

Galaxy VS

UPS

Operation

10/2019



Legal Information

The Schneider Electric brand and any trademarks of Schneider Electric SE and its subsidiaries referred to in this guide are the property of Schneider Electric SE or its subsidiaries. All other brands may be trademarks of their respective owners.

This guide and its content are protected under applicable copyright laws and furnished for informational use only. No part of this guide may be reproduced or transmitted in any form or by any means (electronic, mechanical, photocopying, recording, or otherwise), for any purpose, without the prior written permission of Schneider Electric.

Schneider Electric does not grant any right or license for commercial use of the guide or its content, except for a non-exclusive and personal license to consult it on an "as is" basis. Schneider Electric products and equipment should be installed, operated, serviced, and maintained only by qualified personnel.

As standards, specifications, and designs change from time to time, information contained in this guide may be subject to change without notice.

To the extent permitted by applicable law, no responsibility or liability is assumed by Schneider Electric and its subsidiaries for any errors or omissions in the informational content of this material or consequences arising out of or resulting from the use of the information contained herein.

IEC



UL



Go to

IEC: https://www.productinfo.schneider-electric.com/portals/ui/galaxyvs_iec/ or

UL: https://www.productinfo.schneider-electric.com/portals/ui/galaxyvs_ul/

or scan the QR code above for digital experience and translated manuals.

Table of Contents

Important Safety Instructions — SAVE THESE INSTRUCTIONS	5
FCC Statement	6
Electromagnetic Compatibility	6
Safety Precautions	6
Overview of User Interface	7
Display	7
Menu Tree	10
Controller Section	11
Operation Modes	12
UPS Modes	12
System Modes	14
Configuration	16
Configure the UPS Input	16
Configure the Output	17
Output Transformer Voltage Compensation	18
Configure the Battery Solution	19
Configure High Efficiency Mode	23
Configure the Breakers	24
Configure the Input Contacts	25
Configure the Output Relays	26
Configure the Network	28
Configure the Modbus	29
Set the UPS Name	30
Set the Date and Time	30
Configure the Display Preferences	30
Configure the Air Filter Reminder	31
Save the UPS Settings on a USB Device	31
Restore the UPS Settings from a USB Device	32
Set the Display Language	32
Change the Password	33
Operation Procedures	34
Start Up the UPS System from Off Mode	34
Transfer the UPS from Normal Operation to Static Bypass Operation	34
Transfer the UPS from Static Bypass Operation to Normal Operation	34
Turn the Inverter OFF	34
Turn the Inverter ON	34
Set the Charger Mode	35
Shut Down the UPS System into Maintenance Bypass Operation	35
Shut Down into Maintenance Bypass Operation for Single UPS System with Kirk Key Installed	35
Start Up the UPS System from Maintenance Bypass Operation	36
Start Up from Maintenance Bypass Operation for Single UPS System with Kirk Key Installed	36
Access a Configured Network Management Interface	37

- Enable HTTP/HTTPS Protocols 37
- Enable SNMP Protocols 38
- View the Logs..... 39
- View the System Status Information 40
 - View the Modular Battery Status 43
- Tests**..... 44
 - Start a Runtime Calibration Test..... 44
 - Stop a Runtime Calibration Test..... 45
 - Start a Battery Test 45
 - Stop a Battery Test 45
- Maintenance** 46
 - Replace the Air Filter (GVSOPT001 and GVSOPT015) 46
 - Replace the Air Filters (GVSOPT014) 48
 - Replace or Install a Modular Battery String 49
 - Determine if you need a Replacement Part..... 51
 - Find the Serial Numbers 51
 - Return Parts to Schneider Electric 51
- Troubleshooting** 53
 - Status LED Lighting per UPS Operation Mode 53
 - Status LEDs on the Modular Battery Cabinet 54
 - Export UPS Report to a USB Device 54

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 interference, 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

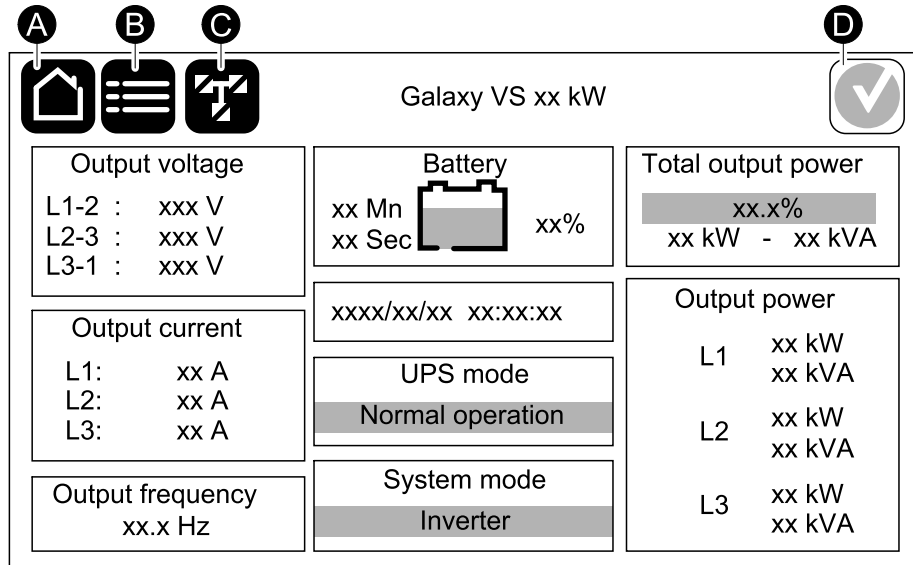
After the UPS system has been electrically wired, do not start up the system. Start-up must only be performed by Schneider Electric.

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

Overview of User Interface

Display

Overview of the Home Screen



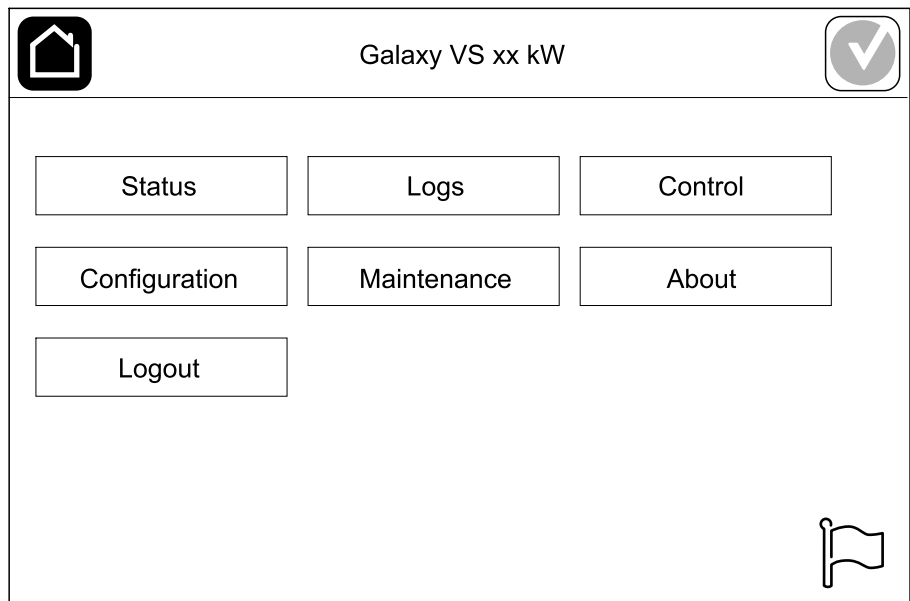
- A. Home button - tap here on any screen to return to the home screen.
- B. Main menu button - tap here to access the menus.
- C. Mimic diagram button - tap here to access the mimic diagram.
- D. Alarm status symbol - tap here to access the active alarms log.

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

Main Menu



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



Mimic Diagram

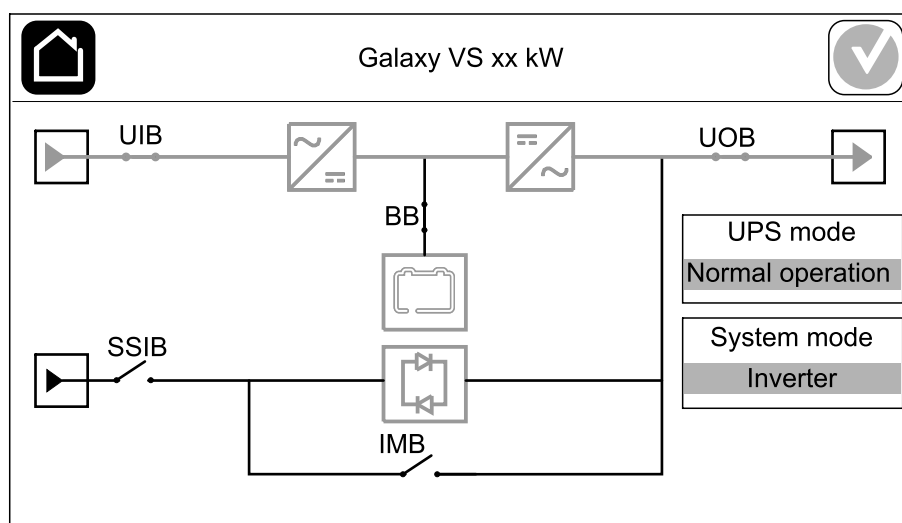
The mimic diagram will adapt to your system configuration – the mimic diagrams shown here are just examples.

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

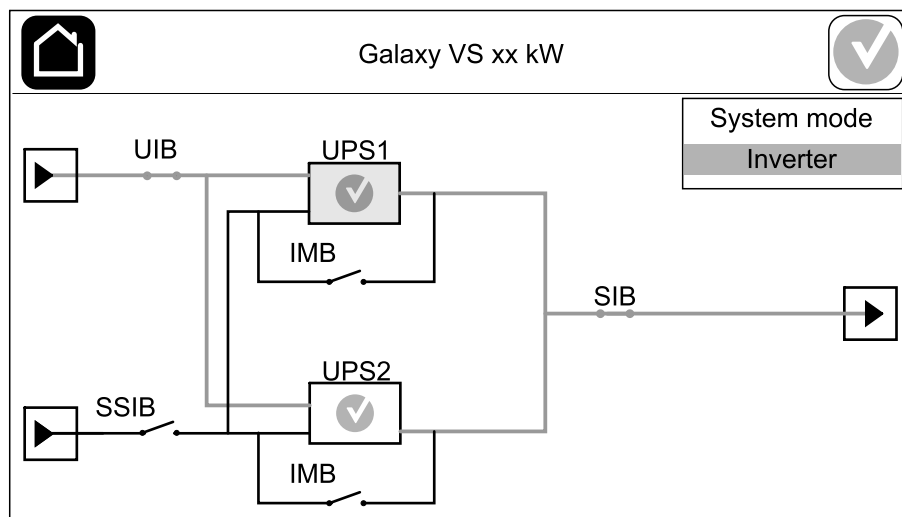
In mimic diagrams for parallel systems, tap on the gray UPS to see the mimic diagram on UPS level.

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

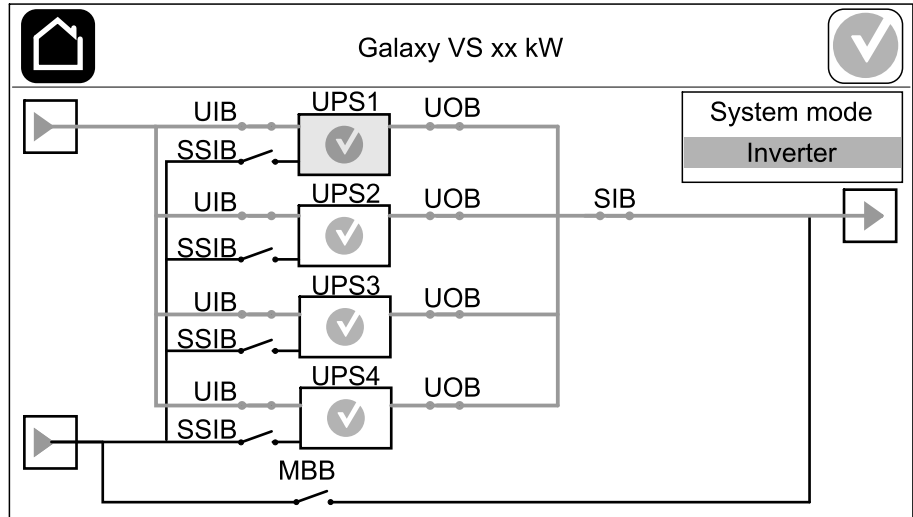
Example of Single UPS System – Dual Mains



Example of Simplified 1+1 Parallel System – Dual Mains



Example of Parallel System – Dual Mains



Alarm Status Symbol

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

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

Menu Tree



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

- **Status**
 - Input
 - Output
 - Bypass
 - Battery
 - Temperature
 - Parallel
- **Logs**
- **Control¹**
 - Operation mode
 - Inverter
 - Charger
 - Guided sequences
- **Configuration¹**
 - UPS
 - Output
 - Battery
 - High efficiency
 - Breakers
 - Contacts and relays
 - Network
 - Modbus
 - General
 - Reminder
 - Save/restore
 - Update status
- **Maintenance**
 - Buzzer
 - Status LEDs
 - Breaker lamp
 - Battery¹
 - Runtime calibration¹
 - Battery replacement¹
 - UPS report
- **About**
- **Logout**
- Flag button – See *Set the Display Language, page 32*.

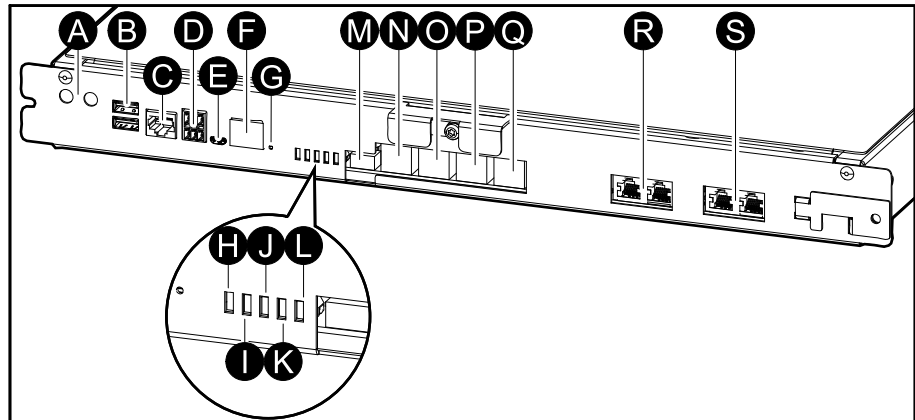
Some menus contain more submenus than described in this manual. These submenus are grayed out and are only for use by Schneider Electric to avoid unwanted load impacts. Other menu items can also be grayed out if they are not relevant for this particular UPS system.

1. This menu requires administrator login to access.

Controller Section

NOTE: Remove the front panel to access the controller section.

Front View of the Controller Section



- A. Inverter ON/OFF buttons
- B. USB ports²
- C. Universal I/O²
- D. Modbus port²
- E. USB Micro-B port²
- F. Network port²
- G. Reset button²
- H. Input status LED³
- I. Inverter status LED³
- J. Output status LED³
- K. Bypass status LED³
- L. Battery status LED³
- M. Display power supply
- N. Display port
- O. Service port (only for service)
- P. For future use
- Q. For future use
- R. PBUS 1
- S. PBUS 2

² Built-in network management card.

³ See *Status LED Lighting per UPS Operation Mode*, page 53.

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 12.
- **System mode:** The operation mode of the complete UPS system that supplies the load. See *System Modes*, page 14.

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 and in simplified 1+1 parallel 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.

Static Bypass Standby Operation

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

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

Battery Test

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

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

ECO Mode

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

NOTE: 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.

ECOConversion Mode

ECOConversion 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 ECOConversion mode are practically eliminated. The batteries are charged when the UPS is in ECOConversion mode.

NOTE: When changes to ECOConversion 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 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 UPSs. During forced static bypass operation, the load is supplied directly by the bypass source with unconditioned power.

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

Maintenance Bypass Operation

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

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

ECO Mode

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

NOTE: 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.

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.

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.

OFF Mode

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

Configuration

Configure the UPS Input

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.

c. Set **Transformer present** to **No transformer present**, **Input transformer**, or **Output transformer**.

The screenshot shows a mobile application interface for configuring a UPS. At the top, there is a navigation bar with a home icon on the left, two tabs labeled 'Configuration' and 'UPS', and a checkmark icon on the right. Below the navigation bar, the 'UPS' configuration screen is displayed. It features three settings: 'Mains configuration' with two radio button options, 'Autostart of the inverter' with a checked checkbox, and 'Transformer present' with a dropdown menu currently set to 'No transformer present'. At the bottom right of the screen, there are two buttons: 'OK' and 'Cancel'.

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

Configure the Output

NOTE: This configuration is mandatory for correct UPS operation.

1. Tap **Configuration > Output**.

- 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.)
- 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.
- Tap **OK** to save your settings and tap the arrow symbol to go to the next page.

The screenshot shows the 'Output' configuration screen. At the top, there are two tabs: 'Configuration' and 'Output', with a checkmark icon on the right. Below the tabs, there are two main sections: 'AC voltage ph-ph' and 'Frequency'. The 'AC voltage ph-ph' section has seven radio button options: 200VAC (selected), 208VAC, 220VAC, 380VAC, 400VAC, 415VAC, and 480VAC. The 'Frequency' section has six radio button options: 50Hz +/-1.0, 50Hz +/-3.0, 50Hz +/-10.0, 60Hz +/-1.0, 60Hz +/-3.0, and 60Hz +/-10.0. At the bottom of the screen, there are two circular arrows (left and right) with '1/2' between them, and two buttons labeled 'OK' and 'Cancel'.

- d. Set the **Bypass and output tolerance (%)**. The bypass and output tolerance range is +3% to +10%, default is +10%.
- e. Set the **Voltage compensation (%)**. The output voltage of the UPS can be adjusted up to $\pm 3\%$ to compensate for different cable lengths.
- f. Set the **Overload threshold (%)**. The overload range is 0% to 100%, default is 75%.
- g. Set the **Transformer voltage compensation (%)**. The transformer voltage compensation range is 0% to 3%, default is 0%. See *Output Transformer Voltage Compensation, page 18* for more details and *Configure the UPS Input, page 16* for configuring that an output transformer is present.
- h. Tap **OK** to save your settings.

The screenshot shows a configuration window with a 'Configuration' tab selected. The 'Output' section contains the following settings:

- Bypass and output tolerance (%): xx
- Voltage compensation (%): xx
- Overload threshold (%): xx
- Transformer voltage compensation (%): xx

At the bottom of the screen, there are navigation arrows, a page indicator '2/2', and 'OK' and 'Cancel' buttons.

Output Transformer Voltage Compensation

It is possible to compensate for an output transformer and balance the output voltage drop (0-3%). The output transformer voltage compensation works without having the UPS to measure the voltage on the secondary side of the transformer.

1. At 0% load you must measure the voltage on the secondary side of the transformer, and the output voltage of the UPS is then manually adjusted via the **Voltage compensation (%)** setting to offset compensation if necessary.
2. Then load must be applied on the UPS. You must measure the voltage on the secondary side of the transformer again, and the output voltage of the UPS must be adjusted via the **Transformer voltage compensation (%)** setting to compensate for the voltage drop in the transformer.

The voltage compensation required at the specific load is used to make an automatic linear output voltage adjustment on the UPS according to the output load percentage.

Configure the Battery Solution

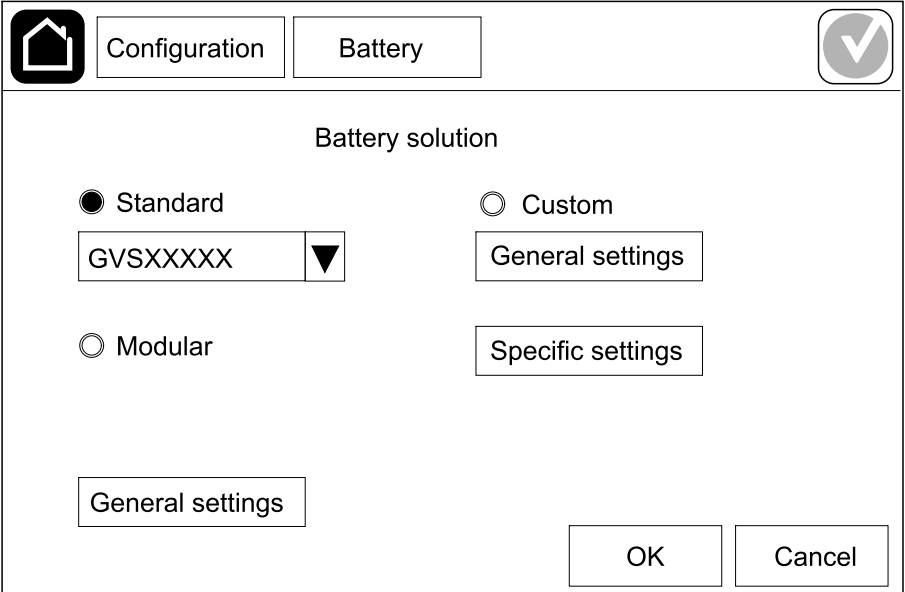
DANGER

HAZARD OF ELECTRICAL SHOCK, EXPLOSION, OR ARC FLASH

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

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

1. Tap **Configuration > Battery**.
2. Select your battery solution type:
 - a. Select **Standard** if you have a standard Galaxy VS battery solution and choose the commercial reference for your specific battery configuration from the drop-down list.
 - b. Select **Modular** if you have a modular Galaxy VS battery solution.
 - c. Select **Custom** if you have a custom battery solution.



The screenshot shows the 'Battery' configuration screen. At the top, there are two tabs: 'Configuration' and 'Battery'. Below the tabs, the title 'Battery solution' is centered. There are two radio button options: 'Standard' (selected) and 'Custom'. Under 'Standard', there is a dropdown menu showing 'GVSXXXXX' and a downward arrow. Under 'Custom', there is a 'General settings' button. Under 'Modular', there is a 'Specific settings' button. At the bottom left, there is a 'General settings' button. At the bottom right, there are 'OK' and 'Cancel' buttons.

3. Tap **General settings** and set up the following parameters:

NOTE: On each page, tap **OK** to save your settings and tap the arrow symbol to go to the next page. Only the first three settings are available for modular battery solutions.

Number of battery cabinets connected to the battery breaker/Number of modular battery cabinets	Set the number of battery cabinets connected to each battery breaker/Set the number of modular battery cabinets connected to the UPS.
Low runtime warning (sec)	Set the threshold for remaining runtime in seconds that will activate the low runtime warning.
Charge capacity (%)	Set the maximum charge capacity in percentage of the UPS nominal power rating.
Minimum threshold (°C)	Set the minimum acceptable battery temperature in Celsius or Fahrenheit. Temperatures below this threshold will activate an alarm.
Maximum threshold (°C)	Set the maximum acceptable battery temperature in Celsius or Fahrenheit. Temperatures above this threshold will activate an alarm.
Charger autoboot mode	Select to enable charger autoboot mode. This function will automatically transfer the charger to boost charger mode after the system has been in battery operation.
Cyclic charge mode	Select to enable cyclic charge mode. During a cyclic charge, the system cycles between periods of float charging and resting. This function will continuously maintain the battery charge status without stressing the batteries by conducting a permanent float charging.
Test interval every	Set how often the UPS should run a battery test.
Test day of the week	Set on which day of the week the battery test should run.
Test start time (hh:mm)	Set which time of day the battery test should run.

4. **Only for custom battery solution:** Tap **Specific settings** and set up the following parameters:

NOTE: On each page, tap **OK** to save your settings and tap the arrow symbol to go to the next page.

Battery type	Select the battery type.
Battery midpoint connected	Select if a battery midpoint is connected.
Disable temperature monitoring	Select to disable battery temperature monitoring.
Battery capacity per block (Ah)	Set the battery capacity per battery block in ampere hours for the battery bank connected to each battery breaker.
Number of parallel battery strings	Set the number of battery strings connected in parallel for the battery bank connected to each battery breaker.
Number of battery blocks per string	Set the number of battery blocks per battery string.
Number of battery cells per block	Set the number of battery cells in a battery block.
DC voltage per battery cell (V)	Set the charging voltage per battery cell for Float charging. Float charging is the basic charging function available on all types of batteries and automatically initiated by the charger.
	Set the charging voltage per battery cell for Boost charging. Boost charging makes it possible to conduct a fast charging in order to quickly restore a discharged battery.
	Set the charging voltage per battery cell for Equalization charging. Equalization charging is used when equalizing skewed open cell batteries. This is the charging method available using the highest possible charging voltage level. When equalization charging is conducted, water is evaporated from the open cell batteries which must be replaced when charging is completed.
Charge duration (sec)	Set the duration in seconds of the charge for Boost charging and Equalization charging.
DC shutdown voltage per battery cell (V)	Set the voltage level per battery cell for when the battery must be shut down.
Nominal temperature (°C)/Nominal temperature (°F)	Set the nominal temperature in Celsius or Fahrenheit.
Charge current rate	Set the charge current rate.
Allow boost charge	Select to allow boost charge of the batteries. Boost charging makes it possible to conduct a fast charging in order to quickly restore a discharged battery.

Allow battery deep discharge	Select to allow deep discharge of the batteries when the UPS is in battery operation. This function allows to discharge the batteries to an even lower voltage level than the normally recommended value. Note that this may damage the batteries.
Enable battery automatic disconnect	Select to enable automatic disconnection of the batteries. When the UPS system is left with output off and no ability to charge the batteries, this function will trip the battery breakers to avoid battery deep discharge after a period of: <ul style="list-style-type: none">• Two weeks.• 10 minutes with the battery cell voltage below the low battery shutdown level.

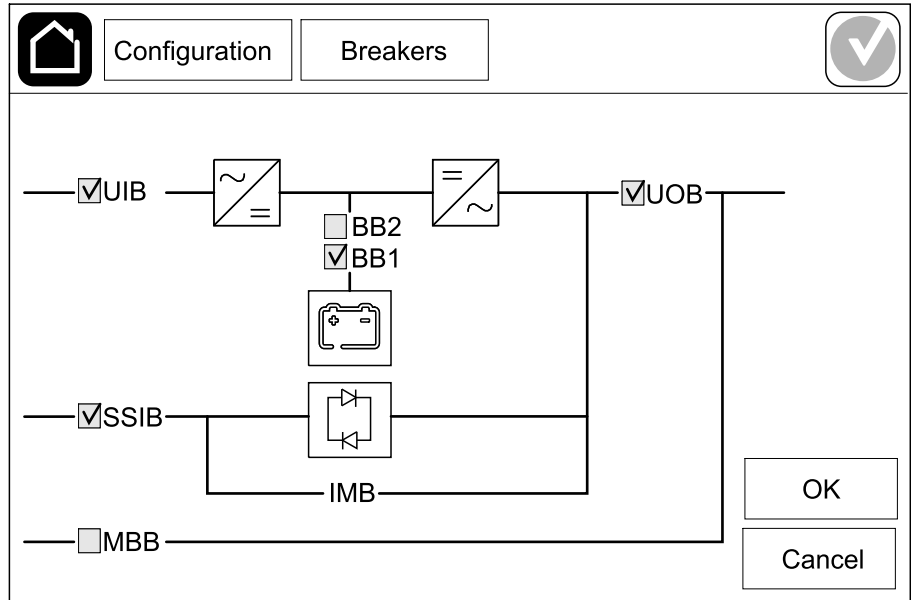
Configure High Efficiency Mode

1. Tap **Configuration > High efficiency**.
2. Select the **High efficiency mode**: **Disable**, **ECO mode**, or **ECONversion**.
NOTE: Contact Schneider Electric to enable **ECO mode**.
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 ✓ means that the breaker is present, empty square means that the breaker is not present, grayed out square means that the breaker is automatically configured in your UPS system.



NOTE: The UPS can monitor up to two battery breakers in a standard battery solution. The UPS can monitor up to four battery breakers in a modular battery solution – this is configured automatically by the UPS. The mimic diagram only shows one battery breaker BB even if more battery breakers have been connected and configured for monitoring. If one or more of the monitored battery breakers are in the closed position, the BB on the mimic diagram will show as closed. If all of the monitored battery breakers are in the open position, the BB on the mimic diagram will show as open.

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 selected input contact:

<p>None: No action assigned to this input contact.</p>	<p>Genset is supplying the UPS: Input to indicate that the UPS is being supplied by a generator. You must also select the reduction in battery charge current while the UPS is being supplied by a generator. Set Battery charge power during genset supply to 0% (no battery charging), 10%, 25%, 50%, 75%, or 100% (full battery charging). Battery charge power during genset supply is only selectable for this function.</p>
<p>Ground fault: Input to indicate that a ground fault is present.</p>	<p>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.</p>
<p>User-defined 1: General purpose input.</p>	<p>External battery monitoring detected a fault: Input to indicate that the external battery monitoring has detected a fault. When the input is active, the UPS will post an alarm (no other action).</p>
<p>User-defined 2: General purpose input.</p>	<p>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.</p>
<p>External energy storage monitoring detected a minor fault: Input to indicate that the external energy storage monitoring has detected a minor fault.</p>	<p>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.</p>
<p>External energy storage monitoring detected a major fault: Input to indicate that the external energy storage monitoring has detected a major fault.</p>	<p>Transformer temperature is too high: Input to indicate that there is a high temperature alarm for the transformer.</p>

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 **Energized check mode** (disabled as default).



When **Energized check mode** is enabled, the output relay is activated, and will deactivate when the events assigned to the output relay occurs (normally activated).

When **Energized check mode** is disabled, the output relay is deactivated, and will activate when the events assigned to the output relay occurs (normally deactivated).

Energized check mode must be individually enabled for each output relay and makes it possible to detect if the output relay is inoperable:

- If the power supply to the output relays is lost, the events assigned to all the output relays will be indicated as present.
- If a single output relay has become inoperable, the events assigned to the single output relay will be indicated as present.

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

 Configuration
Contacts and relays




Output relay 1

Delay (sec) Energized check mode

UPS common alarm

UPS informational alarm

UPS warning alarm

 1/5 

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 **DHCP**.
 - 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.

Configure the Display Preferences

1. Tap **Configuration > General > Display**.
 - a. Set the temperature unit to **Celsius** or **Fahrenheit**.
 - b. Tap the - or + to set the display brightness.
 - c. Set the **Alarm sound** to **Enable** or **Disable**. This will enable/mute all alarm sounds.
 - d. Set the **Touch screen sound** to **Enable** or **Disable**. This will enable/mute all display sounds (excluding alarm sounds).

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.

Air filter check

Enable reminder

Duration before first reminder

1 month 3 months 6 months 1 year

Remaining time (weeks) 5

Restart air filter counter

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

Save the UPS Settings on a USB Device

NOTE: The UPS can only accept settings that were originally saved from the same UPS. Settings saved from other UPSs can not be reused.

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

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

Restore the UPS Settings from a USB Device

NOTE: The UPS can only accept settings that were originally saved from the same UPS. Settings saved from other UPSs cannot be reused. Settings can only be restored when the UPS is in maintenance bypass operation or off mode.

NOTE: Do not open the unit input breaker UIB at the end of the shutdown sequence as this will turn off the power to the display.

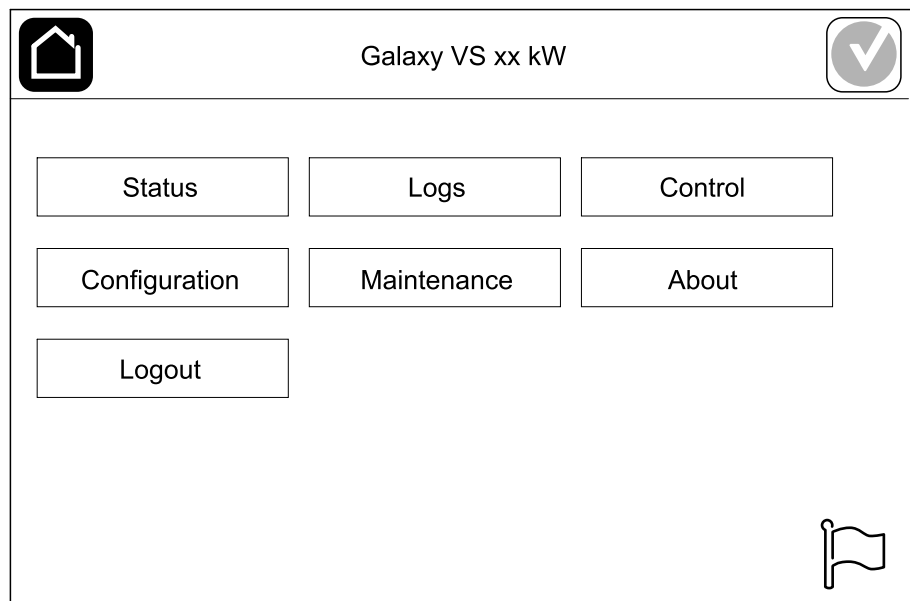
1. Tap **Control > Guided sequences > Shut down UPS system** or **Control > Guided sequences > Shut down a UPS in a parallel system**, and follow the steps which appear on the display.
2. Select **Configuration > Save/restore**.
3. Open the front panel.
4. Insert your USB device in one of the USB ports on the UPS.
5. Tap **Restore** to implement saved UPS settings from the USB device. Wait for the controller to reboot automatically.

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

6. Select **Control > Guided sequences > Start up UPS system** or **Control > Guided sequences > Start up a UPS in a parallel system**, and follow the steps which appear on the display.

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

Start Up the UPS System from Off Mode

NOTE: Use this procedure to start up a UPS from Off mode with no supplied load. If you are starting up the UPS with load supplied via MBB or IMB, please follow the procedure described in *Start Up the UPS System from Maintenance Bypass Operation*, page 36.

1. Close the unit input breaker UIB.
The display turns on. The rebooting sequence lasts approximately 3 minutes.
2. Close the static switch input breaker SSIB (if present).
3. Close the battery breakers (if present).
4. Close the unit output breaker UOB.
5. Close the system input breaker SIB (if present).
6. Turn on the inverter by pressing the inverter ON button on the controller box or by following *Turn the Inverter ON*, page 34.

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 into Maintenance Bypass Operation

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

1. Tap **Control > Guided sequences > Shut down UPS system** or **Control > Guided sequences > Shut down a UPS in a parallel system**, and follow the steps which appear on the display.

Shut Down into Maintenance Bypass Operation for Single UPS System with Kirk Key Installed

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

1. Select **Control > Operation mode > Transfer to bypass operation**.
2. Hold down the SKRU push-button, turn and remove key A from the SKRU interlock.
3. Insert key A in the interlock for the maintenance bypass breaker MBB and turn the key.
4. Close the maintenance bypass breaker MBB.
5. Open the unit output breaker UOB.
6. Turn and remove key B from the interlock for the unit output breaker UOB.
7. Insert key B in the SKRU interlock and turn the key to the locked position.
8. Select **Control > Inverter > Inverter off**.
9. Open the static switch input breaker SSIB (if present).
10. Open the battery breaker(s).
11. Open the unit input breaker UIB.

Start Up the UPS System from Maintenance Bypass Operation

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

1. If open, close the unit input breaker UIB.
The display turns on. The rebooting sequence lasts approximately 3 minutes.
2. Select **Control > Guided sequences > Start up UPS system** or **Control > Guided sequences > Start up a UPS in a parallel system**, and follow the steps which appear on the display.

Start Up from Maintenance Bypass Operation for Single UPS System with Kirk Key Installed

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 three minutes.
2. Close the static switch input breaker SSIB (if present).
3. Close the battery breakers.
4. Select **Control > Operation mode > Transfer to bypass operation**.
5. Hold down the SKRU push-button, turn and remove key B from the SKRU interlock.
6. Insert key B in the interlock for the unit output breaker UOB and turn the key.
7. Close the unit output breaker UOB.
8. Open the maintenance bypass breaker MBB.
9. Turn and remove key A from the interlock for the maintenance bypass breaker MBB.
10. Insert key A in the SKRU interlock and turn the key to the locked position.
11. Select **Control > Inverter > Inverter on**.

Access a Configured Network Management Interface

The network management card 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 37.

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 EcoStruxure IT Gateway or StruxureWare Data Center 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 38.

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**.

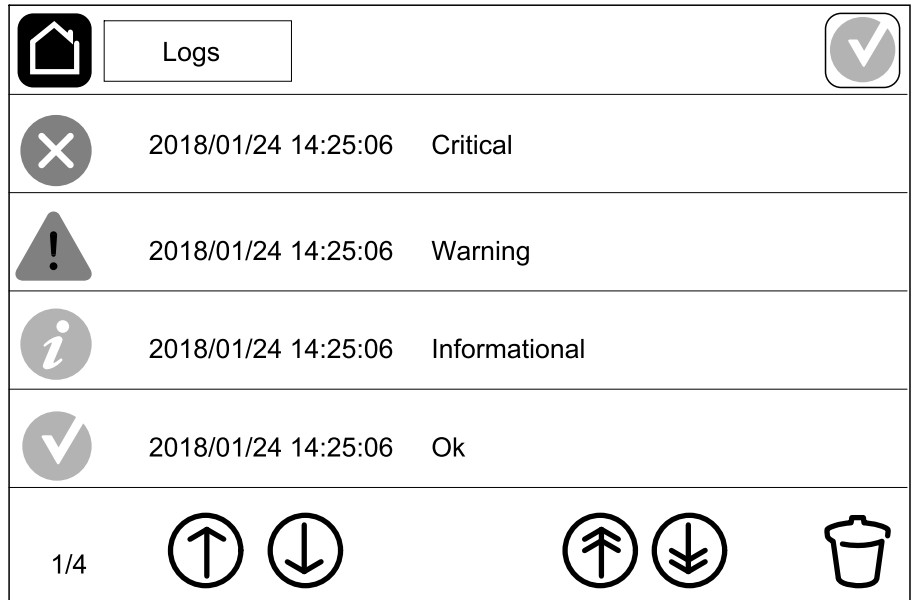
Enable SNMP Protocols

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 EcoStruxure IT Gateway or StruxureWare Data Center Expert for the network management card 4 to communicate correctly with EcoStruxure IT Gateway or StruxureWare Data Center Expert.

View the Logs

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



View the System Status Information

1. Tap **Status**.

- a. Tap **Input**, **Output**, **Bypass**, **Battery**, **Temperature**, or **Parallel** 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) ⁴	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.

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) ⁴	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 current⁴	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.
Energy	The total energy supplied since the time of installation.
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.

4. Only applicable in systems with neutral connection.

Bypass

Voltage ph-ph (phase-to-phase) ⁵	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.

Battery

Measurements	The present DC power being drawn from the battery, in kilowatts (kW).
	The present battery voltage (VDC).
	The present battery current in amperes (A). A positive current indicates that the battery is charging; a negative current indicates that the battery is discharging.
	Battery temperature from the connected temperature sensors in Celsius or Fahrenheit.
Battery	The amount of time before the batteries reach the low-voltage shutdown level. Also shows charge level of the battery as a percentage of full charge capacity.
	The present battery charge (Ah).
Configuration	Shows battery type. For a modular battery, tap the Details button in this field to see the modular battery details. See <i>View the Modular Battery Status, page 43</i> .
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.

Parallel

Input current	The present input current from the input source per phase in amperes (A).
Bypass current	The present bypass current from the bypass source per phase in amperes (A).

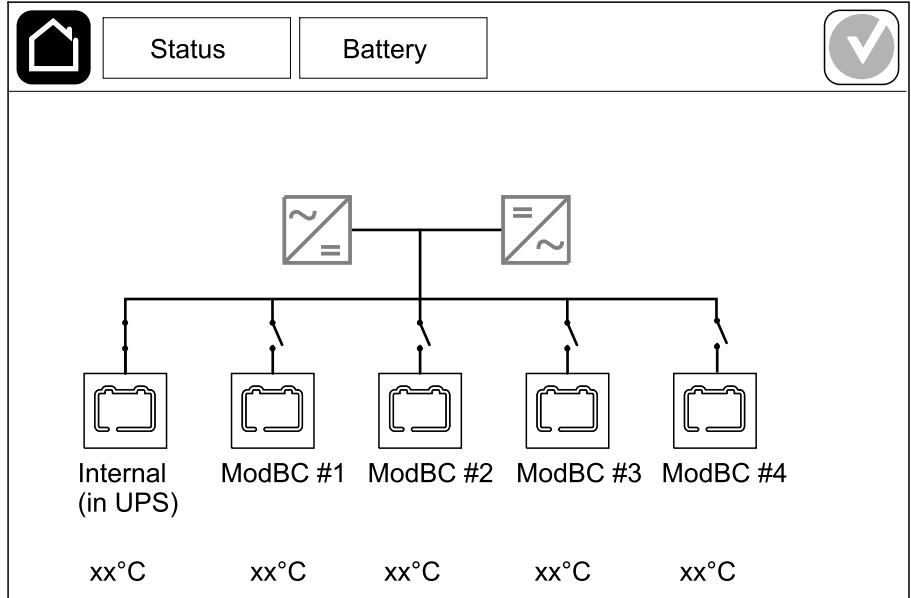
5. Only applicable in systems with neutral connection.

Parallel (Continued)

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

View the Modular Battery Status

1. Select **Status > Battery > Details**. An overview of the modular battery solution is shown. You can see the battery breaker status for each modular battery cabinet and for the modular batteries inside the UPS (only available for UPS models for internal batteries). If the battery symbol is red, it means that an alarm exists for modular batteries in the modular battery cabinet or in the UPS. The temperature shown on this screen is the highest battery string temperature measured in the modular battery cabinet/UPS.



2. Tap the battery symbol named **Internal (in UPS)** (only present for UPS models for internal batteries) to see the information for modular batteries in the UPS or tap the battery symbol named **ModBC # x** to see the information for modular battery cabinet x. You will then be able to see details for each battery string such as number of installed battery modules, alarm presence, temperature for each battery string, and battery module type.

ModBC #x	GVS	Temperature	Alarm
#6	X X X X	xx°C	✓
#5	X X X X	xx°C	✓
#4	X X X X	xx°C	✓
#3	X X X X	xx°C	✓
#2	☐ ☐ ☐ ☐	xx°C	✓
#1	☐ ☐ ☐ ☐	xx°C	✗

Tests

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

- **Buzzer**
- **Status LEDs**
- **Breaker lamp**
- **Runtime calibration**
- **Battery**

Tap the menu button on the home screen and select **Maintenance** and **Buzzer**, or **Status LEDs**, or **Breaker lamp** to start the test of these functions. See *Start a Runtime Calibration Test, page 44* and *Start a Battery Test, page 45* for details and requirements for these tests.

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 the low DC warning level and this will result in a short battery runtime after the calibration until the batteries are fully recharged.
- Repeated battery testing or calibration can affect the service life of the battery.

Failure to follow these instructions can result in equipment damage.

Prerequisites:

- 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, ECOConversion, or ECO mode.
 - The system operation mode must be inverter, ECOConversion, or ECO mode.
1. Tap the menu button on the home screen.
 2. Select **Maintenance > 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 **Maintenance > 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** can be scheduled to run automatically in different time intervals (from weekly and up to once a year). See *Configure the Battery Solution, page 19*.

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

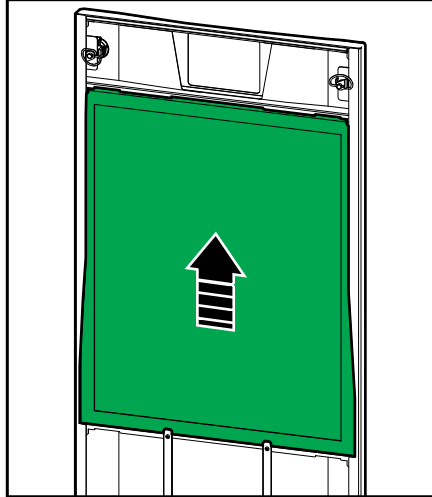
Stop a Battery Test

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

Maintenance

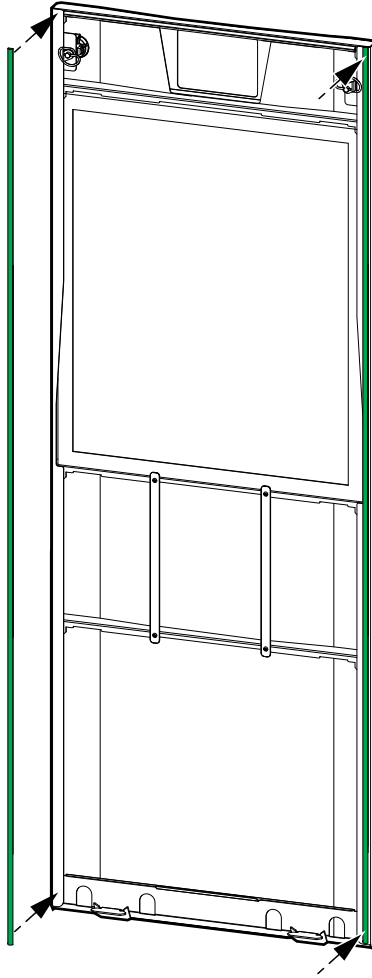
Replace the Air Filter (GVSOPT001 and GVSOPT015)

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.

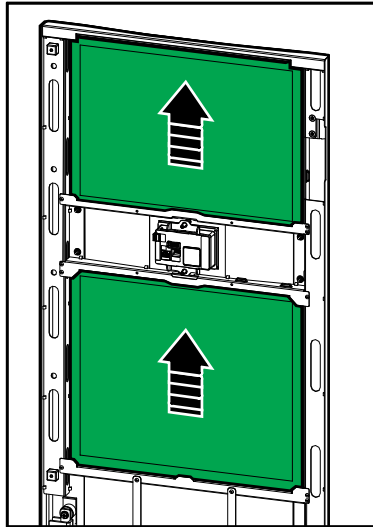
4. Mount the two provided rubber gaskets on each side of the door as close to the edge of the door frame as possible. Replace the rubber gaskets as needed on the next replacement of the air filter.



5. Close the front panel of the UPS.
6. Restart the air filter counter, see *Configure the Air Filter Reminder*, page 31.

Replace the Air Filters (GVSOPT014)

1. Open the front door.
2. Remove the two air filters from the door.



3. Install the two new air filters in the door.
4. Close the front door.
5. Restart the air filter counter, see *Configure the Air Filter Reminder*, page 31.

Replace or Install a Modular Battery String

⚠️ 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:

- 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.
- 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.
- 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.
- Set the battery breaker BB to the open (OFF) position before starting this procedure.

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

⚠️ WARNING

RISK OF EQUIPMENT DAMAGE

- When replacing or installing battery modules, always use with the same battery module type (same commercial reference) in the entire UPS system.
- Always replace or install an entire battery string (four battery modules).
- Wait until the system is ready to be powered up before installing battery modules in the system. The time duration from battery module installation until the UPS system is powered up must not exceed 72 hours or 3 days.
- 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 installed battery modules, thus avoiding irreversible damage from deep discharging.
- Store the battery modules at an ambient temperature of -15 to 40 °C (5 to 104 °F).
- Store the battery modules in their original protective packaging.
- Battery modules stored at -15 to 25 °C (5 to 77 °F) must be recharged every six months to avoid damages from deep discharging. Battery modules stored at over 25 °C (77 °F) must be recharged at shorter intervals.

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

NOTICE

RISK OF LOAD DROP

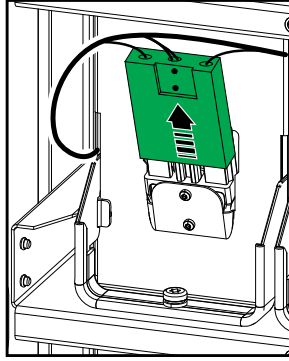
Battery backup is not available from a cabinet when the battery breaker BB on the cabinet is in the open (OFF) position.

Failure to follow these instructions can result in equipment damage.

1. Set the battery breaker BB to the open (OFF) position on the UPS and/or the modular battery cabinet where battery modules must be replaced or installed.
2. Remove the battery cover from the UPS and/or the modular battery cabinet.

3. Remove a battery module:

- a. Disconnect the battery terminals from the front of the battery module.



- b. Remove the screw from the battery module handle and turn the handle upwards.

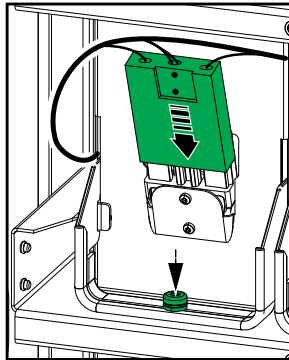
- c. Pull the battery module carefully out of the slot. Always remove the complete battery string (four battery modules).

4. Install a battery module:

- a. Push the battery module into the slot. Fill the shelves from the bottom and upwards. Always install a complete battery string (four battery modules).

- b. Turn down the handle on the battery module and fasten the handle to the shelf with the provided screw.

- c. Connect the battery terminals to the front of the battery module.



5. See *View the Modular Battery Status*, page 43 to verify correct installation of the battery modules.

6. Reinstall the battery cover on the UPS and/or the modular battery cabinet.

7. Set the battery breaker BB to the closed (ON) position on the UPS and/or the modular battery cabinet.

8. **Only for complete replacement of all battery modules in the UPS system:** Select **Status > Battery replacement** to reset all battery data (includes battery runtime aging factor, service life counters, and battery statistics).

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

1. Tap the menu button on the home screen.
2. Tap **About**.
3. Note down the serial number of the UPS cabinet and have it ready for customer support.

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

Example of Name Plate Label for UPS

Schneider Electric		Galaxy VS							
		xx kW/kVA			xx kW/kVA				
		200 V	208 V	220 V	380 V	400 V	415 V	480 V	
Input:		xxx A	xxx A	xxx A	xxx A	xxx A	xxx A	xxx A	xxx A
Bypass:		xxx A	xxx A	xxx A	xxx A	xxx A	xxx A	xxx A	xxx A
Output:		xxx A	xxx A	xxx A	xxx A	xxx A	xxx A	xxx A	xxx A
Neutral:		xxx A	xxx A	xxx A	xxx A	xxx A	xxx A	xxx A	xxx A
3ph + N + PE / 3ph + PE 50/60 Hz									
Model installed: _____kW/kVA _____V.					MODEL:		Barcode label		
Name of installer: _____					SERIAL:				
Note: Refer to the type specifications label or the installation manual for nominal currents for all kW/kVA sizes.									

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

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).

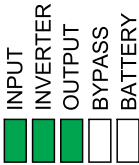


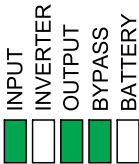
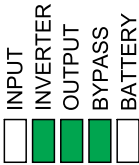
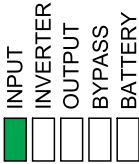
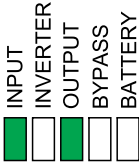
NOTE: Damages sustained in transit are not covered under warranty.

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 (in dual mains system with bypass available)	
Battery operation (in single mains system or in dual mains system with bypass unavailable)	
Requested static bypass operation Forced static bypass operation ECO mode	
ECOversion mode	
Off mode	
Static bypass standby operation	

Status LEDs on the Modular Battery Cabinet

Remove the front door/front panel from the modular battery cabinet to see the status LEDs for the battery strings.

- Green LED means that this battery string is OK.
- Off LED means that the modular battery cabinet is powered off or that no battery modules are installed for this battery string.
- Red LED means that this battery string is incomplete (not all four required battery modules are connected).
- Flashing red LED means that an alarm is present for this battery string.

See *View the Modular Battery Status*, page 43 and *View the Logs*, page 39 for more alarm information. See *Replace or Install a Modular Battery String*, page 49 on how to replace a battery string.

Export UPS Report to a USB Device

1. Select **Maintenance > UPS report**.
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.

5. Send the UPS report to Schneider Electric customer support.

Schneider Electric
35 rue Joseph Monier
92500 Rueil Malmaison
France

+ 33 (0) 1 41 29 70 00



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

© 2018 – 2019 Schneider Electric. All rights reserved.

990-5910C-001