# **Remote Centralized Display**

# For Galaxy VL and Galaxy VXL

# **Installation and Operation**

**GVLOPT007** 

Latest updates are available on the Schneider Electric website 7/2025





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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.

#### **ADANGER**

**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.

#### **AWARNING**

**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.

#### **A**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 for use in industrial environments. 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**

#### AADANGER

#### 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.

#### **AADANGER**

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

After the Galaxy VL remote centralized display 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.

#### **AADANGER**

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

 Install the UPS system in a temperature controlled indoor environment free of conductive contaminants and humidity.

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

# **Specifications**

# **Remote Centralized Display Specifications**

| Display                          | 10 inch Magelis Display HMIST6500 |
|----------------------------------|-----------------------------------|
| Connection to UPS                | CAT 5e SF/UTP                     |
| Input voltage                    | 380 V, 400 V, 415 V, 440 V, 480 V |
| Input frequency                  | 50/60 Hz                          |
| Connections                      | 3PH + PE                          |
| Maximum input current            | 70 mA                             |
| Maximum upstream circuit breaker | 20 A                              |

The remote centralized display (GVLOPT007) offers the ability to monitor and control a number of UPSs in parallel from a single point.

- Centralized monitoring
- Centralized synchronized transfer command (Inverter Bypass)
- · External disconnect device monitoring through PLC

#### **Applicable Products**

| Product range | Number of parallel UPSs supported by GVLOPT007                |
|---------------|---|
| Galaxy VL     | Centralized monitoring of up to 6 Galaxy VL UPSs in parallel  |
| Galaxy VXL    | Centralized monitoring of up to 5 Galaxy VXL UPSs in parallel |

#### **Recommended Cable Sizes**

#### **AADANGER**

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

All wiring must comply with all applicable national and/or electrical codes.

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

**NOTE:** Overcurrent protection is to be provided by others.

- Copper cable, maximum cable diameter: 12 AWG or 4 mm<sup>2</sup>, minimum cable diameter: 16 AWG or 1.5 mm<sup>2</sup>
- Minimum 75 °C (167 °F) conductors
- An ambient temperature of 30 °C (86 °F)
- Use of copper conductors
- A readily accessible disconnection device shall be incorporated externally to the system and disconnect from all current carrying conductors.
- Input cable connection with cable glands is allowed for NFPA79 application only

# **Torque Specifications**

| Bolt size                | Torque              |
|--------------------------|---------------------|
| M6                       | 9 Nm (6.64 lb-ft)   |
| M8                       | 17 Nm (12.54 lb-ft) |
| Input / output terminals | 0.6 Nm (0.44 lb-ft) |

# **Environment**

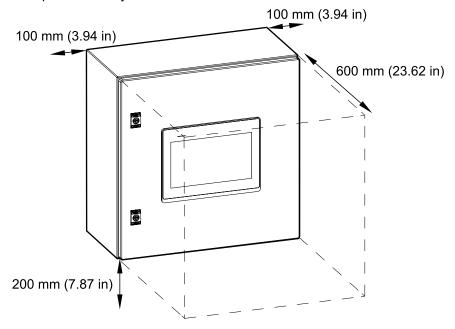
|                   | Operating   | Storage |
|-------------------|---|---------|
| Temperature       | 0 °C to 40 °C (32 °F to 122 °F) -20 °C to 60 °C (-4 °F to 140 °F) |         |
| Relative humidity | 10-90% non-condensing   |         |
| Elevation         | Designed for operation in 0-2000 m (0-6600 feet)                  |         |
| Protection class  | IP20  |         |

# Compliance

| Safety               | IEC 61010-1:2010/AM1:2016 3.1 edition 2017-01 Safety requirements for electrical equipment for measurement, control, and laboratory use IEC 61010-2-201: 2017 2nd edition 2017-3 Safety requirements for electrical equipment for measurement, control, and laboratory use UL 1778, UNINTERRUPTIBLE POWER SYSTEMS, Edition 5, Revision Date 10/12/2017 CSA C22.2 No. 107.3, UNINTERRUPTIBLE POWER SYSTEMS, Edition 3, Revision Date 10/12/2017 |
|----------------------|--|
| EMC/EMI/RFI          | EN/IEC 61000-6-4:2018 Emission standard for industrial environments<br>EN/IEC 61000-6-2:2016 Immunity standard for industrial environments   |
| Earthing system      | TN, TT, IT   |
| Overvoltage category | OVCII  |
| Pollution degree     | 2  |

#### **Clearance**

**NOTE:** Clearance dimensions are published for airflow and service access only. Consult with the local safety codes and standards for additional requirements in your local area.



# **Remote Centralized Display Weights and Dimensions**

| Commercial reference | Weight kg (lbs) | Height mm (in) | Width mm (in) | Depth mm (in) |
|----------------------|-----------------|----------------|---------------|---------------|
| GVLOPT007            | 17 (37.48)      | 500 (19.69)    | 500 (19.69)   | 250 (9.84)    |

# **Installation Procedure for Galaxy VL**

#### Remote Centralized Display in a Modbus TCP Configuration

Ethernet cable, max. 100m (328 feet)

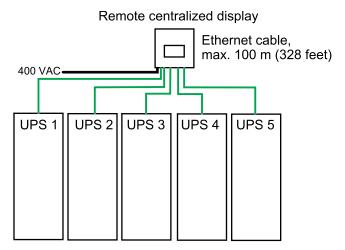
UPS 1 UPS 2 UPS 3 UPS 4 UPS 5 UPS 6

- 1. Mount the Remote Centralized Display to the Wall, page 12.
- 2. Prepare the Remote Centralized Display for Cables, page 13.
- Connect the Power and Signal Cables in a Modbus TCP Configuration, page 15.

# **Installation Procedure for Galaxy VXL**

**NOTE:** The remote centralized display only supports up to 5 Galaxy VXL UPSs in parallel. This manual shows 6 UPSs in parallel in the procedures, but UPS 6 is not supported for a Galaxy VXL UPS system.

#### Remote Centralized Display in a Modbus TCP Configuration



- 1. Mount the Remote Centralized Display to the Wall, page 12.
- 2. Prepare the Remote Centralized Display for Cables, page 13.
- Connect the Power and Signal Cables in a Modbus TCP Configuration, page 15.

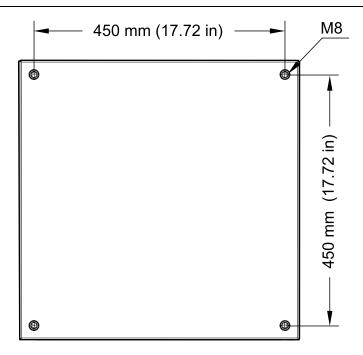
# Mount the Remote Centralized Display to the Wall

#### **ACAUTION**

#### **RISK OF INJURY OR EQUIPMENT DAMAGE**

- Mount the remote centralized display to a wall or a rack that is structurally sound and able to support the weight of the unit.
- Use appropriate hardware (not supplied) to mount the remote centralized display to the wall.

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

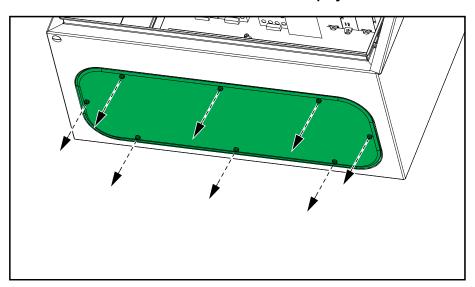


- 1. Measure and mark the four mounting hole locations on the wall.
- 2. Drill holes in each of the four marked locations.
- 3. Open the front door of the remote centralized display.
- 4. Line up the remote centralized display with the four holes on the wall and mount the remote centralized display to the wall with M8 screws and rawlplugs.

# **Prepare the Remote Centralized Display for Cables**

1. Remove the bottom gland plate.

#### Front Bottom View of the Remote Centralized Display

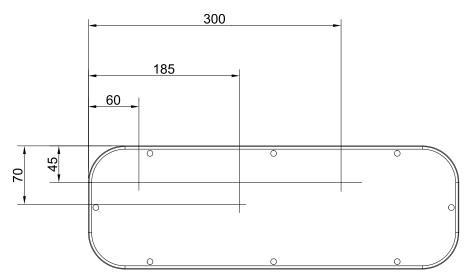


2. Drill or punch holes for power cables and signal cables in the bottom gland plate.

For PG20 and 1/2 inch conduit, drill ø20 mm (0.79 in) hole.

For PG32 and 1 inch conduit, drill ø32 mm (1.26 in) hole.

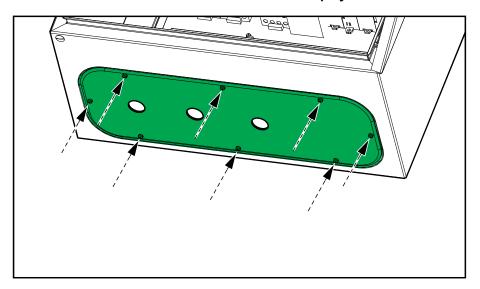
#### **Bottom Gland Plate**



**NOTE:** Use conduits and glands that fit to the cable size going in/out of the remote centralized display. Conduit should be certified according UL514B, DWTT/7 or equivalent. Use M20 and M32 glands from LAPP GmbH (53111020, 6-13 mm diameter and 53111040, 9-21 mm diameter) certified to IEC 50262, VDE135320 or equivalent.

3. Reinstall the bottom gland plate.

#### Front Bottom View of the Remote Centralized Display



# **Connect the Power and Signal Cables in a Modbus TCP Configuration**

#### **AADANGER**

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

Perform a total power off of the UPS system before connecting the cables to the remote centralized display.

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

#### **A**CAUTION

#### **RISK OF EQUIPMENT DAMAGE**

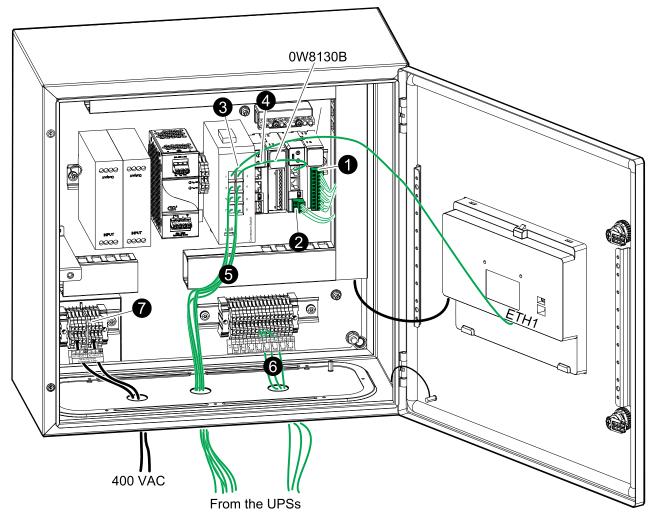
All Class 2/SELV signal cables shall be double insulated cable and minimum rated for 30 VDC. All non-Class 2/non-SELV signal cables shall be double insulated cable and minimum rated for 600 VAC.

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

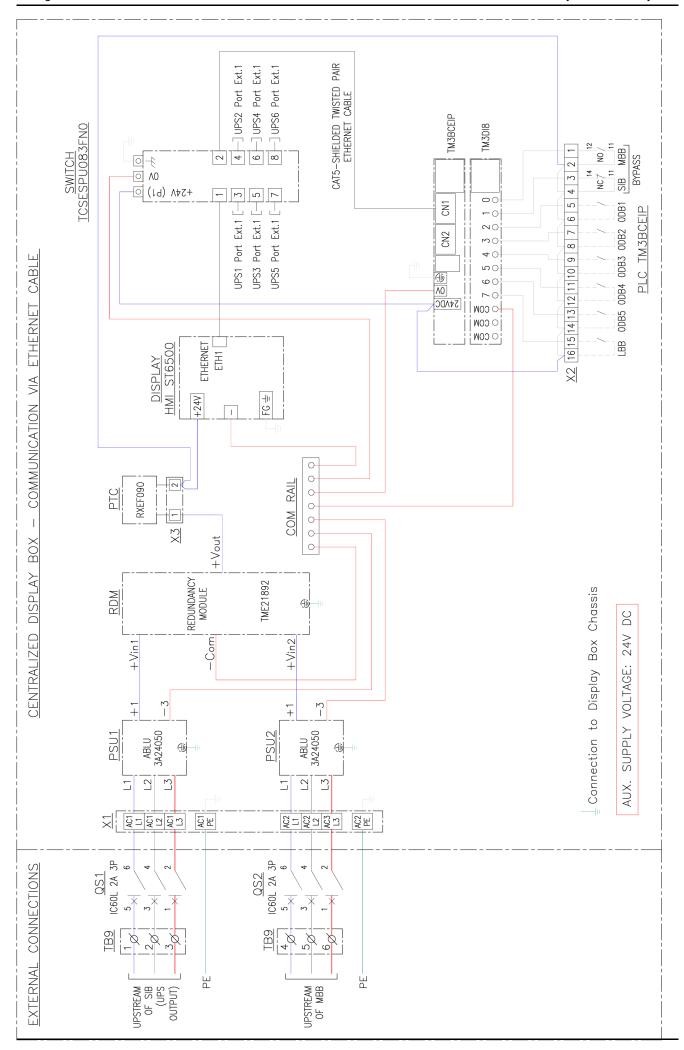
- Connect the large precabled connector to the digital input module TM3DI8 attached to the PLC with Ethernet ports.
- 2. Connect the small precabled connector to the power port CN3 on the PLC with the Ethernet ports.
- Connect the provided signal cable 0W8130B between the display port ETH1 and the ConneXium switch port 1.
- 4. Connect the provided signal cable 0W8130B between the Ethernet port CN1 on the PLC and the ConneXium switch port 2.

 Route the RJ45 cables from each UPSs through the bottom of the remote centralized display and connect to the ConneXium switch port 3-8. UPS 1 to port 3, UPS 2 to port 4, UPS 3 to port 5, UPS 4 to port 6, UPS 5 to port 7, UPS 6 to port 8.

NOTE: Do not connect the I/O cables to non-SELV circuits.

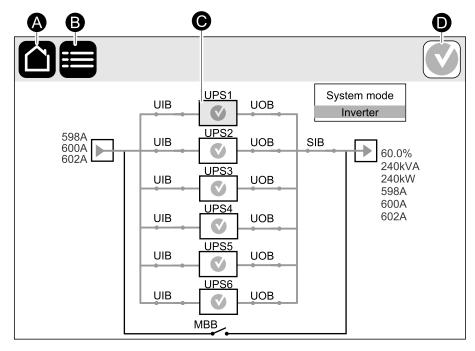


- 6. Route the signal cables from the external disconnect devices in the switchgear (MBB, SIB, 0DB1, 0DB2, 0DB3, 0DB4, 0DB5, LBB) through the bottom of the remote centralized display and connect to the communication terminal block.
- 7. Remove the transparent protection cover in front of the power terminals. Route the power cables through the bottom of the remote centralized display and connect to the power terminal block:
  - a. Connect the PE cables to the power terminals.
  - b. Connect the power cables to the power terminals AC INPUT 1 (L1, L2, L3) and AC INPUT 2 (L1, L2, L3).
- 8. Reinstall the transparent protection cover in front of the power terminals.



# **Overview of User Interface**

#### **Overview of the Home Screen**

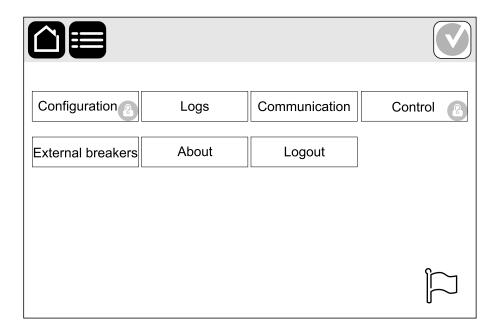


- A. Home button tap this button on any screen to return to the home screen.
- B. Main menu button tap this button on any screen to access the menus.
- C. Mimic diagram button tap on the gray UPS to see the mimic diagram on UPS level.
- D. Alarm status symbol tap this button on any screen to access the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

#### Main Menu



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



#### **Menu Tree**

- Configuration<sup>(1)</sup>
  - System
  - Display
- Logs
- Communication
- Control
- · External breakers
- About
- Logout

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

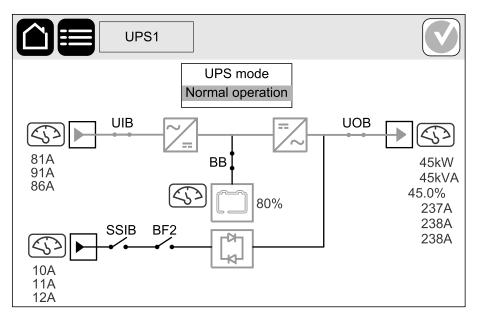
# **Mimic Diagram**

The home screen shows the mimic diagrams for parallel systems. Tap on each UPS to see the mimic diagram on UPS level.

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

<sup>(1)</sup> This menu requires administrator login to access.

#### **Example of Mimic Diagram on UPS Level**



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

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

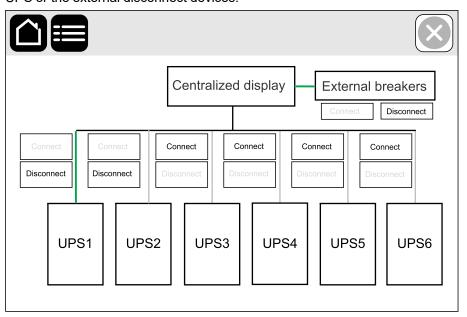
### **Alarm Status Symbol**

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.  |
|---|--|
| i | 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.     |
| X | Red: Critical alarm(s) present in the UPS system. Tap the alarm status symbol to open the active alarms log.       |

# View the Communication Status and Start/Stop the Communication with the UPSs and External Disconnect Devices

- On the main menu screen, tap Communication. The color of the lines connecting the remote centralized display and the UPSs or the external disconnect devices in the diagram indicates the communication status.
  - · Gray: UPS/external disconnect devices not present
  - Green: UPS/external disconnect devices present and communication is normal
  - Red: UPS/external disconnect devices present and communication is abnormal
- 2. Tap **Connect** or **Disconnect** to start or stop the communication with each UPS or the external disconnect devices.



# Configuration

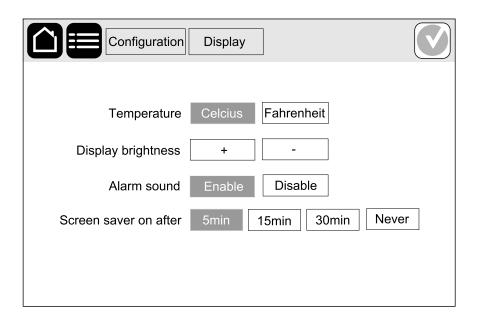
# **Set the Display Language**



- 1. Tap the flag button on the main menu screen.
- 2. Tap your language.

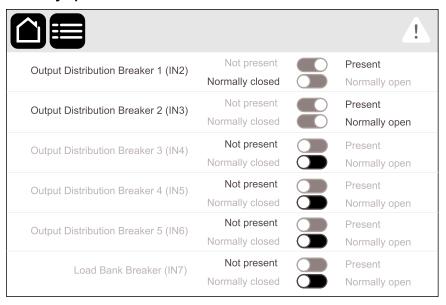
# **Configure the Display Preferences**

- 1. On the main menu screen, tap Configuration > 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. Select the wait time to activate the screen saver: **5min**, **15min** or **30min**. Or select **Never** to disable the screen saver.



# **Configure the External Disconnect Devices**

- 1. On the main menu screen, tap **Configuration > External breakers**.
  - Tap the buttons to configure which disconnect devices are Present or Not Present.
  - b. Tap the button to configure the disconnect devices as **Normally closed** or **Normally open**.



# **Change the Password**

**NOTE:** Schneider Electric recommends to change the password on first login for better cybersecurity.

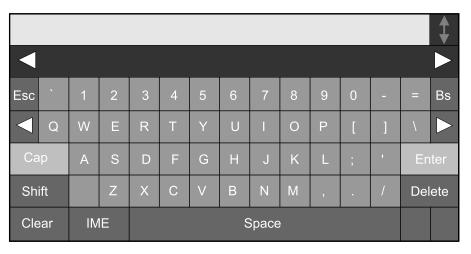
- Tap Configuration.
- 2. Enter your password.

**NOTE:** The default administrator username and password is **admin**.

3. Tap Change password and enter the new password.

# **Operation Procedures**

#### **Access Password-Protected Screens**



- When prompted for the password, tap the User Name field to access the keyboard.
- 2. Tap the username field, type in your username, and tap **Enter**.

**NOTE:** The default administrator username and password is **admin**.

**NOTE:** Schneider Electric recommends to change the password on first login for better cybersecurity.

- 3. Tap the **Password** field, type in your password, and tap **Enter**.
- 4. Tap Login.

# **Transfer the System Mode from Normal Operation to Bypass Operation**

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

# **Transfer the System Mode from Bypass Operation to Normal Operation**

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

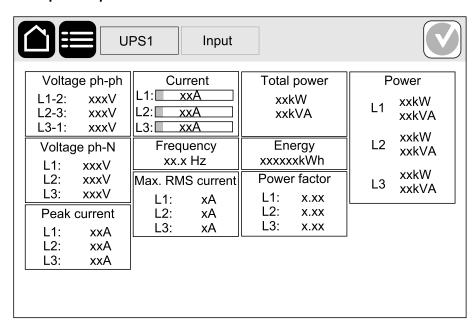
#### **View the UPS Status Information**



On the mimic diagram of the individual UPSs, tap on the measurements button to see the status of input, output, bypass, and battery.

#### Input

#### **Example of Input Measurements on an Individual UPS**

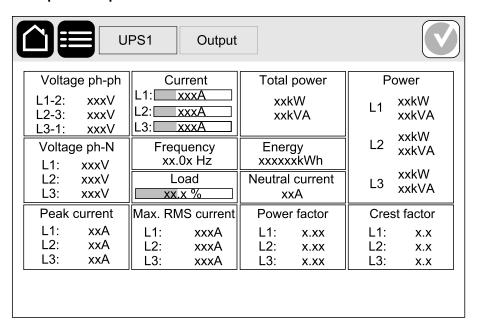


| Voltage ph-ph (phase-to-phase)     | The present phase-to-phase input voltage.   |  |
|------------------------------------|---|--|
| Voltage ph-N (phase-to-neutral)(2) | The present phase-to-neutral input voltage in volts (V).  |  |
| Peak current                       | The input peak current in amperes (A)   |  |
| Current                            | The present input current from the AC utility power source per phase in amperes (A).  |  |
| Frequency                          | The present input frequency in hertz (Hz).  |  |
| Max. RMS current                   | The present maximum RMS current in amperes (A).   |  |
| Total power                        | The present total active power input (for all three phases) in kW.  |  |
| Energy                             | The total energy consumption since the time of installation.  |  |
| Power factor                       | The ratio of the active power to apparent power.  |  |
| 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. |  |

<sup>(2)</sup> Only applicable in systems with neutral connection.

## **Output**

#### **Example of Output Measurements on an Individual UPS**

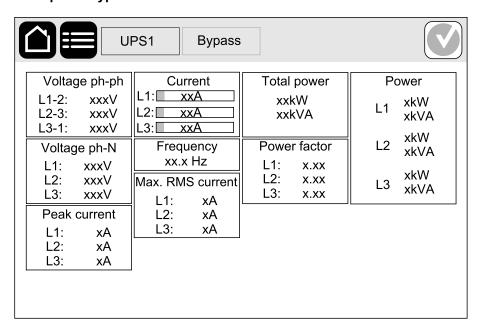


| Voltage ph-ph (phase-to-phase)     | The phase-to-phase output voltage at the inverter in volts (V).  |
|------------------------------------|--|
| Voltage ph-N (phase-to-neutral)(3) | The phase-to-neutral output voltage at the inverter in volts (V).  |
| Peak current                       | The output peak current in amperes (A).  |
| Current                            | The present output current for each phase in amperes (A).  |
| Frequency                          | The present output frequency in hertz (Hz).  |
| Load                               | The percentage of the UPS capacity presently used across all phases. The load percentage for the highest phase load is displayed.  |
| Max. RMS current                   | The present maximum RMS current in amperes (A).  |
| Total power                        | The present active total output power (for all three phases) in kilowatts (kW).  |
| Energy                             | The total energy supplied since the time of installation.  |
| Neutral current(3)                 | The present output neutral 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.   |
| 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. |
| 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.  |

<sup>(3)</sup> Only applicable in systems with neutral connection.

## **Bypass**

#### **Example of Bypass Measurements on an Individual UPS**

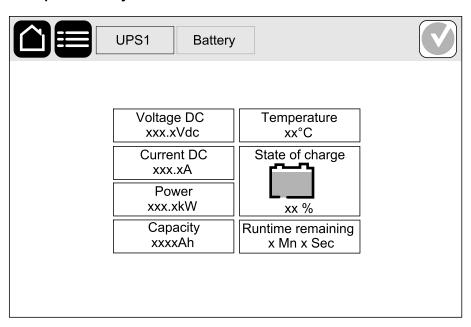


| Voltage ph-ph (phase-to-phase)(4) | The present phase-to-phase bypass voltage (V).  |  |
|-----------------------------------|---|--|
| Voltage ph-N (phase-to-neutral)   | The present phase-to-neutral bypass voltage (V).  |  |
| Peak current                      | The bypass peak current in amperes (A).   |  |
| Current                           | The present bypass current for each phase, in amperes (A).  |  |
| Frequency                         | The present bypass frequency in hertz (Hz).   |  |
| Max. RMS current                  | The present maximum RMS current in amperes (A).   |  |
| Total power                       | The present total active bypass power (for all three phases) in kilowatts (kW).   |  |
| Power factor                      | The present bypass power factor for each phase. Power factor is the ratio of active power to apparent power.  |  |
| 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. |  |

<sup>(4)</sup> Only applicable in systems with neutral connection.

# **Battery**

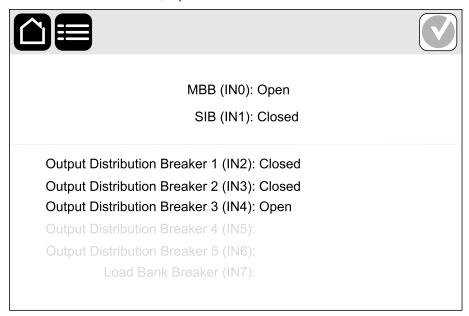
#### **Example of Battery Measurements on an Individual UPS**



| Voltage DC        | The present battery voltage (VDC).   |  |  |
|-------------------|--|--|--|
| Current DC        | 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. |  |  |
| Power             | The present DC power being drawn from the battery, in kilowatts (kW).  |  |  |
| Capacity          | The present battery charge (Ah).   |  |  |
| Temperature       | Battery temperature from the connected temperature sensors in Celsius or Fahrenheit.   |  |  |
| State of charge   | The present charge level of the battery as a percentage of full charge capacity.   |  |  |
| Runtime remaining | The amount of time before the batteries reach the low-voltage shutdown level.  |  |  |

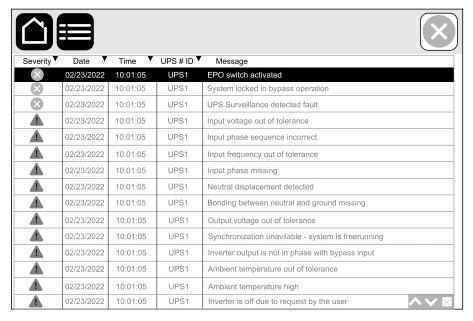
#### View the Status of the External Disconnect Devices

1. On the main menu screen, tap External breakers.



## **View the Logs**

- 1. On the main menu screen, tap **Logs**. The log shows the latest 400 events with the newest events at the top of the list.
  - a. Tap the arrow buttons to scroll up and down.
  - b. Tap **Severity**, **Date**, **Time** or **UPS #ID** to sort the events.

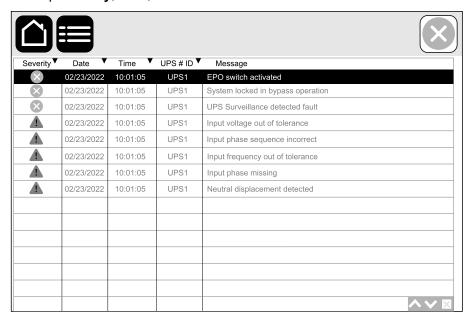


# **Troubleshooting**

#### **View the Active Alarms**

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

- 1. Tap the alarm status symbol to access the active alarms log. The log shows the latest 100 events with the newest events at the top of the list.
  - a. Tap the arrow buttons to scroll up and down.
  - b. Tap Severity, Date, Time or UPS #ID to sort the events.



# **Alarm Messages**

| Alarm/<br>Event | Severity | Display text  | Description  | Corrective action             |
|-----------------|----------|---|--|-------------------------------|
| Alarm           | Warning  | Ambient temperature high                            | Ambient temperature is high.   | Please check the environment. |
| Alarm           | Warning  | Ambient temperature out of tolerance                | Ambient temperature is out of tolerance.   | Please check the environment. |
| Alarm           | Warning  | Batteries are discharging                           | The load is drawing more power than the UPS can draw from the input, causing the UPS to draw power from the batteries. |                               |
| Alarm           | Warning  | Battery breaker BB1 open                            | Battery disconnect device BB1 is open.   |                               |
| Alarm           | Warning  | Battery breaker BB2 open                            | Battery disconnect device BB2 is open.   |                               |
| Alarm           | Warning  | Battery breaker BB3 open                            | Battery disconnect device BB3 open.  |                               |
| Alarm           | Warning  | Battery breaker BB4 open                            | Battery disconnect device BB4 open.  |                               |
| Alarm           | Warning  | Battery condition is poor                           | Battery capacity is lower than 50%.  | Batteries should be replaced. |
| Alarm           | Warning  | Battery condition is weak                           | Battery capacity is between 50% to 75%.  |                               |
| Alarm           | Warning  | Battery float charge current exceeds expected value | The battery float charge current exceeds the expected value and  |                               |

| Alarm/<br>Event | Severity | Display text                                     | Description  | Corrective action  |  |
|-----------------|----------|--|--|--|--|
|                 |          |  | has been limited to avoid thermal runaway.   |  |  |
| Alarm           | Warning  | Battery is below minimum acceptable runtime      | The battery runtime is below configured minimum acceptable value.  |  |  |
| Alarm           | Critical | Battery is not working correctly                 | A battery is not working correctly.  | Please contact Schneider Electric.                               |  |
| Alarm           | Warning  | Battery room ventilation inoperable              | Input relay indicates that the battery room ventilation is not working correctly.                        |  |  |
| Alarm           | Warning  | Bonding between neutral and ground missing       | Bonding between neutral and ground is missing.   |  |  |
| Alarm           | Warning  | Breaker MBB closed                               | Maintenance bypass disconnect device MBB is closed, feeding the load with unprotected power from bypass. |  |  |
| Alarm           | Warning  | Breaker SIB open                                 | System isolation disconnect device SIB is open, and system cannot feed the load.                         |  |  |
| Alarm           | Warning  | Breaker SSIB open                                | Bypass static switch input disconnect device SSIB is open, making static bypass operation unavailable.   |  |  |
| Alarm           | Warning  | Breaker UIB open                                 | Unit input disconnect device UIB is open, and the UPS is prevented from running in normal operation.     |  |  |
| Alarm           | Warning  | Breaker UOB open                                 | Unit output disconnect device UOB is open, and UPS cannot feed the load.                                 |  |  |
| Alarm           | Warning  | Bypass backfeed breaker open                     | Bypass backfeed disconnect device is open.   |  |  |
| Alarm           | Warning  | Bypass frequency out of tolerance                | Bypass input frequency is out of tolerance.  | Check bypass input frequency and bypass input frequency setting. |  |
| Alarm           | Warning  | Bypass phase missing                             | Bypass input is missing a phase.   | Check bypass input. Please contact Schneider Electric.           |  |
| Alarm           | Warning  | Bypass phase sequence incorrect                  | The phase rotation on bypass input is incorrect.   | Check bypass input. Please contact Schneider Electric.           |  |
| Alarm           | Warning  | Bypass voltage out of tolerance                  | Bypass input voltage is out of tolerance and UPS is prevented from going into requested bypass mode.     |  |  |
| Alarm           | Warning  | Charger shutdown due to high battery temperature | The charger has been shut down due to a high battery temperature.  |  |  |
| Alarm           | Critical | EPO Switch Activated                             | An emergency power off (EPO) switch is activated.  | Deactivate the Emergency Power Off switch.                       |  |
| Alarm           | Warning  | External battery monitoring detected fault       | Input relay indicates external battery monitoring has detected a fault.                                  |  |  |
| Alarm           | Critical | External energy storage monitoring: Major alarm  | Input relay indicates external energy storage monitoring has detected a major alarm.                     | Please contact Schneider Electric.                               |  |
| Alarm           | Warning  | External energy storage monitoring: Minor alarm  | Input relay indicates external energy storage monitoring has detected a minor alarm.                     |  |  |
| Alarm           | Warning  | External signal turns charger off: Activated     | Input contact for charger off is activated.  |  |  |
| Alarm           | Warning  | Ground fault detected                            | Input relay indicates that a ground fault has been detected.   | Please contact Schneider Electric.                               |  |
| Alarm           | Critical | High battery discharge current shutdown          | The energy storage surveillance has detected a battery discharge current above shutdown limit.           |  |  |

| Alarm/<br>Event | Severity | Display text                                      | Description   | Corrective action  |  |
|-----------------|----------|---|---|--|--|
| Alarm           | Warning  | High Battery Temperature Level                    | The battery temperature is above the alarm setting.   | Check the battery temperature. A high temperature may decrease the battery lifetime. |  |
| Alarm           | Critical | High battery temperature shutdown                 | The energy storage surveillance has detected a battery temperature above shutdown limit.  |  |  |
| Alarm           | Warning  | Input frequency out of tolerance                  | Mains input frequency is out of tolerance.  | Check input frequency and input frequency setting.                                   |  |
| Alarm           | Warning  | Input phase missing                               | Input is missing a phase.   | Check input. Please contact<br>Schneider Electric.                                   |  |
| Alarm           | Warning  | Input phase sequence incorrect                    | The phase rotation on input is incorrect.   | Check input. Please contact<br>Schneider Electric.                                   |  |
| Alarm           | Warning  | Input voltage out of tolerance                    | Mains input voltage is out of tolerance.  |  |  |
| Alarm           | Warning  | Internal power module redundancy lost             | The configured internal power module redundancy is lost because there are not enough power modules available.   |  |  |
| Alarm           | Warning  | Inverter is Off due to a request by the user      | The inverter is off due to a request by the user.   |  |  |
| Alarm           | Warning  | Inverter output is not in phase with bypass input | The UPS inverter output is not in phase with the bypass input.  |  |  |
| Alarm           | Warning  | Load on UPS is above warning level                | Load on UPS has exceeded the warning level.   |  |  |
| Alarm           | Warning  | Low Battery Temperature Level                     | The battery temperature is below the Alarm setting.   |  |  |
| Alarm           | Warning  | MBB redundant monitoring not working correctly    | The two redundant AUX switches of MBB do not report the same status.  |  |  |
| Alarm           | Warning  | Neutral displacement detected                     | Neutral displacement has been detected.   |  |  |
| Alarm           | Warning  | Output frequency out of tolerance                 | Output frequency is out of tolerance.   | Check output frequency and output frequency setting.                                 |  |
| Alarm           | Warning  | Output voltage out of tolerance                   | The output voltage is out of tolerance.   |  |  |
| Alarm           | Warning  | Overload on installation                          | The load exceeds 100% of rated installation capacity.   |  |  |
| Alarm           | Warning  | Overload on UPS due to high ambient temperature   | The load exceeds the rated capacity when running with high ambient temperature.   | Reduce load on system or ambient temperature.  |  |
| Alarm           | Warning  | Overload or short circuit on UPS                  | Reduce load on system or check for output short circuit.  | The load exceeds 100% of rated capacity or there is a short circuit on the output.   |  |
| Alarm           | Warning  | Parallel breaker status inconsistency detected    | The status of one or more common parallel disconnect devices is not detected to be the same on all parallel UPS.                                      | Replace parallel cable 1.  |  |
| Alarm           | Warning  | Parallel communication lost on PBUS cable 1       | PBUS cable 1 may be damaged.  |  |  |
| Alarm           | Warning  | Parallel communication lost on PBUS cable 2       | PBUS cable 2 may be damaged.  |  |  |
| Alarm           | Warning  | Parallel mixed operation mode                     | One or more parallel UPS units are operating in battery operation, while others are operating in normal operation.                                    |  |  |
| Alarm           | Warning  | Parallel redundancy lost                          | The configured parallel redundancy is lost, either because the output load is too high, or because there are not enough parallel UPS units available. |  |  |

| Alarm/<br>Event | Severity | Display text   | Description   | Corrective action  |
|-----------------|----------|--|---|--|
| Alarm           | Warning  | Parallel unit not present                                  | UPS is unable to communicate with parallel UPS %d. The UPS might have been powered down or PBUS cables may be damaged.      |  |
| Alarm           | Warning  | PM (X) Power module disabled                               | The power module has been disabled.   |  |
| Alarm           | Warning  | PM (X) Power module inoperable                             | Power module is inoperable.   |  |
| Alarm           | Critical | PM (X) Power module overheated                             | Power module temperature exceeds critical level.  |  |
| Alarm           | Critical | PM (X) Power module surveillance detected fault            | Power module surveillance has detected a fault.   |  |
| Alarm           | Warning  | Static bypass switch fan inoperable                        | Static bypass switch has one or more inoperable fans. Fan redundancy is lost.   |  |
| Alarm           | Critical | Static bypass switch inoperable                            | Static bypass switch is inoperable. UPS is prevented from going into static bypass operation.                               |  |
| Alarm           | Warning  | Synchronization unavailable - system is freerunning        | The UPS is unable to synchronize to the bypass input, external source or parallel system.                                   |  |
| Alarm           | Critical | System locked in bypass operation                          | The system is locked in bypass operation.   | The system has toggled between inverter operation and bypass operation more than 10 times within 1 minute. Please activate on button to transfer back to normal operation. |
| Alarm           | Critical | System operation mode -<br>Forced static bypass            | The system is in bypass in response to a critical event or an inverter off request.   |  |
| Alarm           | Warning  | System operation mode -<br>Maintenance bypass              | The system load is supplied through the maintenance bypass disconnect device MBB.   |  |
| Alarm           | Critical | System operation mode - Off                                | The system output power is turned off.  |  |
| Alarm           | Warning  | System operation mode -<br>Requested static bypass         | The system is in bypass in response to the UPS front-panel or a user-initiated software command, typically for maintenance. |  |
| Alarm           | Critical | System operation mode - Static bypass standby              | The system is in static bypass standby operation in response to a critical event or an inverter off request.                |  |
| Alarm           | Warning  | Temperature of input and/or output transformer is too high | Temperature of input and/or output transformer is too high.   |  |
| Alarm           | Warning  | UOB redundant monitoring not working correctly             | The two redundant AUX switches of UOB do not report the same status.  |  |
| Alarm           | Warning  | UPS locked in static bypass mode: Activated                | Input contact for UPS locked in static bypass mode is activated.  |  |
| Alarm           | Warning  | UPS operation mode - Battery                               | On battery power in response to an input power problem or due to a transfer out of eConversion.                             |  |
| Alarm           | Critical | UPS operation mode - Forced static bypass                  | The UPS is in forced static bypass.   |  |
| Alarm           | Warning  | UPS operation mode -<br>Maintenance bypass                 | The UPS load is supplied through the maintenance bypass disconnect device MBB.  |  |
| Alarm           | Critical | UPS operation mode - Off                                   | The output power is turned off.   |  |
| Alarm           | Warning  | UPS operation mode -<br>Requested static bypass            | The UPS is in bypass in response to the UPS front-panel or a user-  |  |

| Alarm/<br>Event | Severity | Display text                               | Description   | Corrective action                  |
|-----------------|----------|--|---|------------------------------------|
|                 |          |  | initiated software command, typically for maintenance.  |                                    |
| Alarm           | Warning  | UPS operation mode - Static bypass standby | The UPS is ready to enter static bypass but awaits permission from the system. UPS output is off. |                                    |
| Alarm           | Critical | UPS surveillance detected fault            | UPS surveillance has detected a fault.  | Please contact Schneider Electric. |

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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.  $\frac{1}{2} \int_{-\infty}^{\infty} \frac{1}{2} \int_{-\infty}^{\infty} \frac{$ 

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