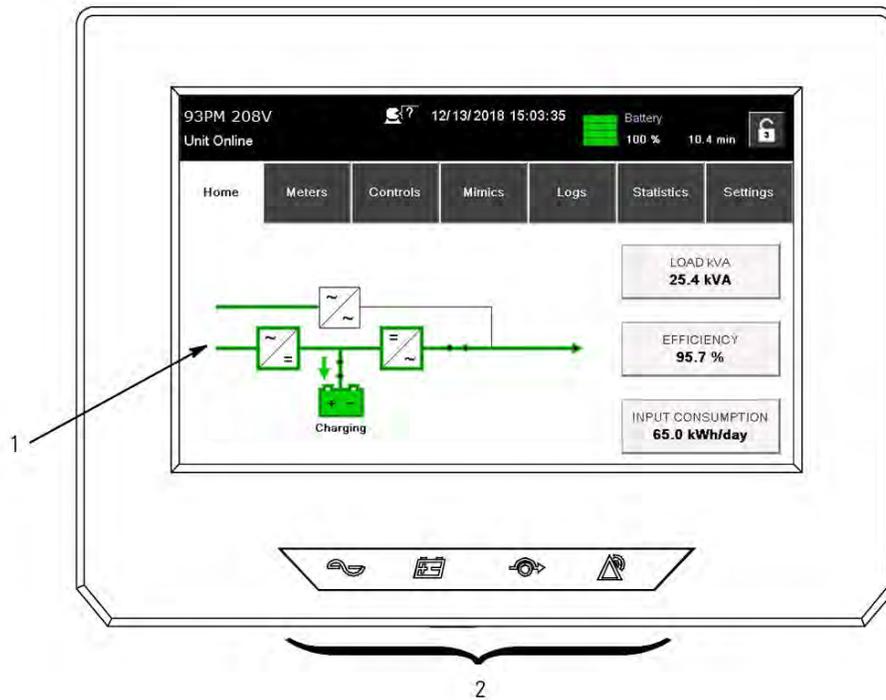


## 6.2 Using the Control Panel

The following paragraphs describe the UPS control panel, including controls and indicators, and how to monitor UPS operation. The control panel is shown in [Figure 58](#).

**Figure 58. UPS Control Panel**



The control panel consists of:

- A color liquid crystal touch screen display (1).
- A horizontal row of status indicators (2). See paragraph [6.2.1 Status Indicators](#).

The following paragraphs describe using the UPS control panel to monitor the UPS. See paragraph [6.2.3 Using the LCD Touch Screen](#) for use of the operational controls.

When the unit powers up, the screen displays the as shown in [Figure 58](#).

### 6.2.1 Status Indicators

The four symbols on the bottom of the control panel are status indicators. These colored light emitting diode (LED) lamps work with the alarm horn to provide the operating status of the UPS.

[Table 30](#) describes the status indicators.

**Table 30. Status Indicators**

Indicator	Status	Description
 Green	On	The UPS is in Double Conversion mode. The power module is supplying power to the critical load.
	Off	The UPS is turned off.
 Yellow	On	The UPS is in Battery mode. Because Battery mode is a normal condition of the UPS, the normal indicator also remains illuminated.
 Yellow	On	The UPS is in Bypass mode. The critical load is supported by the bypass source. The normal indicator is not illuminated when the system is in Bypass mode.
 Red	On	The UPS has an active alarm and requires immediate attention. The LCD shows the highest priority active alarms. All alarms are accompanied by an audible horn. To silence the horn, touch any control panel button. The Alarm indicator may be illuminated along with other indicators.
	Flashing	There is a new UPS alarm condition. The indicator flashes until acknowledged by touching any control panel button once.

### 6.2.2 System Events

When the UPS system is running in Double Conversion mode, it continually monitors itself and the incoming utility power. In Battery or Bypass modes, the UPS may issue alarms to let you know exactly what event caused the change from Double Conversion mode. System events on the UPS can be indicated by horns, lights, messages, or all three.

Select the **LOGS** tab from the navigation bar on main menu screen to display the active events screen. This screen shows any currently active alarms, notices, or commands. For more information on using the events screen, see paragraph [6.2.6 Display Menu Operation](#).

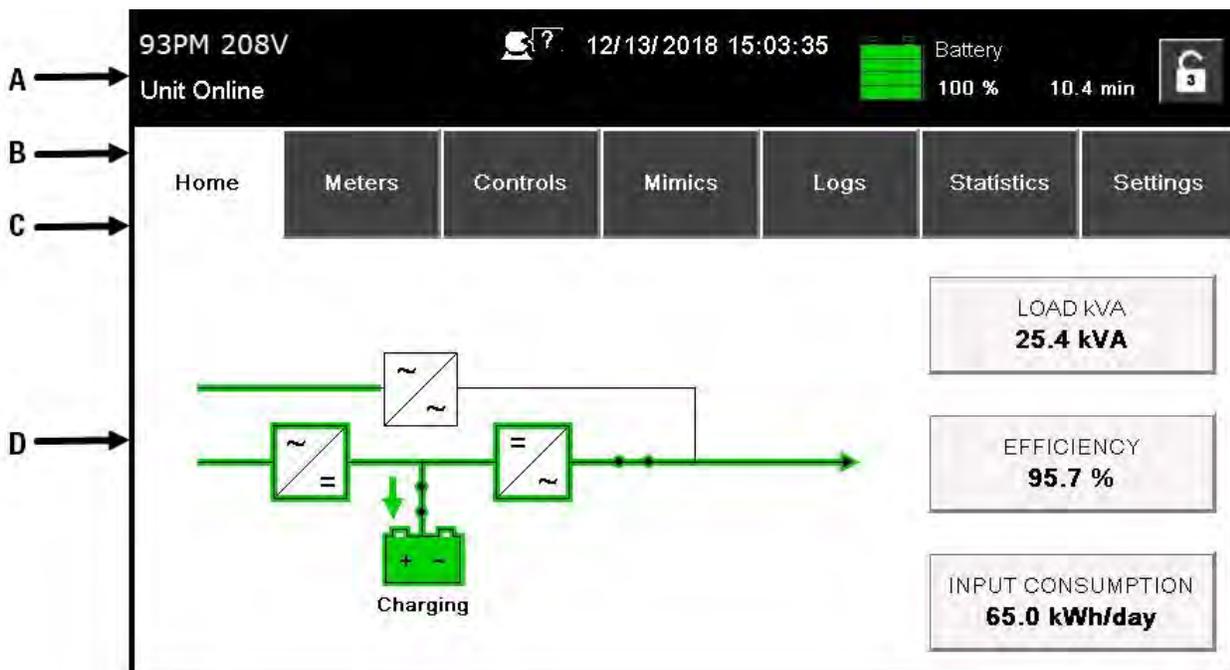
- **System Event Horns** – The system event horn beeps to alert an operator that an event needing attention is taking place. The horn cycles at a half-second rate. To silence the horn, touch any control panel button.
- **System Event Indicators** – The status indicators on the UPS control panel work with the event horn to let the operator know when the UPS is operating in any mode other than double conversion. Only the normal mode indicator is illuminated during normal UPS system operation. The other indicators illuminate to indicate alarms or events. When an alarm occurs, first check these indicators to see what type of event has taken place. For descriptions of the status indicators, see paragraph [6.2.1 Status Indicators](#).
- **System Event Messages** – When a system event occurs, a message appears on the LCD in the UPS status area. This message is also written to the Events Log and may be added to the History Log. The messages are divided into four categories: alarms, notices, status, and commands.

### 6.2.3 Using the LCD Touch Screen

The LCD touch screen on the control panel provides an operator interface with the UPS system. [Figure 59](#) identifies the display areas discussed in the following sections.

All functions and commands are accessed by touching or tapping the screen tabs or buttons. When text input is required, either a Qwerty keyboard or numeric keypad will be displayed.

Figure 59. Parts of the LCD



**A: Status Bar** displays the UPS name, UPS state, current date and time, meter information, active alarms and notices, and a sign in/sign out button. For more information about alarms and notices, see paragraph [6.2.2 System Events](#).

**B: Main Menu Navigation Bar** displays main menu functions and selections as tab buttons. To select a screen function touch the tab name.

**C: Secondary Menu Navigation Bar** displays functions and selections related to the current screen as tab buttons. To select a screen function touch the tab name.

**D: Information Area** contains status data, operational controls, acknowledgments, action confirmations, and screen prompts.

You can use the LCD touch screen to:

- Look at a log of UPS events (alarms, notices, and commands)
- Monitor UPS operation
- Set UPS parameters
- Control UPS operations

For details on these operations, see paragraphs [6.2.6 Display Menu Operation](#) and [6.2.8 System Controls](#).

#### 6.2.4 Using the Menu

The UPS navigation tab menu bar allows you to display data in the information area to help you monitor and control UPS operation. [Table 31](#) shows the basic menu structure.

**Table 31. Display Function Menu Map**

Menu Option	Description
HOME	Displays the system status both graphically (mimic) and written.
METERS	Displays performance meters for the system or critical load.
CONTROLS	Displays the Controls screen.
MIMIC	Displays the mimic screens and access to system information screens.
LOGS	Displays the list of active events and provides access to historical system events.
STATISTICS	Displays UPS statistical data (uptime, downtime, maintenance, efficiency, etc).
SETTINGS	Allows access to various screen controlled variables for the system operation. Settings include date and time for the time stamp, display language, the unit name, meter subscripts, password, and view the firmware version numbers Used only by service personnel.



**NOTE**

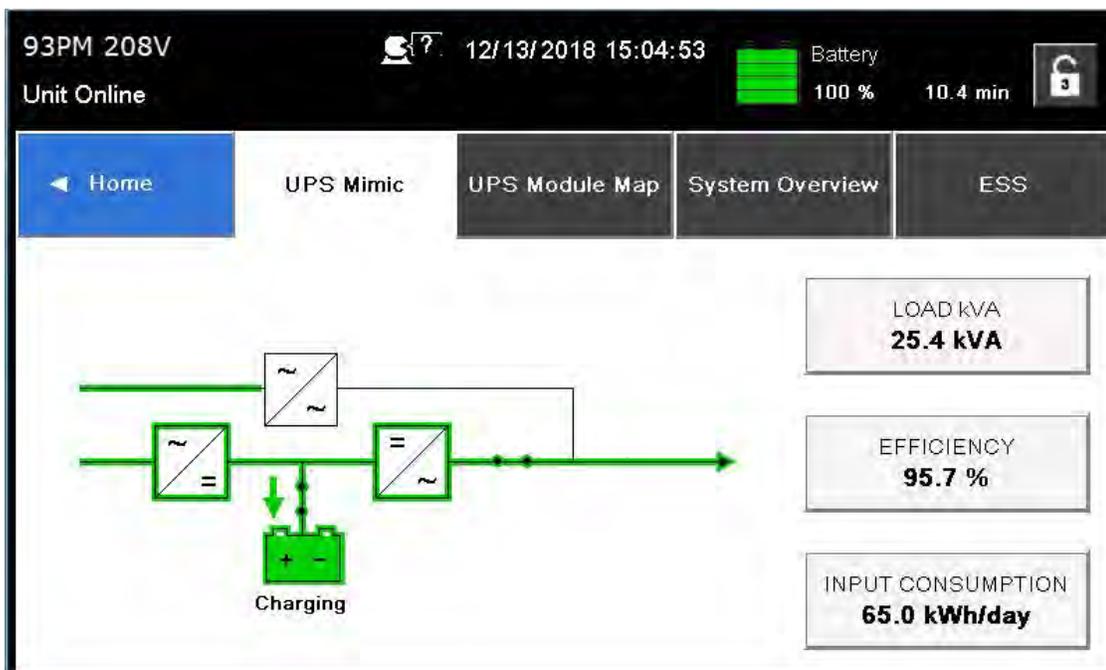
Screens shown are representative examples of system operation. The screen data will vary based on system activity at the time of observation.

**6.2.5 Mimic Screen**

Figure 60 shows the Main Menu and Mimic screen.

The Mimic screen shows the internal components of the UPS cabinet and a real-time graphical representation of the operating status of the system.

**Figure 60. Main Menu and Mimic Screen**



## 6.2.6 Display Menu Operation

[Table 32](#) describes the menu functions and how to use them.

**Table 32. Display Menu Operation**

Function	Subfunction	Operation
Home		An overview of UPS operation, including information on load, efficiency and consumption.
Meters – UPS		The meter screens show the UPS meter readings for the unit. The default voltage displayed on these screens is phase-to-neutral. These can be changed to display the voltage phase-to-phase (A-B, B-C, C-A). Tap the <b>METERS</b> tab on the main menu navigation bar to display the <b>METER SUMMARY</b> screen (see <a href="#">Figure 61</a> ). The current UPS readings are displayed in the information area of the screen. To display individual meter details, tap the desired meter button to display the detailed meter screen.
	Output – UPS	The Output screen shows output voltage (phase to neutral), output current (each phase), and frequency being supplied by the UPS, as well as the kVA, kW, and power factor measurements.
	Input – UPS	The Input screen shows input voltage (phase to neutral), input current (each phase), and frequency of the incoming utility source, as well as the kVA, kW, and power factor measurements.
	Bypass	The Bypass screen shows the bypass input voltage (phase to neutral), input current (each phase), and frequency of the incoming utility source, as well as the kVA, kW, and power factor measurements.
	Battery – UPS	The Battery screen displays the battery voltage (Vdc) and the battery current (Idc).
Mimics	UPS Mimic	Tap the <b>MIMICS</b> tab on the main menu navigation bar to display an overview of UPS operation, including information on load, efficiency and consumption. If there is an error, an error indicator is displayed next to the affected part. Active events log can be opened by tapping the error indicator.
	UPS Module Map	Tap the <b>UPS MODULE MAP</b> tab on the secondary menu navigation bar to display the status of each UPM.
	System Overview	Tap the <b>SYSTEM OVERVIEW</b> tab on the secondary menu navigation bar to display the status and meters summary for each UPS.
	ESS	Tap the <b>ESS</b> tab on the secondary menu navigation bar to display the approximate consumption and energy savings of ESS mode.
Logs	Active	Tap the <b>LOGS</b> tab on the main menu navigation bar to display the <b>ACTIVE EVENTS</b> screen (see <a href="#">Figure 62</a> ). A listing of all system events that are currently active is displayed. The most recent event is listed first. As events clear, they are removed from the Events listing. To scroll through the events, press the up or down scroll bar.
	System Log (Historical)	Tap the <b>SYSTEM LOG</b> tab on the secondary menu navigation bar to display the <b>SYSTEM LOG</b> screen (see <a href="#">Figure 63</a> ). The history Log lists up to 512 events in chronological order, with the most recent event listed last (once 512 is reached, the earliest event is overwritten). The end of the log (the most recent events) is displayed first; scroll upward to view older event listings. To scroll through the events, press the up or down scroll bar.

**Table 32. Display Menu Operation (Continued)**

Function	Subfunction	Operation
Settings		Configurable system settings. Tap the <b>SETTINGS</b> tab on the main menu navigation bar to display the settings screen. Settings may be password restricted. Settings Level 2 default password is <b>0101</b> .
	User	Tap the <b>USER</b> tab on the secondary menu navigation bar to display the USER screen (see <a href="#">Figure 64</a> ). Tap the <b>INFORMATION</b> or <b>ABOUT</b> button to display system information (see <a href="#">Figure 65</a> and <a href="#">Figure 66</a> ).
	Configuration	Tap the <b>CONFIGURATION</b> tab on the secondary menu navigation bar to display the screen. Tap the function to be changed. Make and save the changes. Follow screen prompts to accept or abort changes. For additional functions, tap the 2 button. See <a href="#">Figure 67</a> and <a href="#">Figure 68</a> for configuration screens.
Statistics	Statistics Summary	Tap the <b>STATISTICS</b> tab on the main menu navigation bar to display a summary of UPS statistics (see <a href="#">Figure 69</a> ).
	Statistics Details	Tap the desired statistic button to display the detailed statistic screen.
Controls		See paragraph <a href="#">6.2.8 System Controls</a> for details.

**Figure 61. Typical Meters Summary Screen**

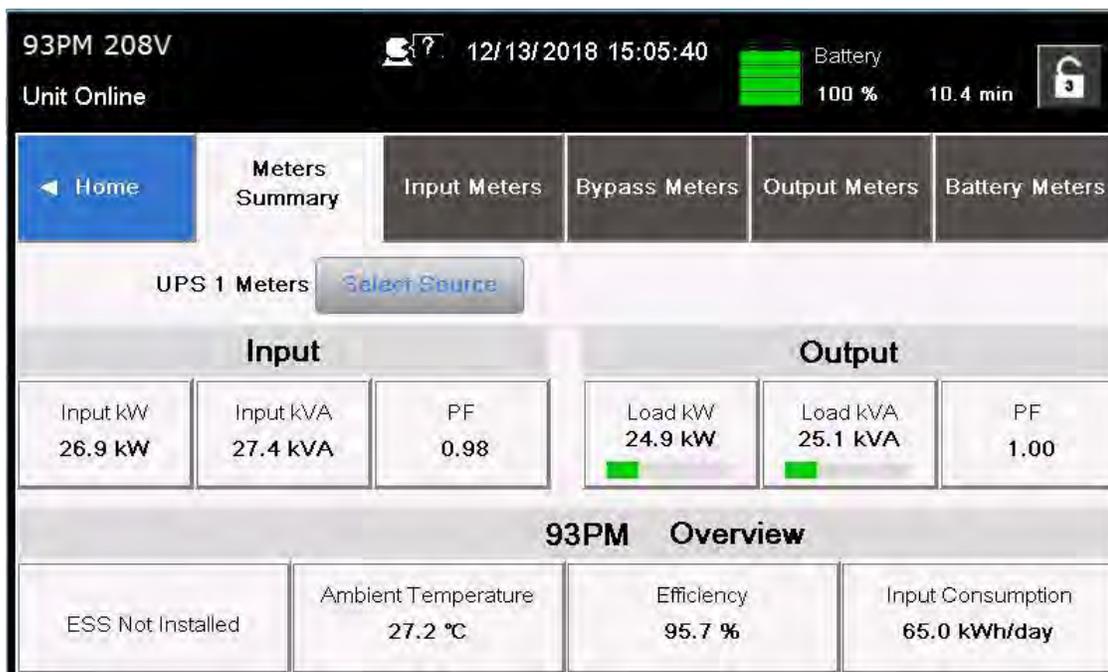


Figure 62. Typical Active Events Screen

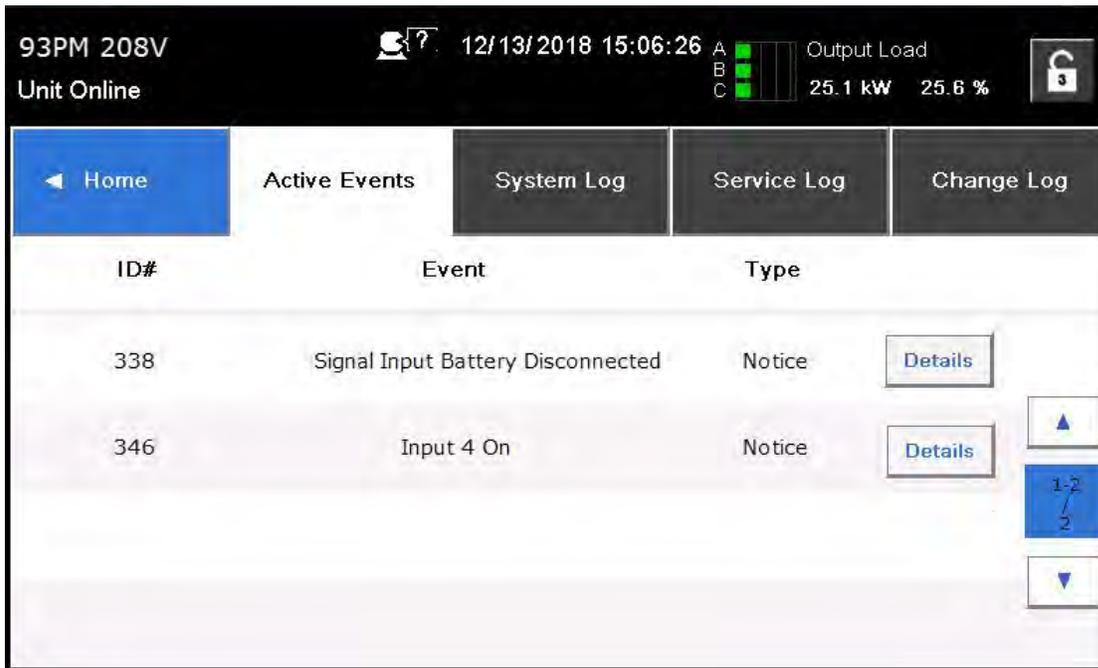


Figure 63. Typical System Log Screen

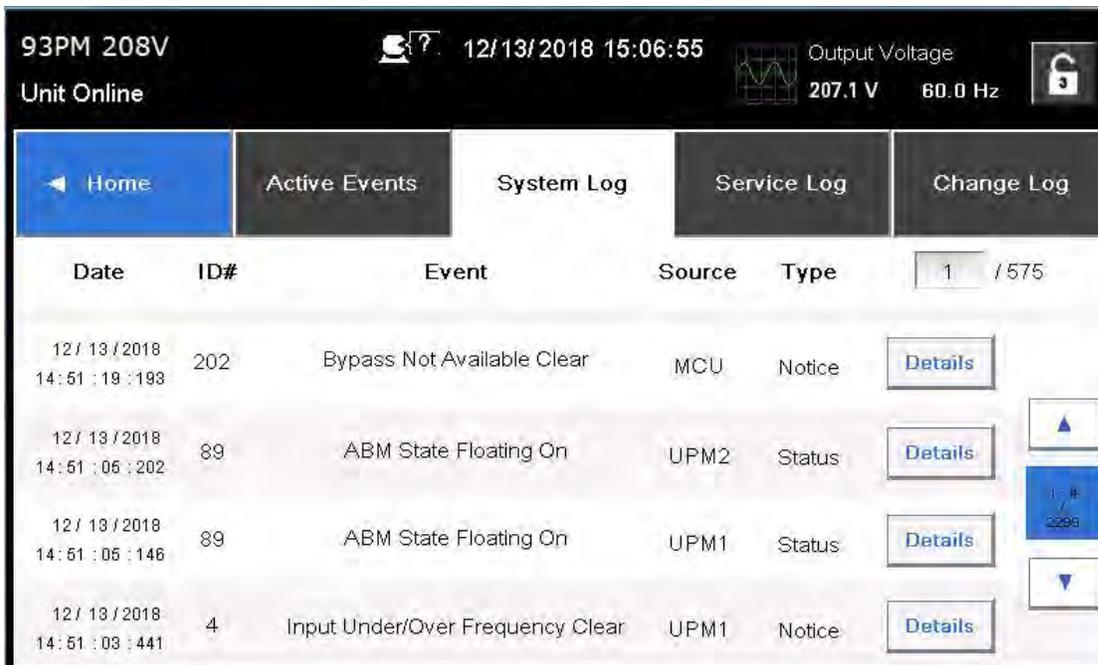


Figure 64. Typical Settings User Screen

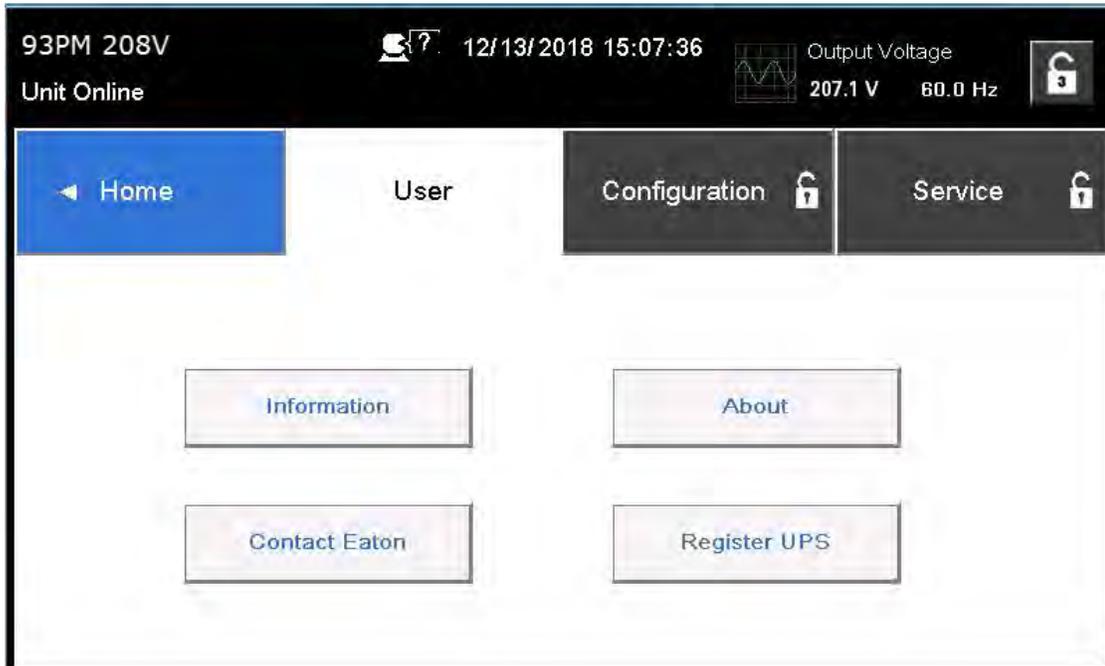


Figure 65. Typical Information Screen

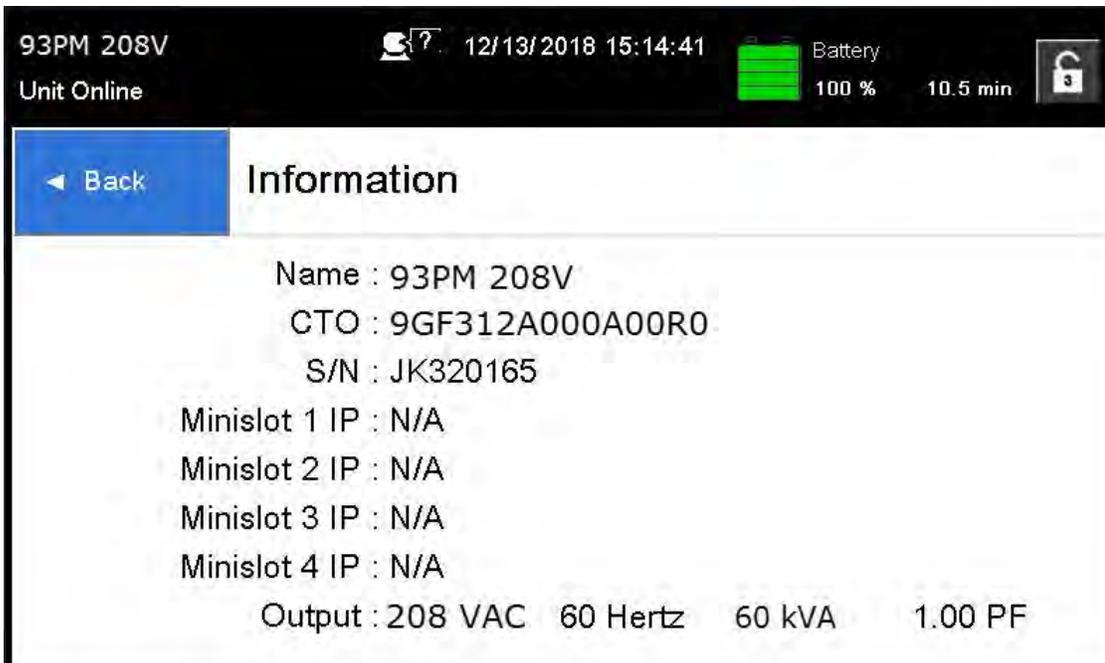


Figure 66. Typical About Screen



Figure 67. Typical Settings Configuration 1 Screen

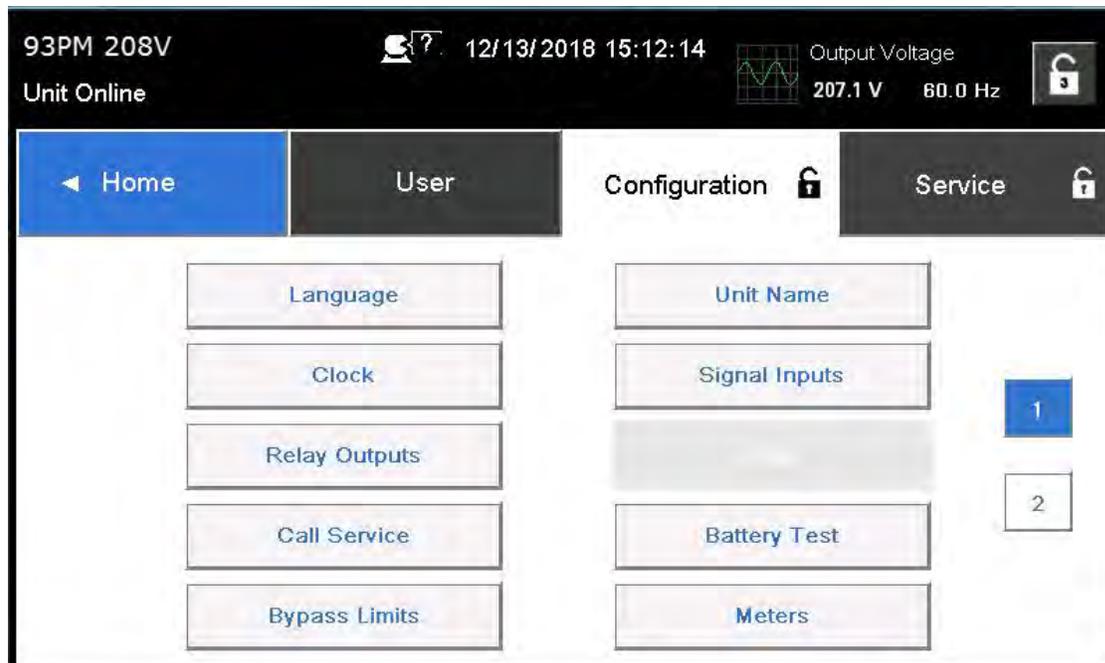


Figure 68. Typical Settings Configuration 2 Screen

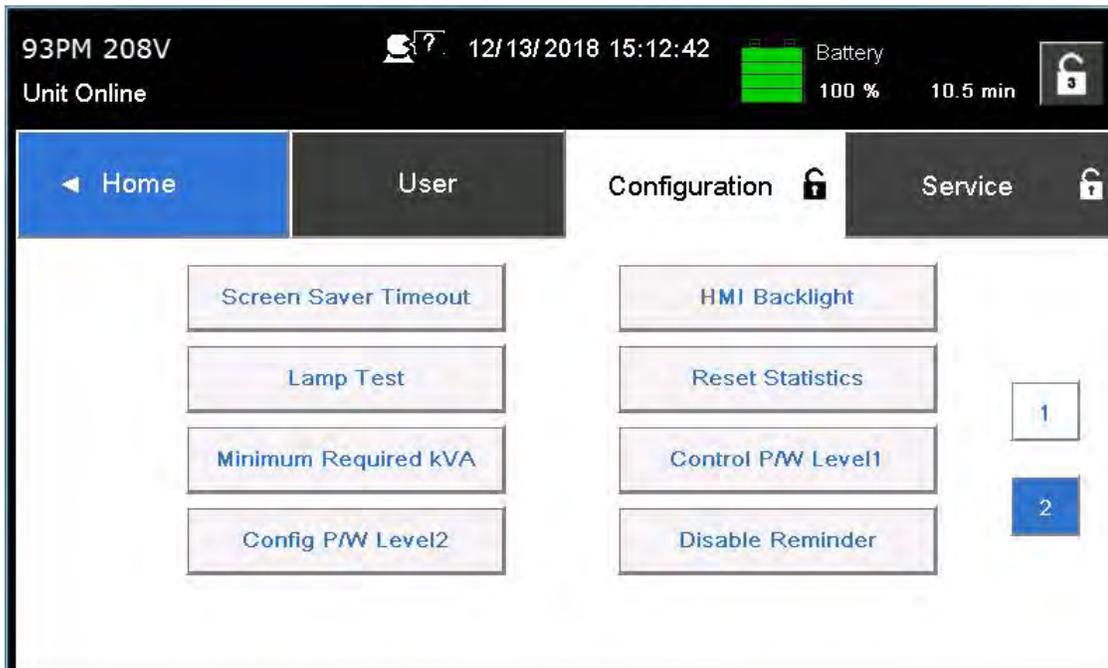


Figure 69. Typical Statistics Screen



### 6.2.7 Sign In

The Controls and Setting screens are restricted. The user must sign in using a password to gain access.

**CAUTION**

To prevent inadvertent or unauthorized power disruption to the critical load or auxiliary lighting system, change the Level 1 and Level 2 default passwords when system commissioning startup is performed.

To Sign in:

1. Tap the lock button in the upper right corner of the screen. The sign in screen is displayed (see [Figure 70](#)).
2. Tap the password entry area on the screen.
3. Enter the password using the keypad displayed and tap the return key (see [Figure 71](#)).  
Level 1 default password is **1111**. Settings Level 2 default password is **0101**.
4. Sign in is complete. Tap continue to return to previous screen.

**Figure 70. Sign In Password Screen**

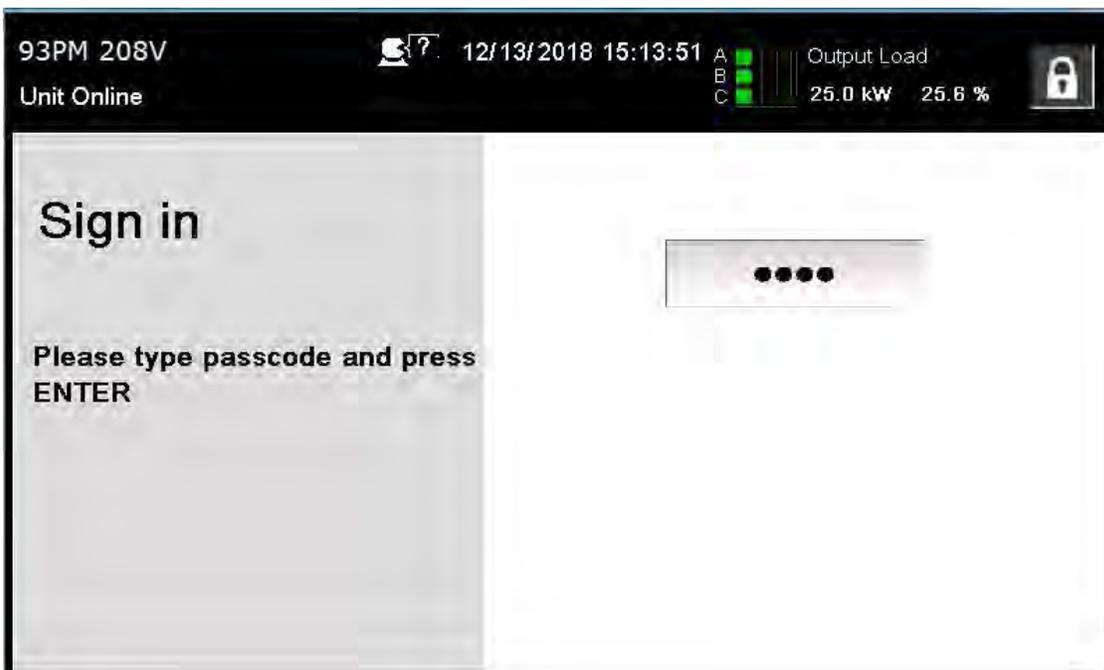
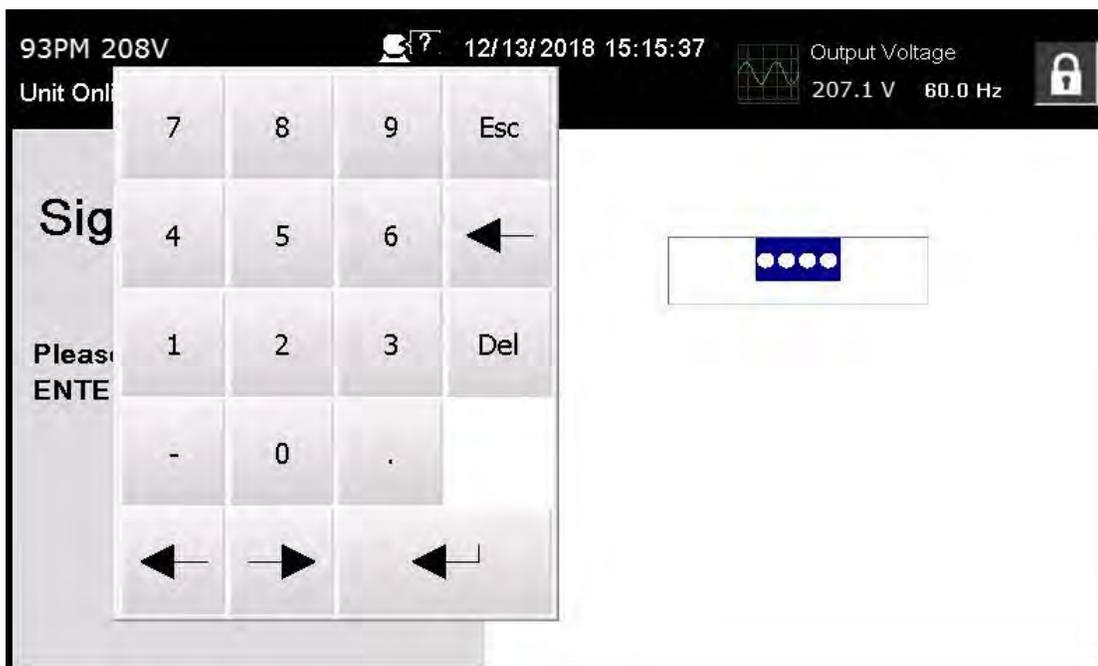


Figure 71. Sign In Keypad



### 6.2.8 System Controls

Tap the **CONTROLS** tab on the main menu navigation bar to display the Controls screen. Double conversion operation, transfer to bypass, shutdown, and charger control commands are controlled through this screen. In addition, the screen displays the current status of the UPS.

[Table 33](#) describes the control functions and provides instructions to access and use the command menu screens.

[Table 34](#) lists the typical System Status Screen Messages that are displayed during UPS operation.

[Figure 72](#) through [Figure 76](#) show the major control screens.

**Table 33. Controls Menu Operation**

Function	Subfunction	Operation
System Controls		The <b>CONTROLS</b> tab on the main menu navigation bar displays the System Controls screen.
	System Status	<b>GO ONLINE</b> starts the UPS in Double Conversion mode or transfers the UPS to Double Conversion mode from Bypass mode.
	Bypass	<b>GO TO BYPASS</b> starts the UPS in Bypass mode or transfers the UPS to Bypass mode from Double Conversion mode.
	Charger	<b>TURN ON CHARGER/TURN OFF CHARGER</b> sets the battery charger on or off.
	Battery Test	<b>RUN BATTERY TEST</b> starts the battery test.

**Table 34. Typical System Status Messages**

Function	Message
UPS	Double Conversion; Bypass; ESS
Bypass	Off; On; Available
Charger	Charger Resting; Charger

**Figure 72. Typical System Control Screen**

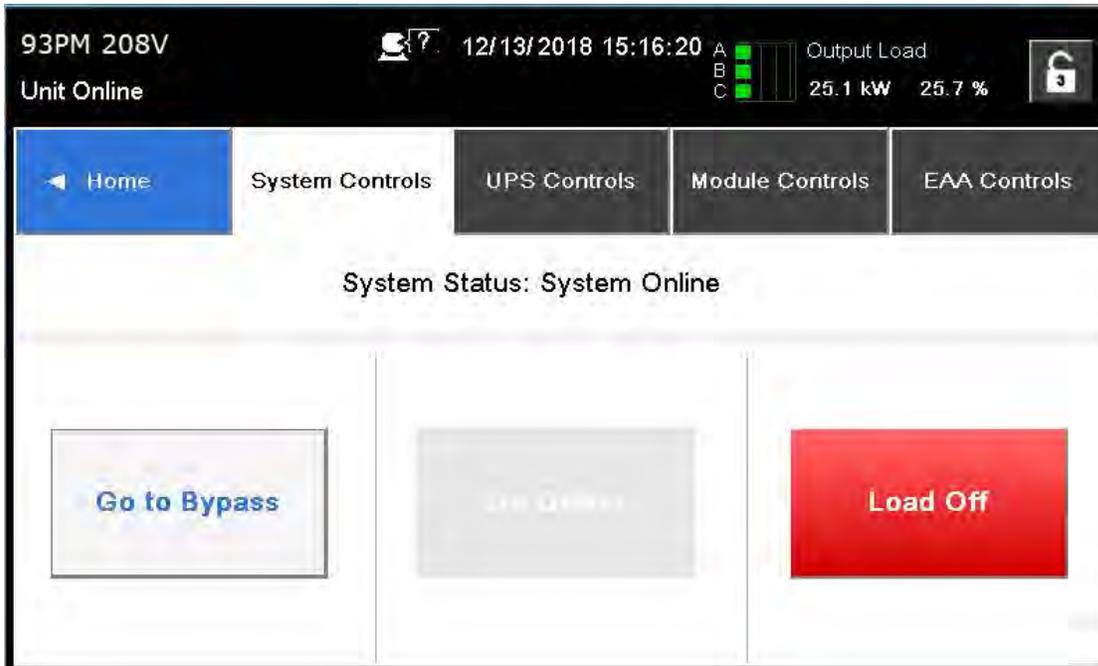


Figure 73. Typical UPS Control Screen

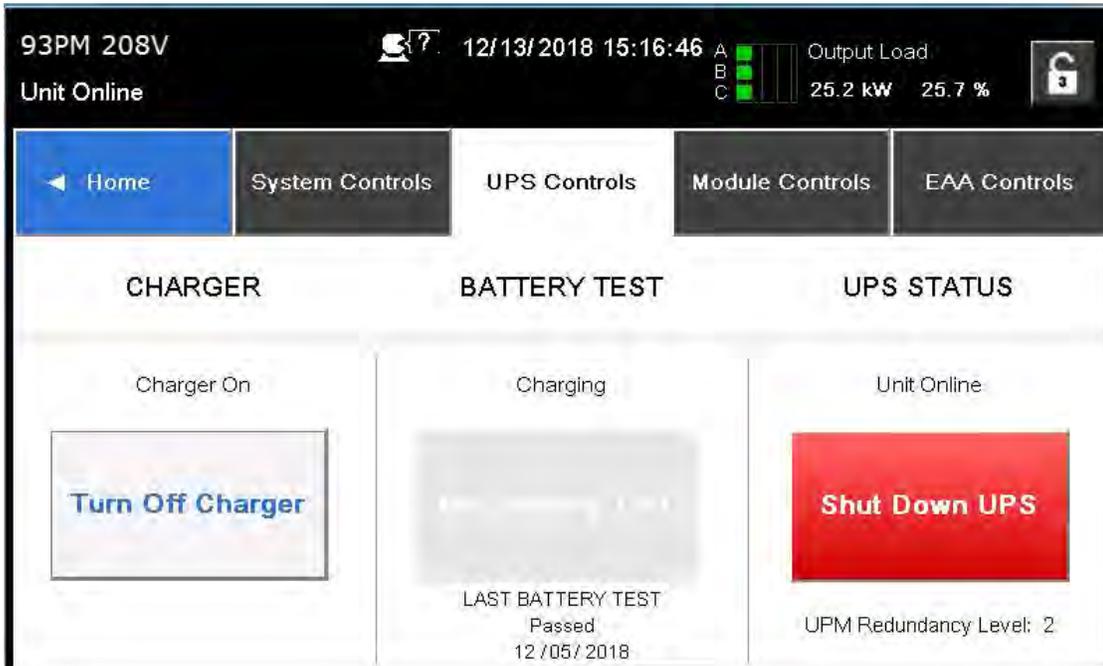


Figure 74. Typical UPM Select Screen

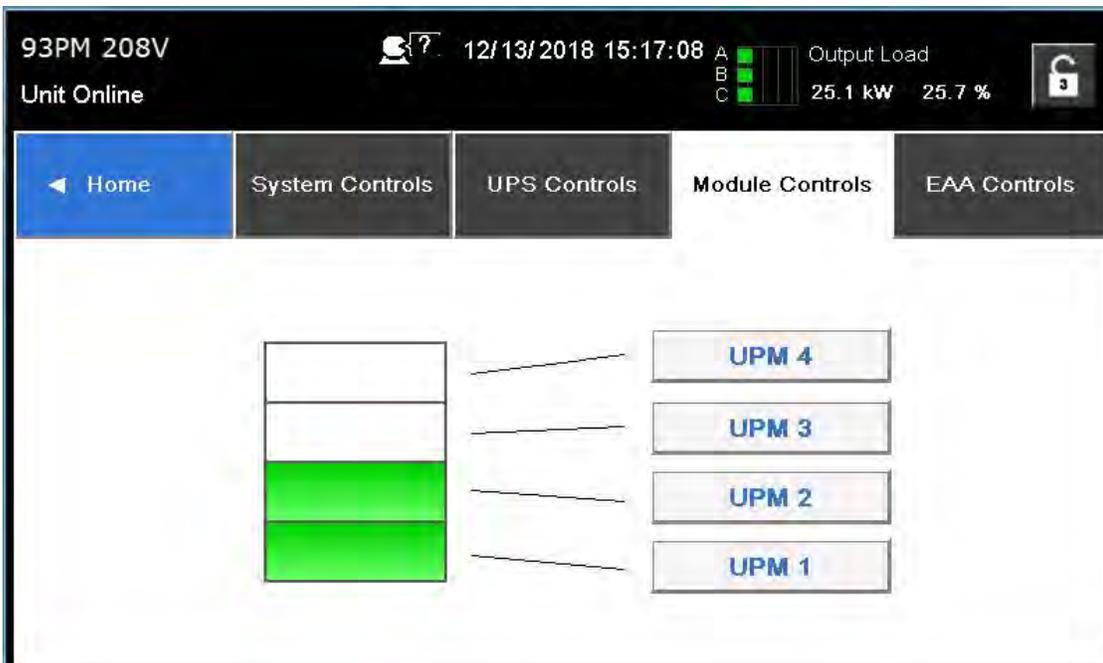


Figure 75. Typical UPM Control Screen

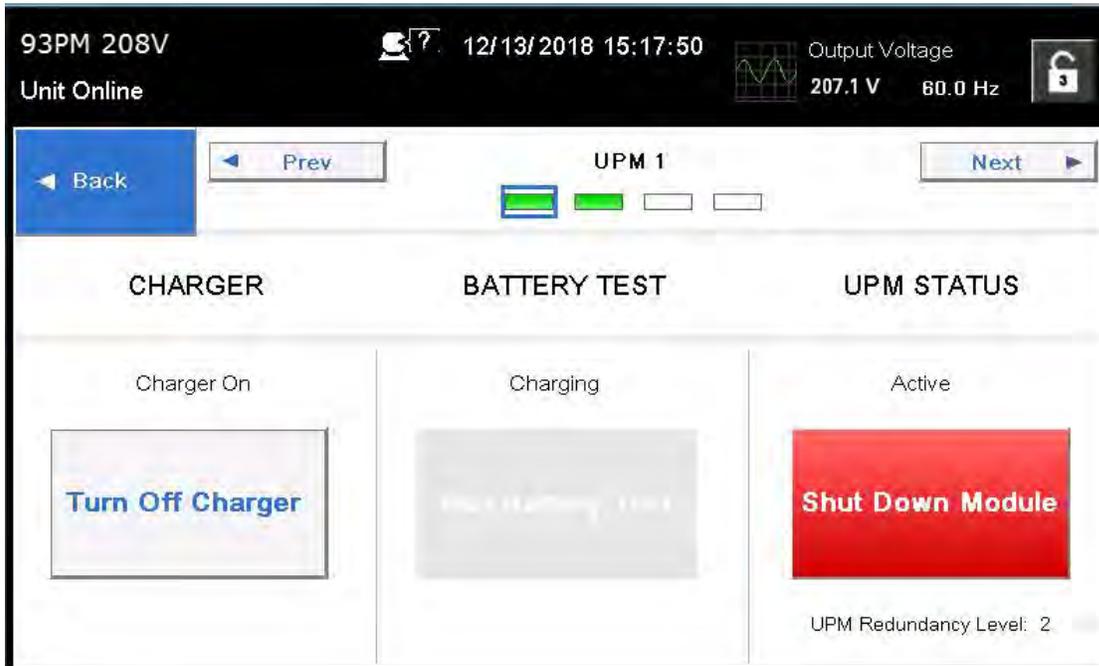
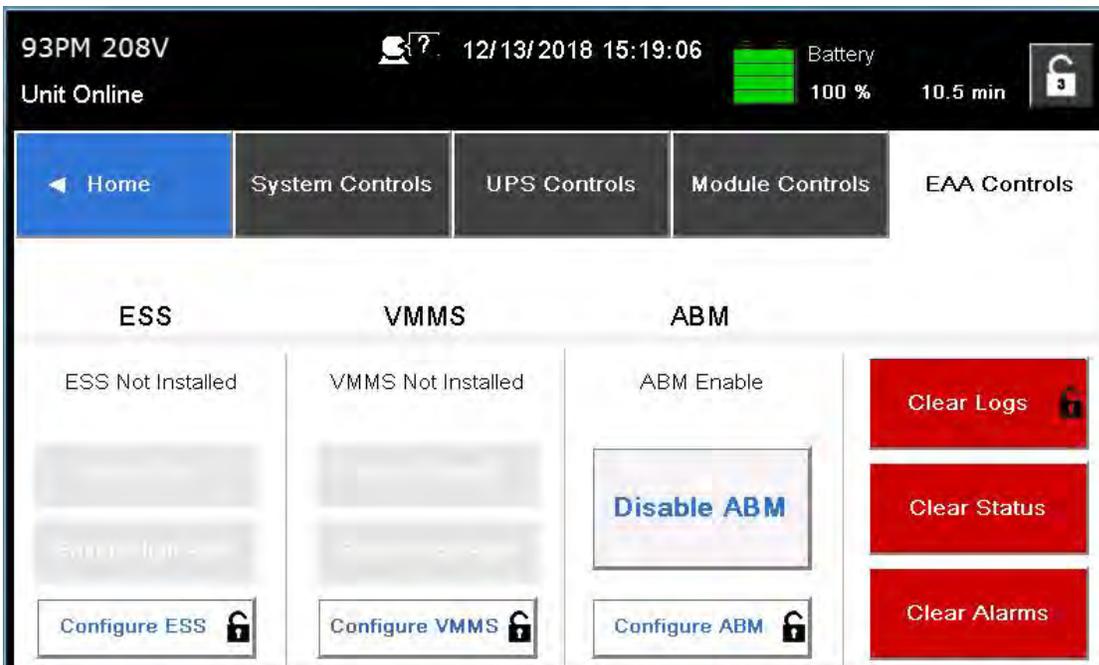


Figure 76. Typical EAA Control Screen



### 8.2.1 DAILY Maintenance

Perform the following steps daily:

1. Check the area surrounding the UPS system. Ensure the area is not cluttered, allowing free access to the unit.
2. Ensure the air intakes (vents on the front door of the UPS cabinet and the exhaust openings (on the rear of the UPS cabinet) are not blocked.
3. Ensure the operating environment is within the parameters specified in **Chapter 9 Product Specifications**.
4. Ensure the UPS is in Normal mode (Normal status indicator is illuminated). If an alarm lamp is illuminated or the Normal status indicator is not illuminated, contact an Eaton service representative.

### 8.2.2 MONTHLY Maintenance

Perform the following steps monthly:

1. Monitor system parameters as described in paragraph [6.2 Using the Control Panel](#).
2. Check the UPS air filter (located behind the front door) and wash or replace as necessary. See [Figure 80](#) for filter location. Contact an Eaton service representative for replacement filters.

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**CAUTION**

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Verify the spare washed filter is thoroughly dry before installing.

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To remove the filters:

- a. Unfasten the front door by lifting the latch from the bottom and turning to the right (counterclockwise) and swing the door open (see [Figure 80](#)).
- b. Remove the foam filters from the frame on the front door.
- c. Install the customer's spare foam filters, either washed or new foam filters, into the frame on the front door.

---

**IMPORTANT**

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The foam filters are to be replaced with new or washed filter immediately. The ups is not meant to be run without filters installed.

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- d. Close the front door and secure the latch.
3. Record maintenance results and any corrective actions in a suitable log.

**Figure 80. Air Filter Location**

### 8.2.3 PERIODIC Maintenance

Periodic inspections of the UPS should be made to determine if components, wiring, and connections exhibit evidence of overheating. Particular attention should be given to the compression lug connections. Maintenance procedures should specify that the compression lug connections be retorqued to values listed in this manual.

### 8.2.4 ANNUAL Maintenance

Annual preventive maintenance should be performed only by authorized service personnel familiar with maintenance and servicing of the UPS system. Contact an Eaton service representative for more information about service offerings.

### 8.2.5 BATTERY Maintenance

Contact an Eaton service representative for battery maintenance. Battery replacement and maintenance should be performed only by authorized service personnel.

## 8.3 Installing Batteries

**NOTE**

There is no manual DC disconnect device within the UPS.