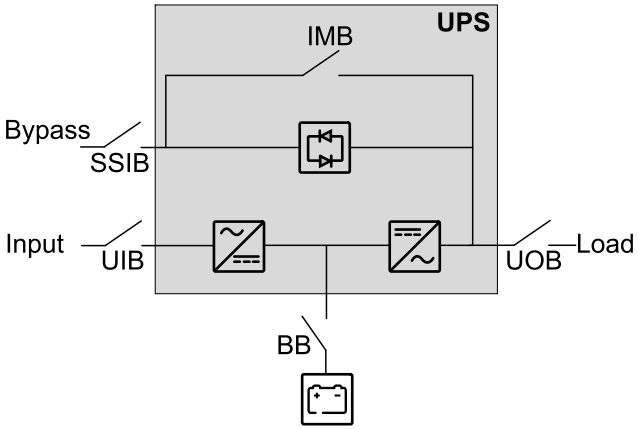
UIB	Unit input breaker
SSIB	Static switch input breaker
IMB	Internal maintenance breaker
UOB	Unit output breaker
BB	Battery breaker

The one line diagram examples below show a maximum breaker configuration for a single system.

Single System – Single Mains



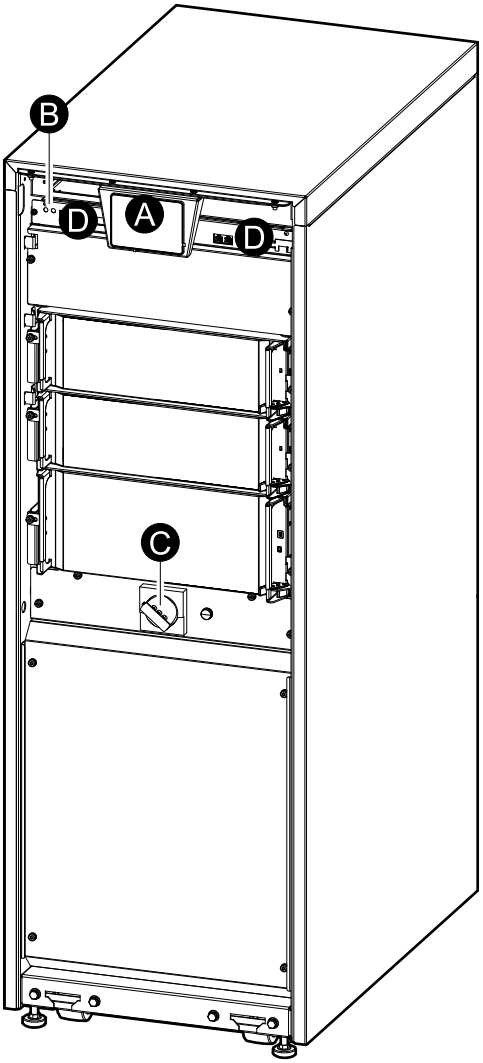
Single System – Dual Mains



Overview of User Interface

NOTE: Remove the front panel to access the controller section, the internal maintenance breaker IMB, the inverter ON/OFF buttons, and the status LEDs.

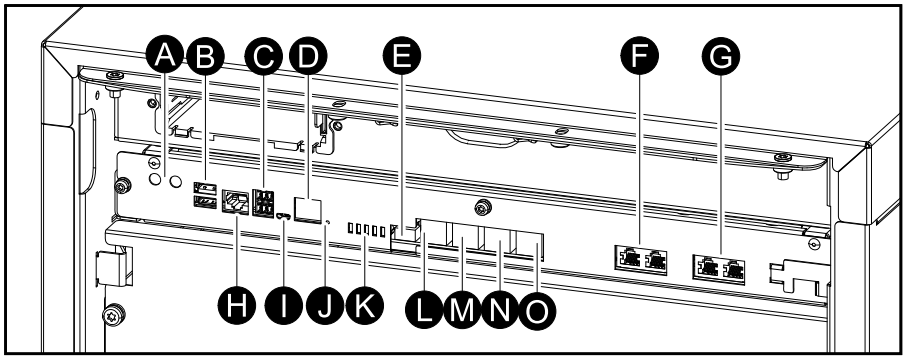
Front View of the UPS



A. Display
B. Inverter ON/OFF buttons
C. Internal maintenance breaker IMB
D. Controller section

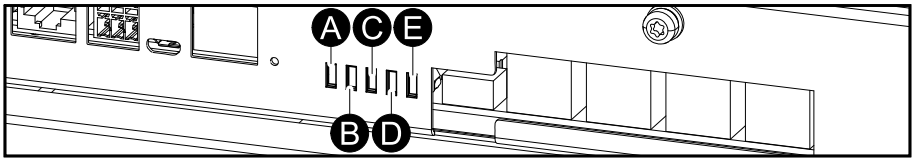
Controller Section

Front View of the Controller Section



A. Inverter ON/OFF buttons
B. USB ports[1]
C. Modbus port[1]
D. Network port[1]
E. Display power supply
F. PBUS 1
G. PBUS 2
H. Universal I/O[1]
I. USB Micro-B port[1]
J. Reset button[1]
K. Status LEDs
L. Display port
M. Service port (only for service)
N. For future use
O. For future use

Status LEDs



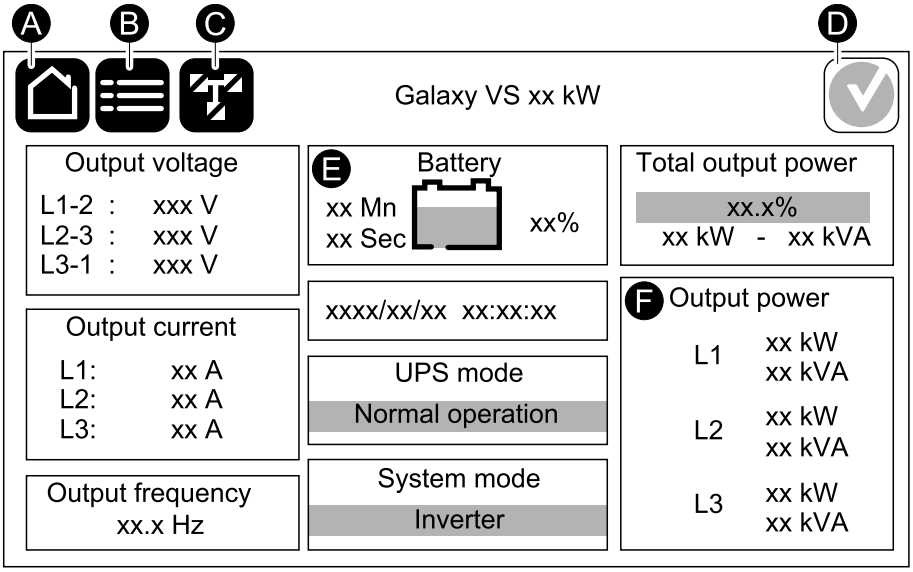
A. Input status LED
B. Inverter status LED
C. Output status LED
D. Bypass status LED
E. Battery status LED

See *Status LED Lighting per UPS Operation Mode, page 38*.

1. For built-in network management card.

Display

Overview of the Home Screen

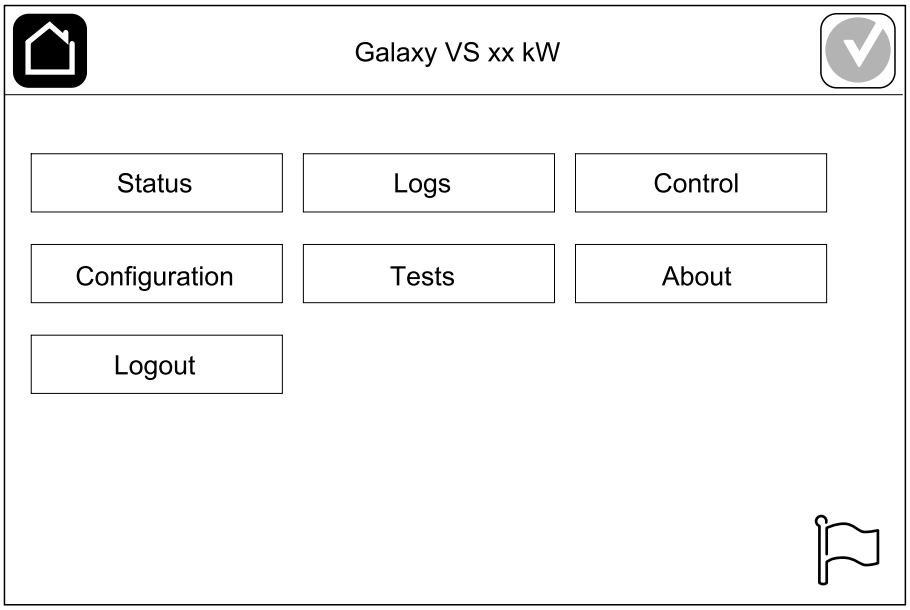


A. Home button - tap here on any screen to return to the home screen
B. Main menu button - tap here to access the menus
C. Mimic diagram button - tap here to access the mimic diagram
D. Alarm status symbol - tap here to access the active alarms log
E. Battery - tap here to access the battery measurements
F. Output power - tap here to access the output measurements

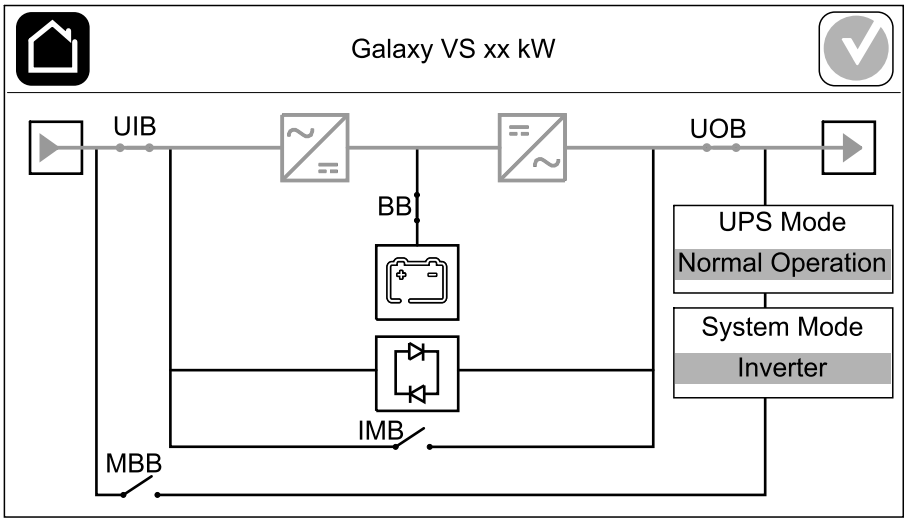
Main Menu



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



Mimic Diagram



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

NOTE: The UPS can monitor up to two battery breakers. The mimic diagram only shows one battery breaker BB even if two battery breakers have been connected and configured. If one or both of the battery breakers are in the closed position, the BB on the mimic diagram will show as closed. If both of the battery breakers are in the open position, the BB on the mimic diagram will show as open.

Alarm Status Symbol

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

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

Menu Tree



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

Status	**Input**
	Output
	Bypass
	Battery
	Temperature
Logs	
Control[2]	**Operation mode**
	Inverter
	Charger
	Guided sequence
Configuration[2]	**UPS**
	Output
	Battery
	High efficiency
	Breakers
	Contacts and relays
	Network
	Modbus
	General
	Reminder
	USB save/restore
	Update status
Tests	**Buzzer**
	Mimic diagram
	Breaker lamp
	Battery[2]
	Runtime calibration[2]
About	
Logout	
Flag button — See *Set the Display Language, page 27*.	

On some menus there are more buttons than described in this manual. These buttons are grayed out and are only for use by Schneider Electric Service to avoid unwanted load impacts.

2. This menu requires administrator login to access.

Operation Modes

The Galaxy UPS has two different levels of operation modes:

- **UPS mode**: The operation mode of the individual UPS. See *UPS Modes, page 13*.
- **System mode**: The operation mode of the complete UPS system that supplies the load. See *System Modes, page 15*.

UPS Modes

Normal Operation

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

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.

Requested Static Bypass Operation

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

Forced Static Bypass Operation

The UPS is in forced 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.

Internal Maintenance Bypass Operation via the Internal Maintenance Breaker IMB

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

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

External Maintenance Bypass Operation via the Maintenance Bypass Breaker MBB

When the maintenance bypass breaker MBB is closed in the external maintenance bypass panel/cabinet or third party switchgear, the UPS transfers to external maintenance bypass operation. The load is supplied with unconditioned power from the bypass source. Service and replacement can be performed on the entire UPS during external maintenance bypass operation via the maintenance bypass breaker MBB.

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

Battery Test

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

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

ECO Mode

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

ECOnversion Mode

ECOnversion allows the UPS to supply the active part of the load through the static bypass. The inverter is kept running in parallel with the bypass source and supplies the reactive part of the load. The input power factor of the UPS is, regardless of the load power factor, maintained close to unity as the reactive part of the load is significantly reduced in the UPS input current. In case of an interruption to the utility/mains supply, the inverter immediately maintains the output voltage so that breaks or drops during the transfer from ECOnversion mode are practically eliminated. The batteries are charged when the UPS is in ECOnversion mode.

OFF Mode

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

System Modes

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

Inverter Operation

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

Requested Static Bypass Operation

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

Forced Static Bypass Operation

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

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

Maintenance Bypass Operation

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

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

ECO Mode

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

ECOnversion Mode

ECOnversion allows the system to supply the active part of the load through the bypass. The inverter is kept running in parallel with the bypass source and supplies the reactive part of the load. The input power factor of the UPS is, regardless of the load power factor, maintained close to unity as the reactive part of the load is significantly reduced in the UPS input current. In case of an interruption to the utility/mains supply, the inverter immediately maintains the output voltage so that breaks or drops during the transfer from ECOnversion mode are practically eliminated.

OFF Mode

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

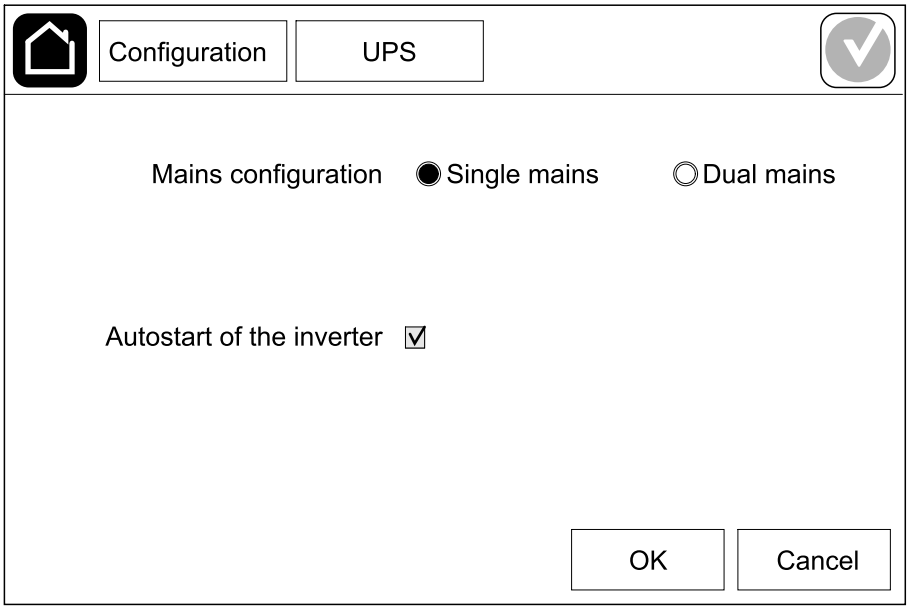
Configuration

Configure Mains Configuration and Autostart of the Inverter

NOTE: This configuration is mandatory for correct UPS operation.

1. Tap **Configuration > UPS**.
   a. Set the **Mains configuration** to **Single mains** or **Dual mains**.
   b. Select **Autostart of the inverter** if you want to enable this function.

      NOTE: When **Autostart of the inverter** has been enabled, the inverter will start up automatically when input voltage returns, after a shutdown due to drained battery.

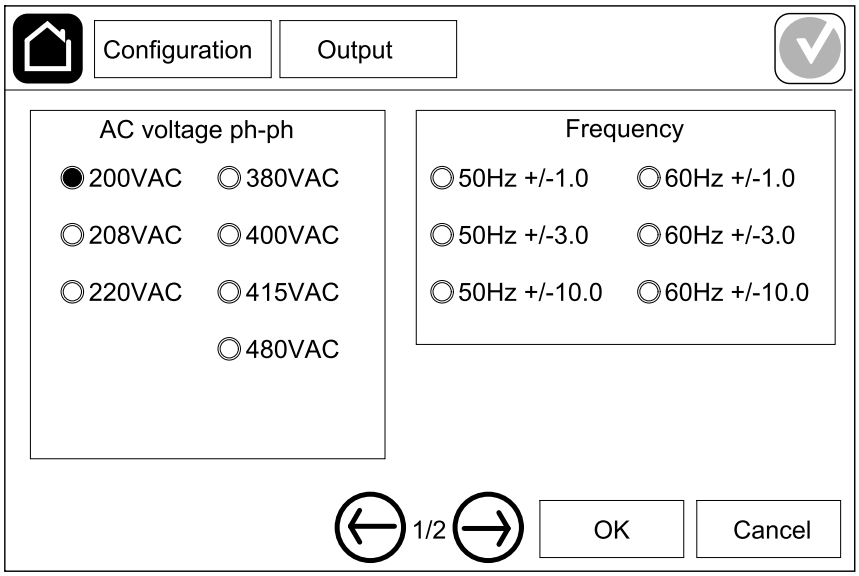


2. Tap **OK** to save your settings.

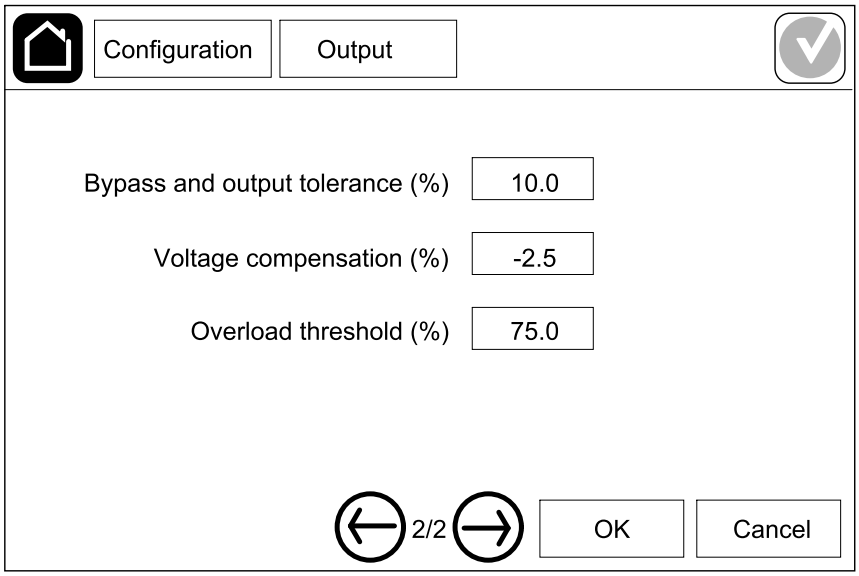
Configure the Output

NOTE: This configuration is mandatory for correct UPS operation.

1. Tap **Configuration > Output**.
   a. Set the **AC voltage ph-ph** to **200VAC**, **208VAC**, **220VAC**, **380VAC**, **400VAC**, **415VAC**, or **480VAC** depending on your configuration. Not all voltages are available in all regions.
   b. Set the **Frequency** to **50Hz ±1.0**, **50Hz ±3.0**, **50Hz ±10.0**, **60Hz ±1.0**, **60Hz ±3.0**, or **60Hz ±10.0** depending on your configuration.
   c. Tap **OK** to save your settings and tap the arrow symbol to go to the next page.



   d. Set the **Bypass and output tolerance (%)**.
   e. Set the **Voltage compensation (%)**.
   f. Set the **Overload threshold (%)**.
   g. Tap **OK** to save your settings.



Set the Battery Test Schedule

1. Tap **Configuration > Battery**.
    a. Set the **Test interval every** to **Week**, **2 weeks**, **4 weeks**, **8 weeks**, **12 weeks**, **26 weeks**, **52 weeks**, or **Never**.
    b. Set the **Test day of the week** to **Monday**, **Tuesday**, **Wednesday**, **Thursday**, **Friday**, **Saturday**, or **Sunday**.
    c. Set the **Test start time (hh:mm)**.
2. Tap **OK** to save your settings.

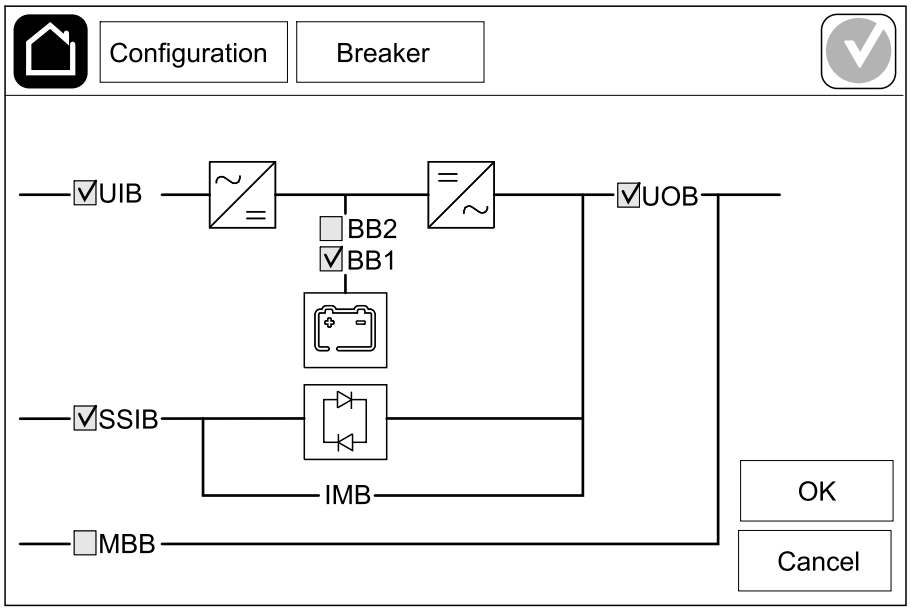
Configure High Efficiency Mode

1. Tap **Configuration > High efficiency**.
2. Select the **High efficiency mode**: **Disable**, **ECO mode**, or **ECOnversion**.
3. Select **ECOnversion harmonics compensator**, if relevant.
4. Select the **High efficiency schedule**: **Active on schedule**, **Always active**, or **Never active**.
    a. For **Active on schedule**, tap **Schedule** and set up and enable the schedule(s) as needed.

Configure the Breakers

NOTE: This configuration is mandatory for correct UPS operation.

1. Tap **Configuration > Breakers**.
2. Tap the different breakers in the mimic diagram to configure which breakers are present in the UPS system. Square with a checkmark means that the breaker is present, empty square means that the breaker is not present.

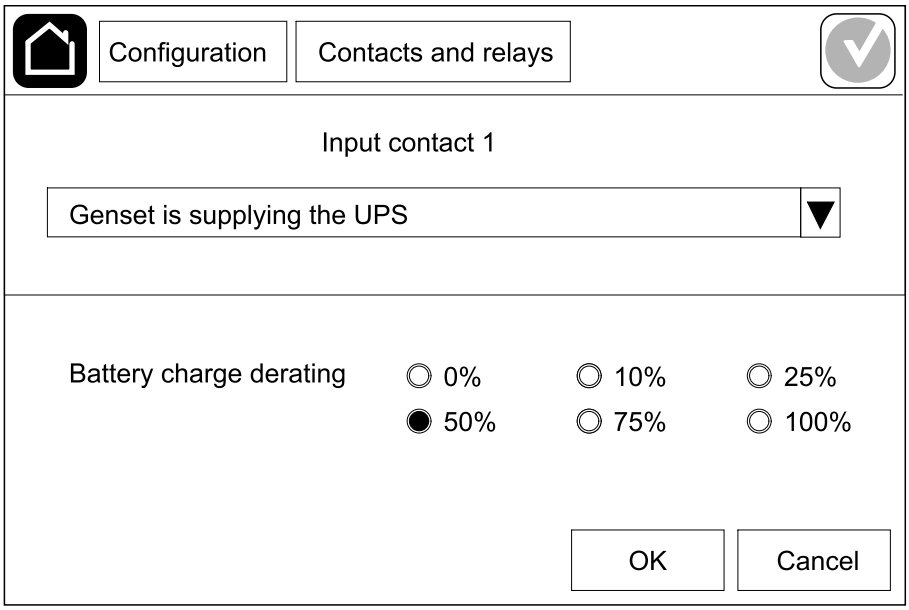


NOTE: The UPS can monitor up to two battery breakers. The mimic diagram only shows one battery breaker BB even if two battery breakers have been connected and configured. If one or both of the battery breakers are in the closed position, the BB on the mimic diagram will show as closed. If both of the battery breakers are in the open position, the BB on the mimic diagram will show as open.

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

Configure the Input Contacts

1. Tap **Configuration > Contacts and relays** and select the input contact that you want to configure.
2. Select a function from the drop-down list for the chosen input contact:



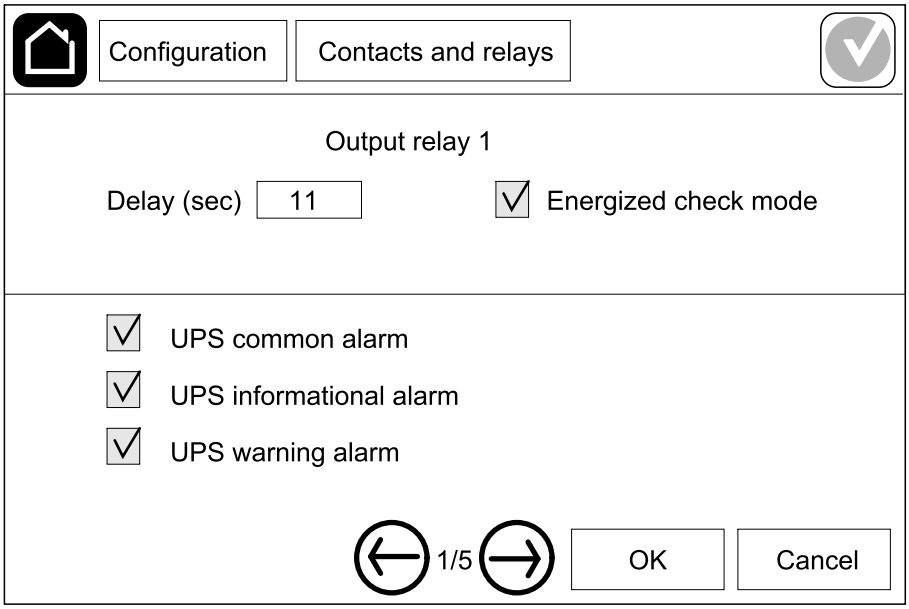
None: No action assigned to this input contact.	**Genset is supplying the UPS**: Input to indicate that the UPS is running on generator. You must also select the reduction in battery charge current while the UPS is supplied by a generator. Set **Battery charge derating** to **0%** (full charge effect), **10%**, **25%**, **50%**, **75%**, or **100%** (no charge effect). **Battery charge derating** is only selectable for this function.
Ground fault: Input to indicate that a ground fault is present.	**Battery room ventilation is inoperable**: Input to indicate that the battery room ventilation is inoperable. When the input is active, the battery charger will turn OFF.
User-defined 1: General purpose input.	**External battery monitoring detected a fault**: Input to indicate that the external battery monitor has detected a fault. When the input is active, the UPS will post an alarm (no other action).
User-defined 2: General purpose input.	**High efficiency mode is disabled**: If this input is activated, the UPS is prevented from entering high efficiency mode (ECO mode and ECOnversion mode) or will exit any active high efficiency mode.
External energy storage monitoring detected a minor fault: Input to indicate that the external energy storage monitor has detected a minor fault.	**External signal turns charger off**: If this input is activated, the charger will turn OFF on a signal from external equipment, e.g. on a signal from the external energy storage.
External energy storage monitoring detected a major fault: Input to indicate that the external energy storage monitor has detected a major fault.	**Transformer temperature is too high**: Input to indicate that there is a high temperature alarm for the transformer.

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

Configure the Output Relays

1. Tap **Configuration > Contacts and relays** and select the output relay that you want to configure.
2. Set the **Delay (sec)**.
3. Select to enable or disable **Energized check mode**.
   - When **Energized check mode** is enabled the output relay is ON. If a signal is received or the power supply to the output relay is lost, the circuit will open and the output relay will be deactivated.
   - When **Energized check mode** is disabled the output relay is OFF. If a signal is received, the circuit will close and the output relay will be activated.

4. Select the function(s) you want to assign to the output relay. On each page, tap **OK** to save your settings and tap the arrow symbol to go to the next page.



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

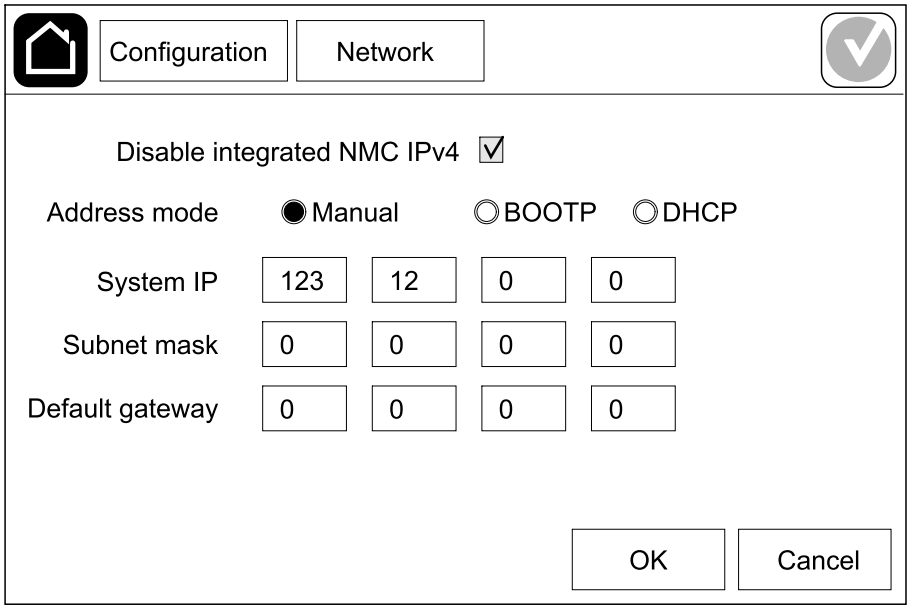
UPS common alarm: The output is triggered when any alarm is present for the UPS.	**UPS in maintenance mode**: The output is triggered when the unit output breaker UOB has been opened which transfers the UPS to maintenance mode. The UPS is not supplying the load.
UPS informational alarm: The output is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

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

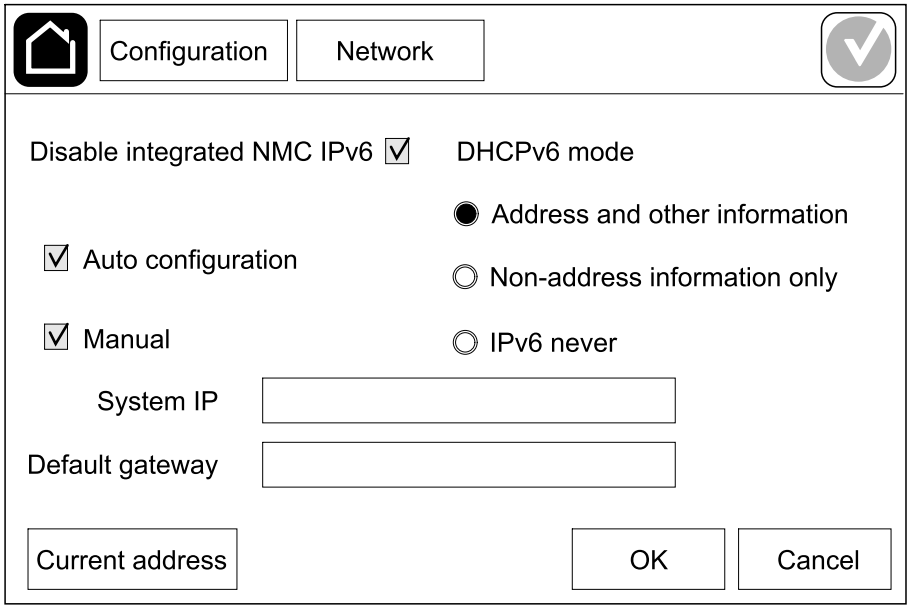
Configure the Network

The network can be configured for the integrated network management card (NMC).

1. Tap **Configuration > Network > Integrated NMC IPv4**.
   a. Set the **Address mode** to **Manual**, **BOOTP**, or **DCHP**.
   b. You can also disable the network by selecting **Disable integrated NMC IPv4**.
   c. Tap **OK** to save your settings.



2. Tap **Configuration > Network > Integrated NMC IPv6**.
   a. Set the **DHCPV6 mode** to **Address and other information**, **Non-address information only**, or **IPv6 never**.
   b. Select **Auto configuration** or **Manual**.
   c. You can also disable the network by selecting **Disable integrated NMC IPv6**
   d. Tap **OK** to save your settings.

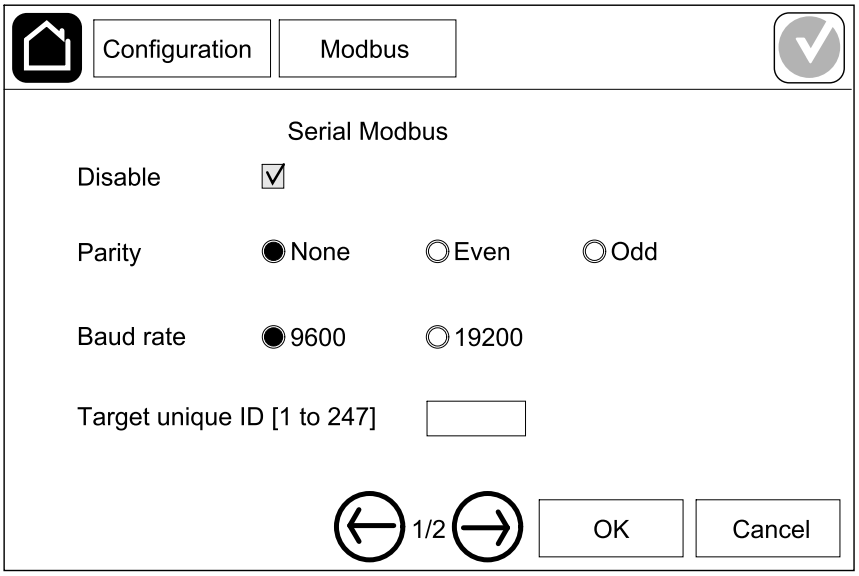


Configure the Modbus

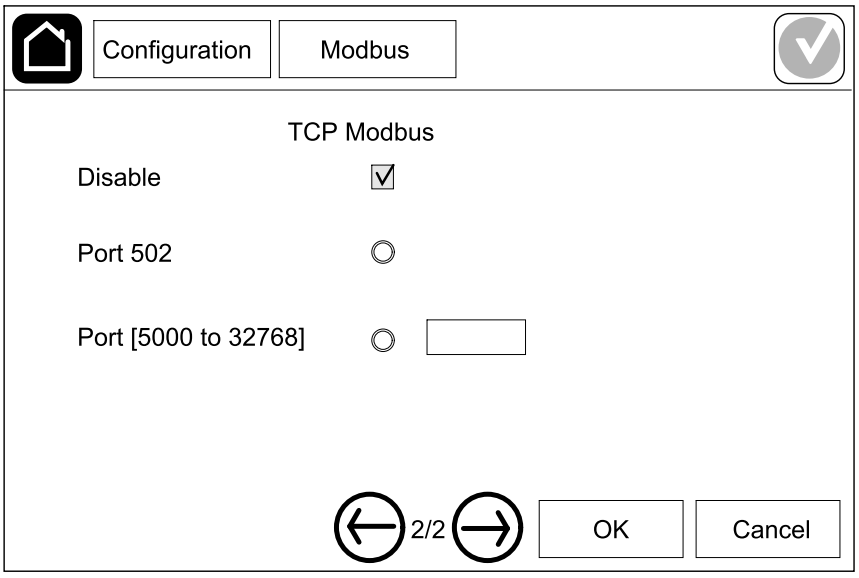
The Modbus can be configured for the integrated network management card (NMC).

1. Tap **Configuration > Modbus > Integrated NMC Modbus**.
   a. Enable or disable **Serial Modbus**.
   b. Set the **Parity** to **None**, **Even**, or **Odd**.
   c. Set the **Baud rate** to **9600** or **19200**.
   d. Set the **Target unique ID** to a number between 1 and 247.

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



   e. Tap **OK** to save your settings and tap the arrow symbol to go to the next page.
   f. Enable or disable **TCP Modbus**.
   g. Select **Port 502** or **Port [5000 to 32768]**.



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

Set the UPS Name

1. Tap **Configuration > General > UPS name**.
2. Set the UPS name.
3. Tap **OK** to save your settings.

Set the Date and Time

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

Set the Temperature Unit

1. Tap **Configuration > General**.
2. Select **Celsius** or **Fahrenheit** to set the temperature unit.

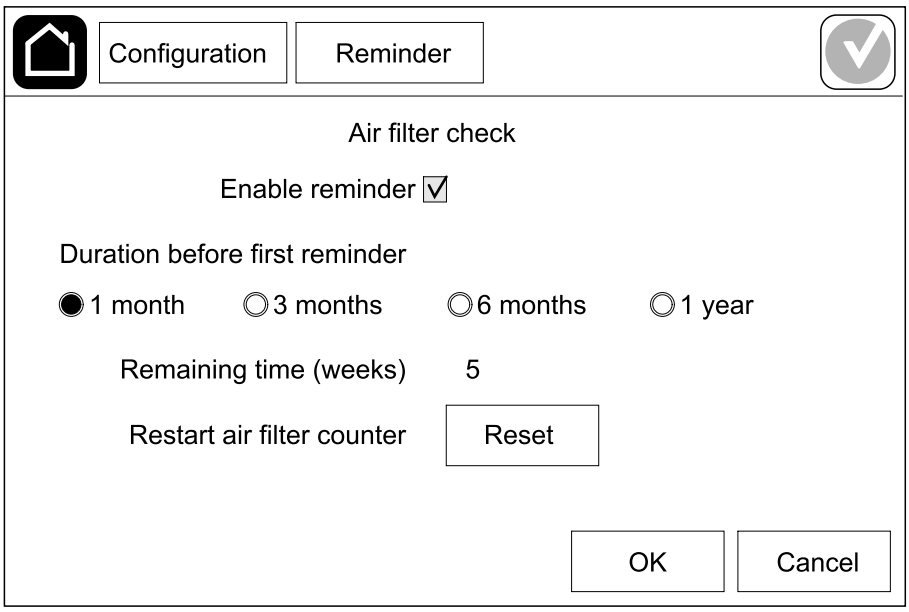
Set the Display Brightness

1. Tap **Configuration > General**.
2. Tap the - or + to set the display brightness.

Configure the Air Filter Reminder

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

1. Tap **Configuration > Reminder**.
   a. Select **Enable reminder** to get reminders about replacing the air filter.
   b. Select the reminder interval: **1 month**, **3 months**, **6 months**, or **1 year** based on the installation room environment.
   Under **Remaining time (weeks)** you can see how much service life the air filter in use has left.
   c. Tap **Reset** to reset the air filter service life counter.



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

Save or Restore the UPS Settings with a USB Device

1. Tap **Configuration > USB save/restore**.
2. Open the front panel.
3. Insert your USB device in the USB port on the UPS.
4. Do one of the following:
   – Tap **Save** to save the present UPS settings on the USB device, or
   – Tap **Restore** to implement saved UPS settings from the USB device.

   NOTE: Do not remove the USB device until the save/restore process has finished.

Export UPS Data to a USB Device

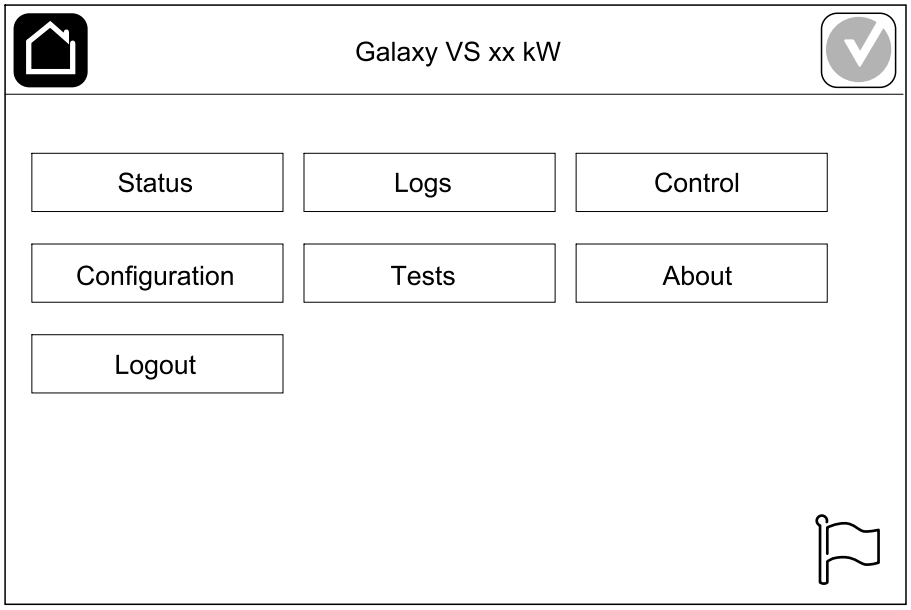
NOTE: You can use this function to export data from the UPS to send to customer support.

1. Select **Configuration > USB save/restore**.
2. Open the front panel.
3. Insert your USB device in the USB port on the UPS.
4. Tap **Export**.

   NOTE: Do not remove the USB device until the export process has finished.

Set the Display Language

1. Tap the flag symbol in the bottom right corner.



2. Tap your language.

Change the Password

1. Tap **Logout**.
2. Tap **Configuration**.
3. Enter your password.

   NOTE: The default administrator username and password is **admin**.
4. Tap **Change password** and enter the new password.

Operation Procedures

Transfer the UPS from Normal Operation to Static Bypass Operation

1. Select **Control > Operation mode > Transfer to bypass operation**.
2. Tap **OK** on the confirmation screen.

Transfer the UPS from Static Bypass Operation to Normal Operation

1. Select **Control > Operation mode > Transfer to normal operation**.
2. Tap **OK** on the confirmation screen.

Turn the Inverter OFF

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

1. Select **Control > Inverter > Inverter off**.
2. Tap **OK** on the confirmation screen.

Turn the Inverter ON

1. Select **Control > Inverter > Inverter on**.
2. Tap **OK** on the confirmation screen.

Set the Charger Mode

1. Tap **Control > Charger**.
2. Tap **Float**, **Boost**, or **Equalization**.
3. Tap **OK** on the confirmation screen.

Shut Down the UPS System

NOTE: Only operate a breaker when the associated breaker indicator lamp is illuminated.

1. Select **Control > Guided sequence > Shutdown sequence** and follow the steps which appear on the display.

Start Up the UPS System

NOTE: Only operate a breaker when the associated breaker indicator lamp is illuminated.

1. Close the unit input breaker UIB.
   The display turns on. The rebooting sequence lasts approximately 3 minutes.
2. Select **Control > Guided sequence > Startup sequence** and follow the steps which appear on the display.

Access a Configured Network Management Interface

The network management card 4 web interface is compatible with:
Windows® operating systems:

- Microsoft® Internet Explorer® (IE) 10.x or higher, with compatibility view turned on.
- The latest release of Microsoft Edge

All operating systems:

- The latest releases of Mozilla® Firefox® or Google® Chrome®

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

- SSH
- SNMP
- FTP
- SFTP

NOTE: Please visit *www.schneider-electric.com* to view the Security Deployment Guidelines and Security Handbook for the product. .

The network management card supports NTP connection for synchronization of time. Ensure that only one network management interface in the entire UPS system (single or parallel) is set to synchronize time.

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

- The HTTP protocol (disabled by default), which provides authentication by user name and Pin but no encryption.
- The HTTPS protocol (enabled by default), 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.

See *Enable HTTP/HTTPS Protocols, page 30*.

By default, SNMP protocols are disabled on the network management card to avoid cybersecurity risks. SNMP protocols must be enabled to use the monitoring functions of the network management card, or to connect to StruXureOn Gateway or Data Centre Expert. You can enable and use either of these SNMP protocols:

- SNMPv1, which provides minimal security. If using this protocol, Schneider Electric recommends customizing the access control parameters to enhance security.
- SNMPv3, which provides extra security through both encryption and authentication. Schneider Electric recommends using this protocol for better security and customizing the access control parameters.

See *Enable SNMP Protocols, page 30*.

Enable HTTP/HTTPS Protocols

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. The default user name and password is **apc**. You will be prompted to change this password on the first login.
3. To enable or disable the HTTP or HTTPS protocol, go to **Configuration > Network > Web > Access**, select the protocol, set the parameters, and click on **Apply**.

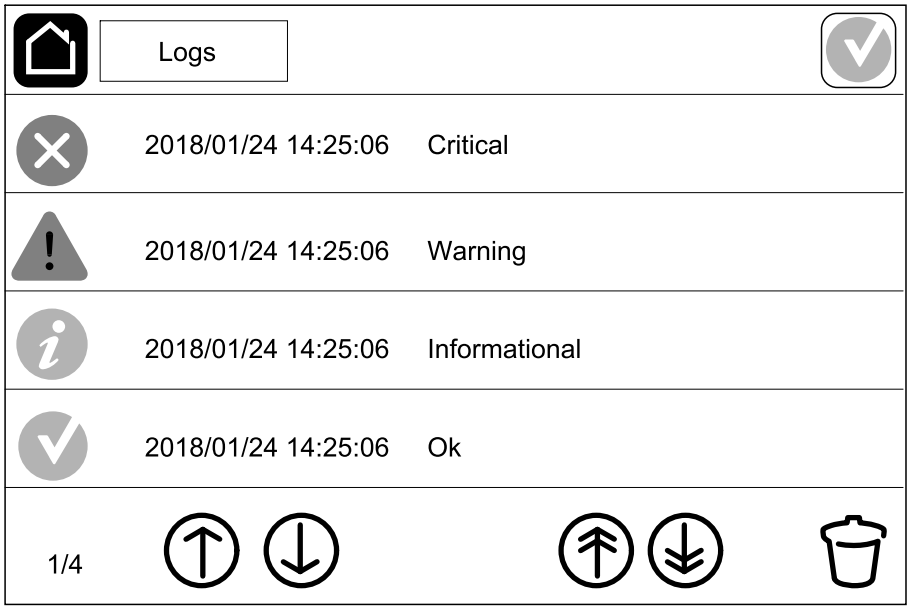
Enable SNMP Protocols

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. The default user name and password is **apc**. You will be prompted to change this password on the first login.
3. To enable SNMPv1 protocol:
   a. Go to **Configuration > Network > SNMPv1 > Access**, select **Enable** and click on **Apply**
   b. Go to **Configuration > Network > SNMPv1 > Access Control** and set up the parameters.
4. To enable SNMPv3 protocol:
   a. Go to **Configuration > Network > SNMPv3 > Access**, select **Enable** and click on **Apply**.
   b. Go to **Configuration > Network > SNMPv3 > Access Control** and set up the parameters.
   c. Go to **Configuration > Network > SNMPv3 > User Profiles** and set up the parameters.

NOTE: The SNMPv1 or SNMPv3 settings must match your settings on the StruXureOn Gateway or Data Centre Expert for the network management card 4 to communicate correctly with StruXureOn Gateway or Data Centre Expert.

View the Logs

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



View the System Status Information

1. Tap **Status**.
   a. Select **Input**, **Bypass**, **Output**, **Battery**, or **Temperature** to see the status.

Input

Voltage ph-ph (phase-to-phase)	The present phase-to-phase input voltage.
Current	The present input current from the AC utility power source per phase in amperes (A).
Frequency	The present input frequency in hertz (Hz).
Voltage ph-N (phase-to-neutral)[3]	The present phase-to-neutral input voltage in volts (V).
Total power	The present total active power input (for all three phases) in kW.
Power	The present active power (or real power) input for each phase in kilowatts (kW). Active power is the portion of power flow that, averaged over a complete cycle of the AC waveform, results in net transfer of energy in one direction.
Peak current	The input peak current in amperes (A)
Power factor	The ratio of the active power to apparent power.
Energy	The total energy consumption since the time of installation or since the number was reset.

Bypass

Voltage ph-ph (phase-to-phase)[3]	The present phase-to-phase bypass voltage (V).
Current	The present bypass current for each phase, in amperes (A).
Frequency	The present bypass frequency in hertz (Hz).
Voltage ph-N (phase-to-neutral)	The present phase-to-neutral bypass voltage (V).
Total power	The present total active bypass power (for all three phases) in kilowatts (kW).
Power	The present active bypass power for each phase in kilowatts (kW). Active power is the time average of the instantaneous product of voltage and current.
Peak current	The bypass peak current in amperes (A).
Power Factor	The present bypass power factor for each phase. Power factor is the ratio of active power to apparent power.

Output

Voltage ph-ph (phase-to-phase)	The phase-to-phase output voltage at the inverter in volts (V).
Current	The present output current for each phase in amperes (A).
Frequency	The present output frequency in hertz (Hz).
Voltage ph-N (phase-to-neutral)[3]	The phase-to-neutral output voltage at the inverter in volts (V).
Load	The percentage of the UPS capacity presently used across all phases. The load percentage for the highest phase load is displayed.
Neutral current[3]	The present output neutral current in amperes (A).
Total power	The present active total output power (for all three phases) in kilowatts (kW).
Power	The present active power (or real power) output for each phase in kilowatts (kW). Active power is the portion of power flow that, averaged over a complete cycle of the AC waveform, results in net transfer of energy in one direction.
Peak current	The output peak current in amperes (A).
Power factor	The present output power factor for each phase. Power factor is the ratio of active power to apparent power.

3. Only applicable in systems with neutral connection.

Energy	The total energy supplied since the time of installation or since the value was reset.
Crest factor	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.

Battery

Measurements	Shows power; The present DC power being drawn from the battery, in kilowatts (kW).
	Shows voltage; The present battery voltage.
	Shows current; The present battery current in amperes (A). A positive current indicates that the battery is charging; a negative current indicates that the battery is discharging.
	Shows temperature; Battery temperature from the connected temperature sensors.
Battery	Shows the amount of time in hours and minutes before the batteries reach the low-voltage shutdown level. Also shows charge level of the battery.
	Shows the present battery charge, as a percentage of full charge capacity.
Configuration	Shows battery configuration type.
Status	The general condition of the charger.
Mode	The operation mode of the charger (**Off**, **Float**, **Boost**, **Equalization**, **Cyclic**, **Test**).
Charging capacity	The maximum charge capacity in percentage of the UPS nominal power rating.

Temperature

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

Tests

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

- **Buzzer**
- **Mimic diagram**
- **Breaker lamp**
- **Runtime calibration**
- **Battery test**

Start a Runtime Calibration Test

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

NOTICE

RISK OF EQUIPMENT DAMAGE

- During a runtime calibration test, the batteries are reduced to a very low capacity and are therefore not capable of supporting the load in case of an input power failure.
- Batteries will be discharged to 10% capacity and this will result in a short battery runtime after the calibration until they are fully recharged.
- Repeated battery testing or calibration can affect the service life of the battery.

Failure to follow these instructions can result in equipment damage.

Prerequisites:

- Batteries must be 100% charged.
- The load percentage must be at least 10% and must not change more than 20% during test. Example: If the load percentage is 30% at the start of the test, the test will abort if the load percentage drops below 24% or rises above 36% during the test.
- The bypass supply must be available.
- The operation mode must be normal operation, ECOnversion, or ECO mode.
- The system operation mode must be inverter, ECOnversion, or ECO mode.

1. Tap the menu button on the home screen.
2. Select **Tests > Runtime calibration > Start calibration**.
3. Tap **OK** on the confirmation screen.

Stop a Runtime Calibration Test

1. Tap the menu button on the home screen.
2. Select **Tests > Runtime calibration > Stop calibration**.
3. Tap **OK** on the confirmation screen.

Start 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 inverter, ECOnversion, or ECO mode.

This feature performs a number of tests on the batteries, such as fuse-blown check and weak battery detection. The test will discharge the batteries and use about 10% of the total runtime capacity. Example: If you have 10 minutes of runtime, the test will run for 1 minute. The **Battery test** can be scheduled to run automatically in different time intervals (from weekly and up to once a year). See *Set the Battery Test Schedule, page 18*.

1. Tap the menu button on the home screen.
2. Select **Tests > Battery test > Start test**.
3. Tap **OK** on the confirmation screen.

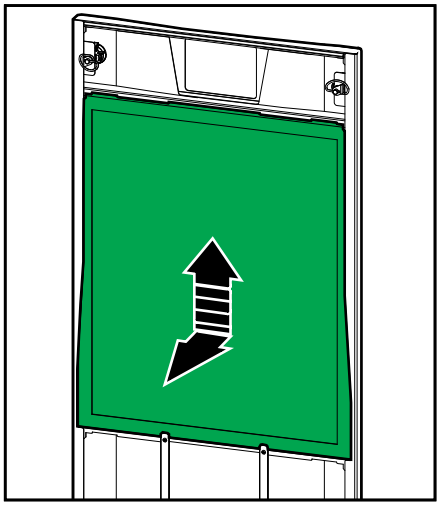
Stop a Battery Test

1. Tap the menu button on the home screen.
2. Select **Tests > Battery test > Stop test**.
3. Tap **OK** on the confirmation screen.

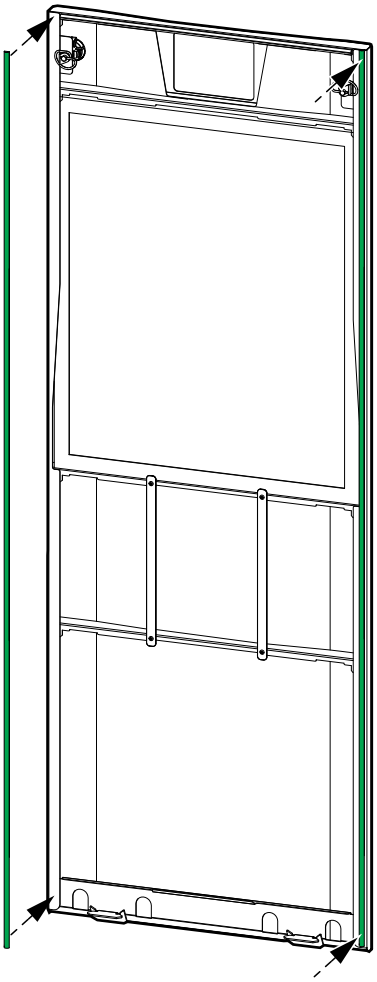
Maintenance

Replace the Air Filter

1. Open the front panel of the UPS.
2. Remove the air filter by pushing it upwards until you can ease it over the two metal grips in the bottom and pull it out.



3. Hold the new air filter by the sides and insert the air filter by pushing it upwards into the door frame until you can ease it in over the two metal grips.
4. Mount the two provided rubber gaskets on each side of the door as close to the edge of the door frame as possible. Replace the rubber gaskets as needed on the next replacement of the air filter.



5. Close the front panel of the UPS.
6. Restart the air filter counter, see *Configure the Air Filter Reminder, page 26*.

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, remove the front panel to find the UPS serial number on a label in the top right corner.

1. Tap the menu button on the home screen.
2. Tap **About**.
3. On the first page note down the serial number of the UPS cabinet and have it ready for customer support.
4. Tap the arrow to go to the next pages and note down the serial numbers of the display and the network management card(s) and have them ready for customer support.

Return Parts to Schneider Electric

Call Schneider Electric to obtain an RMA number.

To return an inoperable part to Schneider Electric, pack the module 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 module properly to avoid damage in transit. Never use styrofoam beads or other loose packaging materials when shipping a module. The module 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).

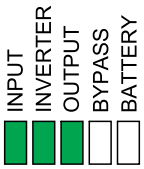
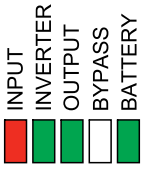
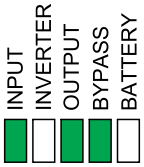
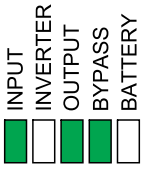
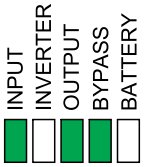
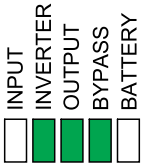
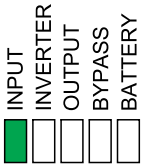
NOTE: Damages sustained in transit are not covered under warranty.

Troubleshooting

Status LED Lighting per UPS Operation Mode

If the display becomes inoperable, you can see the UPS operation mode via the status LEDs behind the front panel.

- Green LED means function active.
- Off LED means function inactive.
- Red LED means function inoperable or in alarm condition.

Normal operation	
Battery operation	
Requested static bypass operation	
Forced static bypass operation	
ECO mode	
ECOnversion mode	
Off mode	

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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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