VERTIV.

Vertiv Liebert® EDGE

Installer/User Guide

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Technical Support Site

If you encounter any installation or operational issues with your product, check the pertinent section of this manual to see if the issue can be resolved by following outlined procedures.

Visit https://www.vertiv.com/en-us/support/ for additional assistance.

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1 Important Safety Instructions

IMPORTANT! This manual contains important safety instructions that must be followed during the installation and maintenance of the UPS and batteries. Read this manual thoroughly and the safety and regulatory information, available at https://www.vertiv.com/ComplianceRegulatoryInfo, before attempting to install, connect to supply, or operate this UPS.

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2 EDGE Description

The Liebert® EDGE is a line-interactive UPS designed for IT applications such as network closets and small data centers. It is available in 1U, 2U, 3U and MT(mini tower) form factors. It provides reliable power protection for servers, critical nodes, network workstations, large network peripherals, network routers, bridges, hubs and other electronic equipment. Matching battery cabinets are available to extend the on-battery operating time for 2U and 3U VRLA models. The optional Liebert® Network Communication Card makes advanced monitoring and control available.

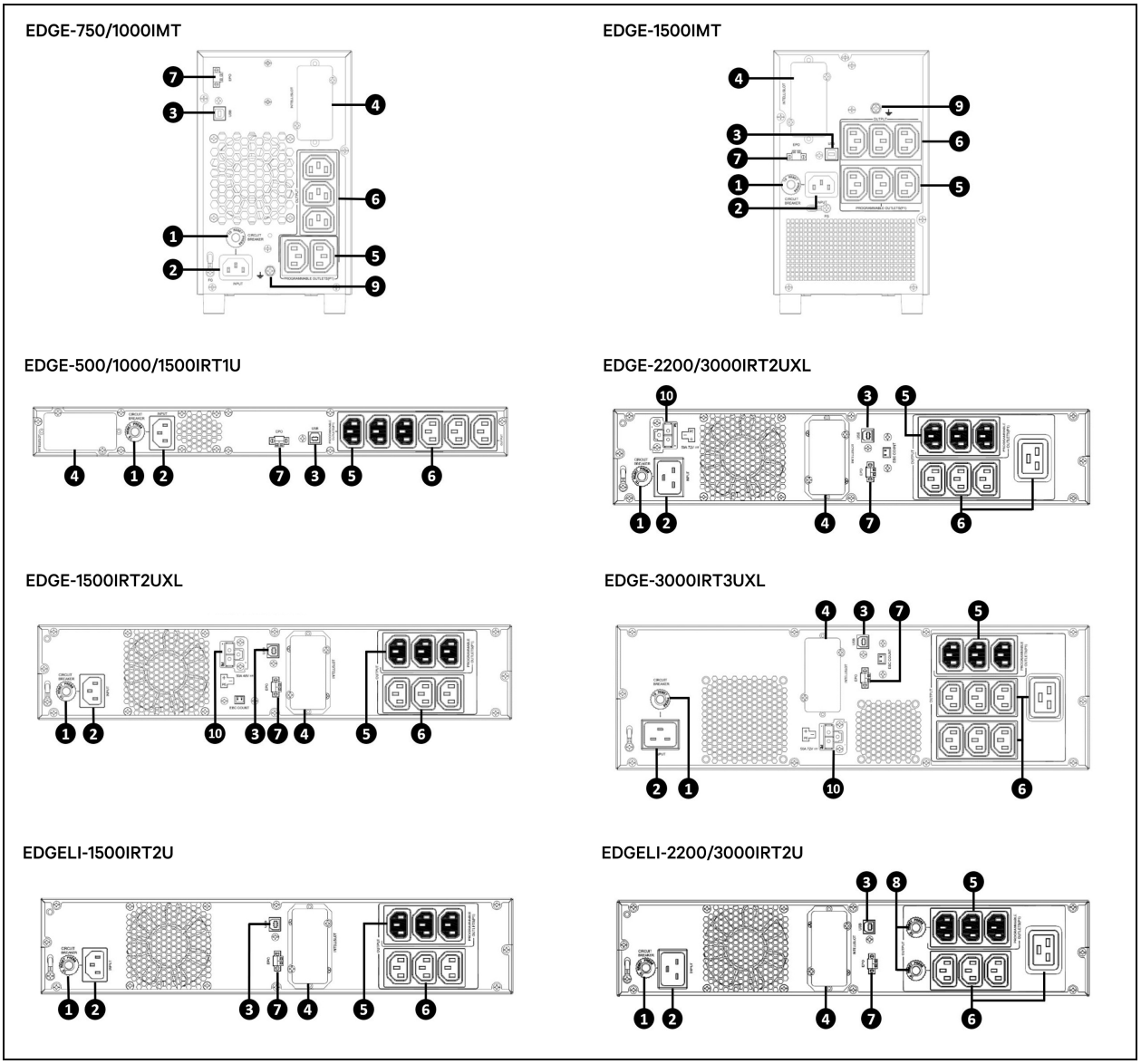
2.1 Available Models

Table 2.1 EDGE Models

BATTERY TYPE	MODEL FROM FACTOR	MODEL NUMBER	NOMINAL POWER RATING (230 V INPUT)
VRLA (Valve Regulated Lead Acid)	1U	EDGE-500IRT1U	500 VA / 450 W
		EDGE-1000IRT1U	1000 VA / 900 W
		EDGE-1500IRT1U	1500 VA / 1350 W
	2U	EDGE-1500IRT2UXL	1500 VA / 1350 W
		EDGE-2200IRT2UXL	2200 VA / 1980 W
		EDGE-3000IRT2UXL	3000 VA / 2700 W
	3U	EDGE-3000IRT3UXL	3000 VA /2700 W
	MT	EDGE-750IMT	750 VA / 675 W
		EDGE-1000IMT	1000 VA / 900 W
		EDGE-1500IMT	1500 VA / 1350 W
LI (Lithium Ion)	2U	EDGELI-1500IRT2U	1500 VA / 1350 W
		EDGELI-2200IRT2U	2200 VA / 1980 W
		EDGELI-3000IRT2U	3000 VA / 2700 W

2.2 Rear Panel Views

Figure 2.1 Rear Panel

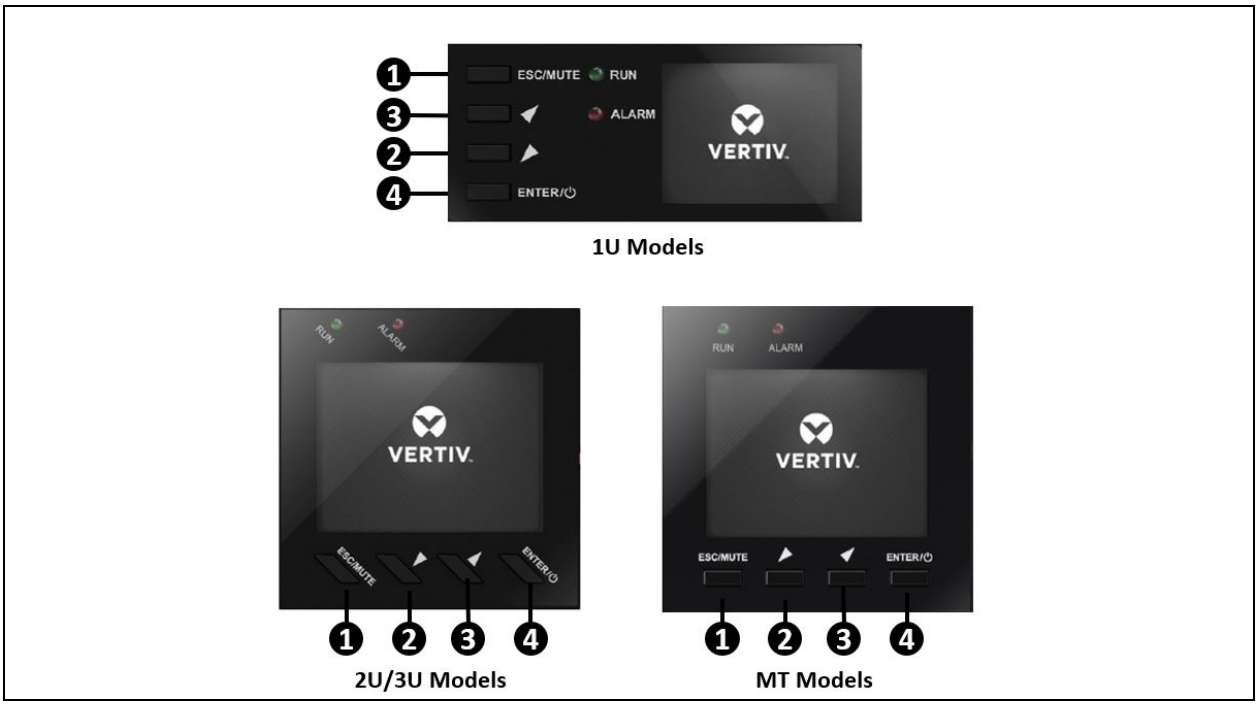


ITEM	DESCRIPTION	ITEM	DESCRIPTION
1	Input circuit breaker	6	Non-programmable receptacles
2	AC input	7	Emergency Power Off (EPO) connector
3	USB communication port	8	Output circuit breakers
4	IntelliSlot port	9	Ground Screw
5	Programmable receptacles	10	External Battery Cabinet (EBC) connector

2.3 Front Panel

NOTE: For detailed descriptions of the LCD display. See Controls.

Figure 2.2 Controls and Display



ITEM	DESCRIPTION
1	ESC/MUTE button. SeeControls, for details.
2	DOWN/LEFT button. SeeControls, for details.
3	UP/RIGHT button. See Controls, for details.
4	ENTER/ ⏻ button. See Controls, for details.

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3 Installation

3.1 What's Included

- EDGE UPS
- Quick install guide
- Safety and regulatory statements
- USB type A to B cable
- Rail kit box (except MT models)
  - Left and right rail set
  - 12 x Rail kit screws (M5 x 14mm) (2U/3U models)
  - 10 x Rail kit screws (M5 x 14mm) (1U models)
- 4 x Tower feet (2U and 3U models only)
- 2 x UPS rack ears with 8 x rack ear screws (M4 x8mm) (except MT models)
- 2 x IEC C13 to C14 output cables

Input power cables (500-1500VA models)

- Input power cable IEC Schuko to IEC C13
- Input power cable BS1362 to IEC C13
- Input power cable AUS to IEC C13

Input power cables (2200-3000VA models)

- Input power cable IEC Schuko to IEC C19
- Input power cable BS1362 to IEC C19
- Input power cable AUS to IEC C19

3.2 Unpacking and Inspection

Unpack the UPS and conduct the following checks:

- Inspect the UPS for shipping damage. If any shipping damage is found, report it to the carrier and your local dealer or your Vertiv representative immediately.
- Check the accessories included in packaging list. If there is any discrepancy, contact your local dealer or your Vertiv representative immediately.

3.3 Preparation for Installation

3.3.1 Installation Environment

Unpack the UPS and conduct the following checks:

- Install the UPS indoors in a controlled environment, where it cannot be accidentally turned off. The installation environment should meet the specifications listed in Specifications.
- Confirm UPS installation area is an area of unrestricted air-flow around the unit, away from water, flammable liquids, gases, corrosives, and conductive contaminants. Avoid direct sunlight.
- The utility power outlet should be nearby and easily accessible.
- This UPS is not for use in an Information Technology Equipment (ITE) room as defined in the standard for the Fire Protection of Information Technology Equipment ANSI/NFPA 75.

NOTE: Operating the UPS in temperatures above 25° C reduces battery life.

3.3.2 Installation Clearances

Maintain at least 100 mm clearance in the front and rear. Do not obstruct the air inlets on the front panel and rear panel. Blocking the air inlets reduces ventilation and heat dissipation, shortening the service life of the UPS.

3.4 Installing the UPS

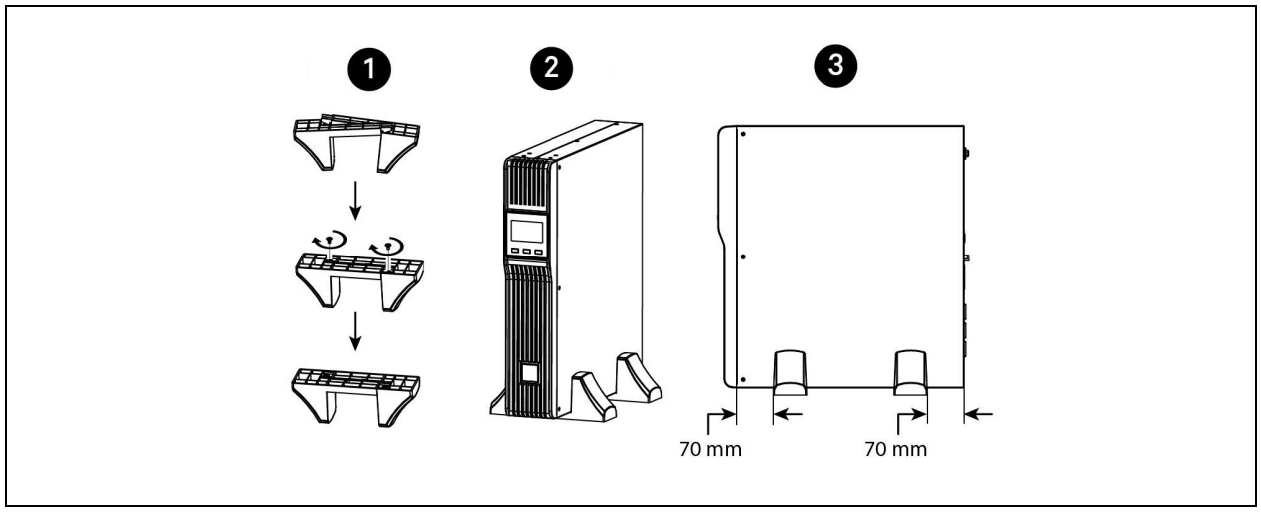
3.4.1 Installation Environment

The 2U and 3U UPS and optional battery cabinets (not supported on LI models) may be installed in a tower or rack configuration. Determine the configuration that meets your application needs, see Tower Installation below , or Rack-mount Installation on page 10 .

Tower Installation

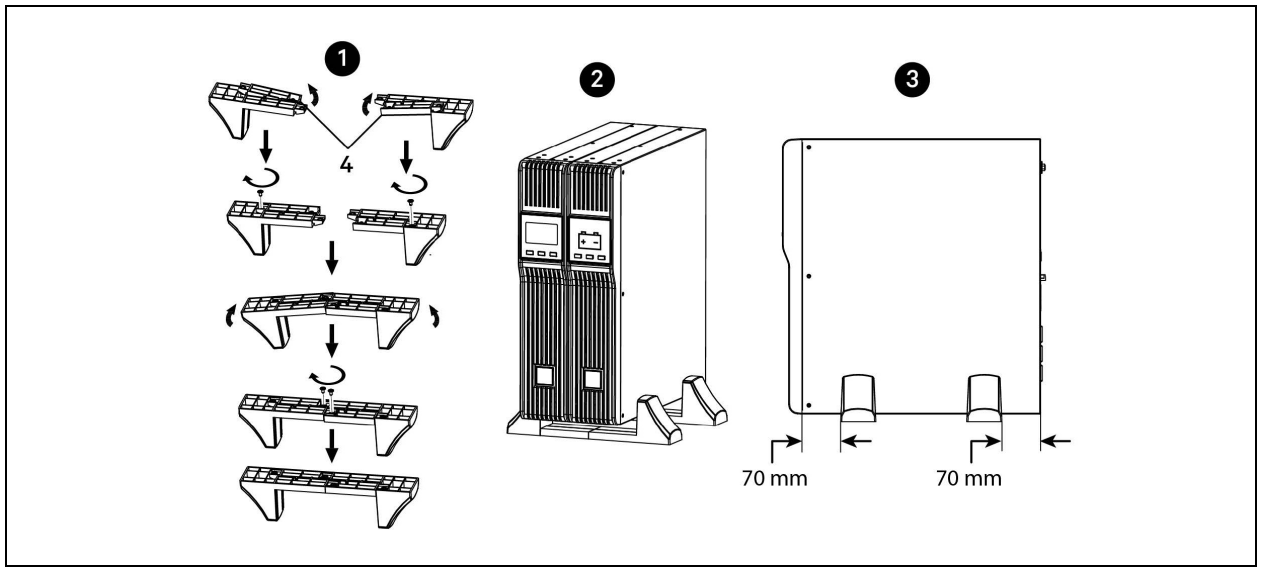
When using the UPS in a tower configuration, see Figure 3.1 below . If you have an external battery, see Figure 3.2 on the facing page on the below page.

Figure 3.1 Attaching stands to the UPS



ITEM	DESCRIPTION
1	Connect the two halves of the stand together.
2	Place the UPS in the stands.
3	Make sure that the stands are installed 70 mm from the edge of the unit.

Figure 3.2 Attaching stands to the UPS and external battery



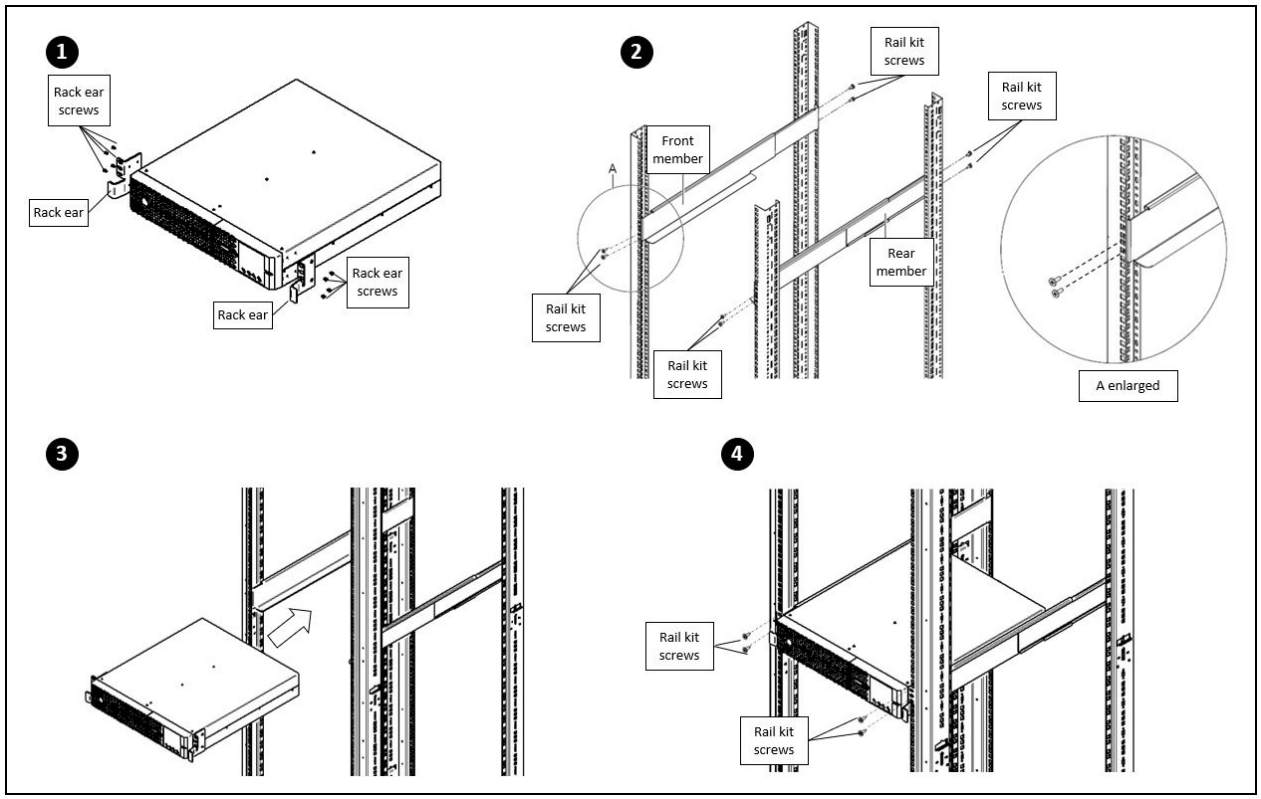
ITEM	DESCRIPTION
1	Connect the two halves of the stand to the spacer, after installing the additional stand components shown in item 4, and install the securing screws.
2	Place the UPS and external battery pack in the stands.
3	Make sure that the stands are installed 70 mm from the edge of the unit.
4	Insert the stand expansion components and install the securing screws.

Rack-mount Installation

CAUTION: Do not use the mounting brackets to lift the unit. Only use the mounting brackets to secure the UPS to the rack.

To install the UPS or EBC in a rack see **Figure 3.3** below.

Figure 3.3 Installing the UPS in a rack



ITEM	DESCRIPTION
1	Attach the rack ears with four rack ear screws to the front right and left sides of the UPS.
2	Install the rear member of the rail onto the rack with one rail kit screw on the top and one on the bottom. Loosely tighten the screws (finger tight). Slide the front member of the rail to the front of the rack and secure the two bottom holes to the rack with two rail kit screws. Tighten all screws. Repeat for the second rail.
3	Place the UPS with assembled rack ears onto the rail supports. The batteries may be temporarily removed for easier installation (see Replacing the UPS Batteries).
4	For 2U/3U models: attach two rail kit screws to each UPS rack ear and rail to secure the UPS to the rack. For 1U models: attach one rail kit screw to each UPS rack ear and rail to secure the UPS to the rack.
5	If using an optional external battery cabinet (EBC), follow steps 1-4. However, batteries cannot be removed from an EBC in step 3.

CAUTION: Do not use the rack ears to lift the unit. Only use the rack ears to secure the UPS to the rack.

3.4.2 Installing a Mini Tower (MT) Model

Place the unit upright, on its feet without blocking air inlets.

3.5 Connecting Loads

The UPS has non-programmable and programmable outlets. Plug your critical equipment (such as computer, monitors, etc.) into the non-programmable outlets and your less-critical equipment (such as printers and other less-often used peripherals) into the programmable outlets.

3.6 USB Communication Connection

Basic monitoring of the EDGE and unattended controlled shutdown of your computer in case of a power failure can be done using the Vertiv Power Assist software via the USB port. Visit www.vertiv.com/powerassist for additional information.

3.7 Emergency Power-off (EPO) Connection (Optional)

To comply with national and local wiring codes and regulations, the EPO connector internally disconnects all power sources to the connected equipment. The default operation is "active open" which means you must remove the factory installed jumper and connect to external contacts that are normally closed, but open during a power-off event. The logic may be reversed in the Settings. If you do not use the EPO connector, leave the factory-installed jumper in place and the default EPO settings in the Settings.

3.8 External Battery Cabinet Connection on 2U and 3U VRLA Models (Optional)

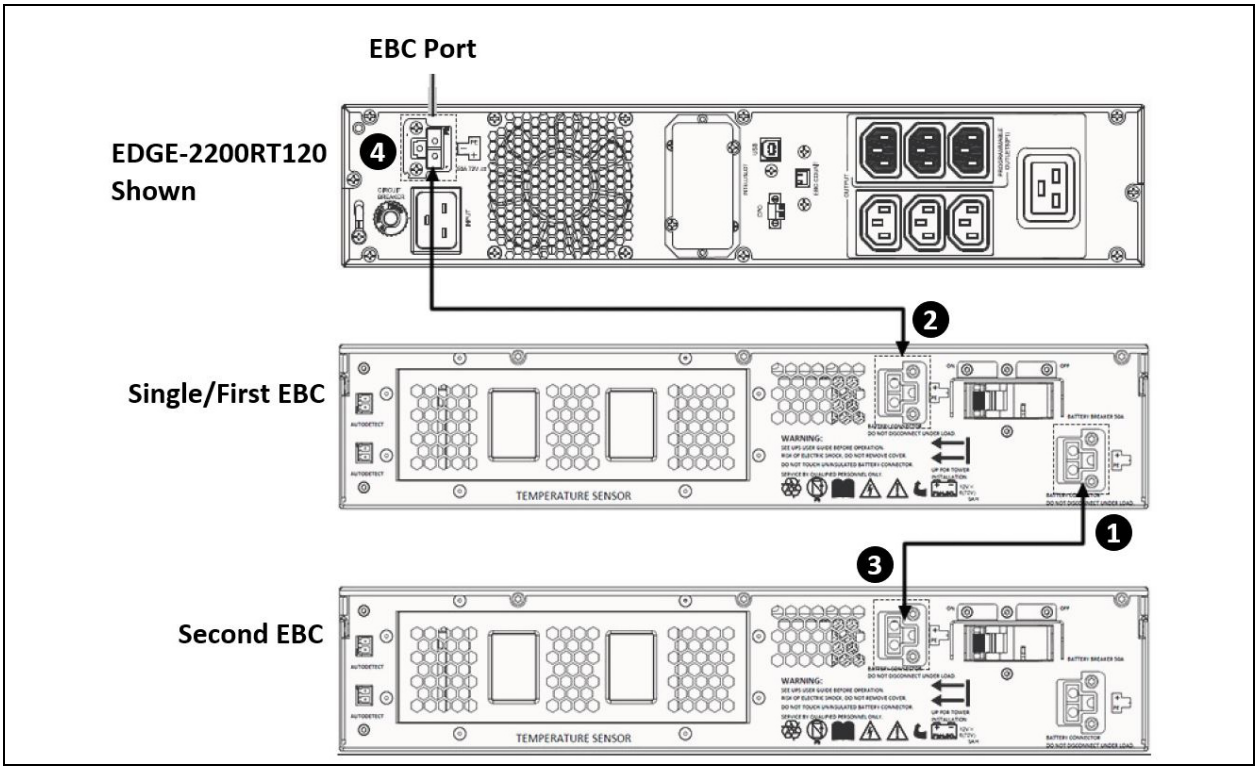
External battery cabinets provide longer battery run-time for connected devices. Refer to Specifications, and Battery Run Times, to select the appropriate model and quantity for your PSI5 model and applications. You can connect up to 6 battery cabinets to the 2U EDGE and 3U models. LI, MT, and 1U models do not support external battery cabinets.

To connect an external battery pack:

1. Connect one end of the external-battery cable to the UPS and one end to the battery cabinet as shown in Figure 3.4 below .
2. If connecting more than one external battery, connect one end of the external battery cable to the second connector on the battery cabinet, the connect the other end to the next battery cabinet as shown in Figure 3.4 below .

NOTE: After install and initial start-up, set the number of installed battery cabinets in the UPS Settings.

Figure 3.4 Connecting External Batteries



ITEM	DESCRIPTION
1	Connection to second connector on external battery cabinet for additional battery cabinets.
2	Connection from UPS to single/first external battery.
3	Connect to next external battery.
4	Connection to UPS.

3.9 Network Communication Card Connection (Optional)

Advanced monitoring and simple control of the EDGE can be done with the use of a Vertiv Liebert IntelliSlot Unity Communications card. Visit www.vertiv.com/intellislot for additional information.

To install the card:

1. Remove the two screws and protective cover on the rear-panel Network Communications Port.
2. Insert the card into the port and secure it with the screws. Refer to the documentation with the card or at the link above for cable connection and operation.
3. Refer to the documentation with the card or at www.Vertiv.com for cable connection and operation.

3.9.1 Connecting AC Input

Ensure that all the loads are first powered off. Connect to an input-power supply/wall outlet that is properly protected by a circuit breaker in accordance with national and local electrical codes. The input receptacle must be grounded. See Specifications, for input cord rating. Once the UPS is plugged into the wall outlet, it begins charging the battery.

NOTE: While every precaution has been taken to ensure that the battery is in good condition, we recommend allowing the UPS to be plugged into AC input and to charge the battery for at least 12 hours prior to providing full back-up time protection for any utility-power abnormality.

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4 Operations

4.1 Modes of Operation

4.1.1 Off Mode

The UPS input is plugged into a stable, nominal source, but the outlets are turned off. The internal batteries are charging.

4.1.2 On/Normal Mode

The UPS input is plugged into a stable, nominal source, and the outlets are turned on. The internal batteries are charging.

4.1.3 On/Automatic Voltage Regulation (AVR)/Boost1 Mode

The UPS input is plugged in, but the voltage source is somewhat low (brown-out). The UPS automatically corrects the low voltage and allows the outlets to be on with the normal, expected voltage. The internal batteries are charging.

4.1.4 On/Automatic Voltage Regulation (AVR)/Boost2 Mode

The UPS input is plugged in, but the voltage source is abnormally low (brown-out). The UPS automatically corrects the low voltage and allows the outlets to be on with the normal, expected voltage. The internal batteries are charging.

4.1.5 On/Automatic Voltage Regulation (AVR)/Buck Mode

The UPS input is plugged in, but the voltage source is abnormally high. The UPS automatically corrects the high voltage and allows the outlets to be on with the normal, expected voltage. The internal batteries are charging.

4.1.6 On/Battery Mode

The UPS input is not plugged in, or the voltage source has become extremely low or high and unusable. The UPS automatically switches to the internal battery to provide normal, usable voltage to the outlets.

4.1.7 Fault Mode

An error or fault condition has occurred. The outlets are shut off.

4.1.8 Battery Self-test Mode

The UPS enters a cycle of approximately 10 seconds during which it tests the internal battery. The outlets are still temporarily powered by the internal battery. Self-test mode occurs at the following instances:

- At start-up turning the UPS on.
- Automatically every 8 weeks as a self-check.
- When selecting the Replace battery option under Control > Start/Stop battery manual test

4.1.9 Controls

Figure 4.1 Display and Buttons on the front panel

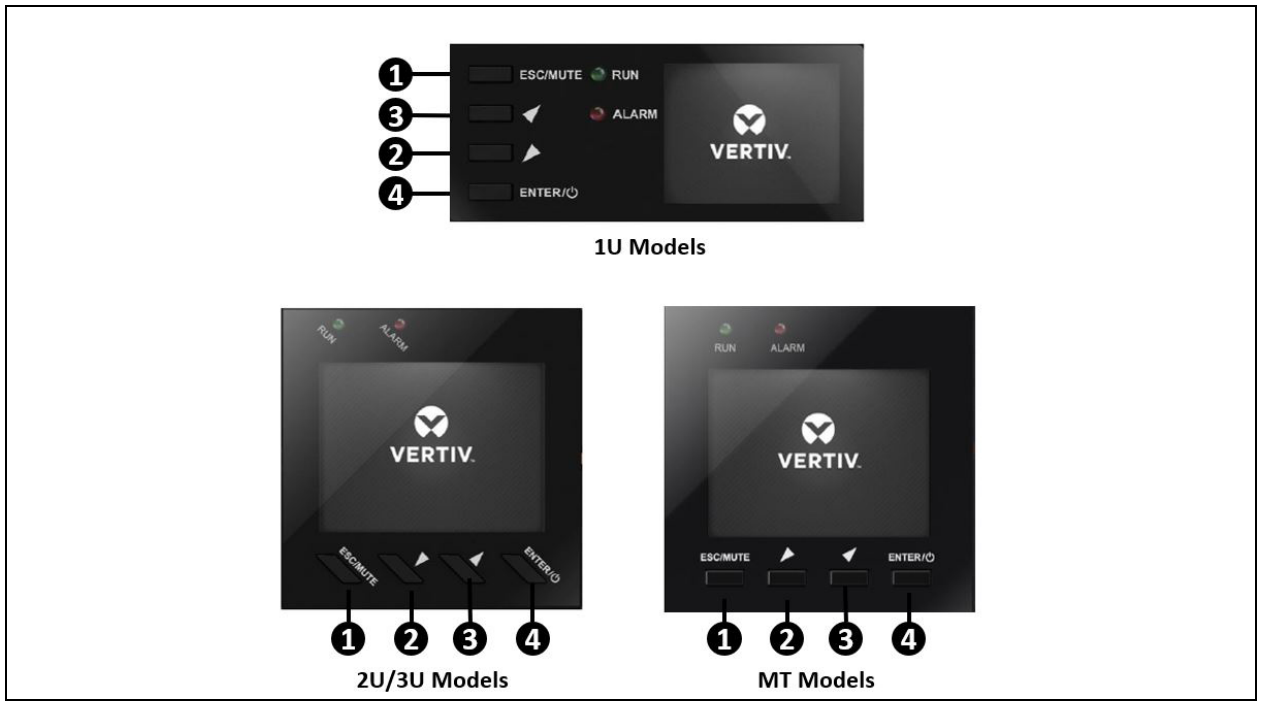


Table 4.1 Control-button descriptions

ITEM	FUNCTION	DESCRIPTION
1	ESC/MUTE	Mute the alarm: Press and hold this button for at least 2 seconds to mute an active alarm. Esc Key: Press this button to exit from menu or cancel the setting.
2	DOWN/LEFT	Press this button to select the lower or left item in the menu, next page in the screen, or decrease the number in the setting.
3	UP/RIGHT	Press this button to select the upper or right item in the menu, previous page in the screen, or increase the number in setting.
4	ENTER / ⏻	Enter: Press this button to enter the main menu from the flow screen, or use this button to select an item when not in the flow screen. Turn on/off the UPS: Press this button for at least 2 seconds to turn the UPS on (with confirmation dialog if not a cold start) when the UPS is off, or turn the UPS off (with confirmation dialog) when the UPS is on.

NOTE: Press any button quickly to wake the display.

4.2 Startup wizard

On first start-up or after factory reset, the UPS will show Start Up Guidance screen, inform the user the system language, system date, system time, output voltage and output frequency configuration.

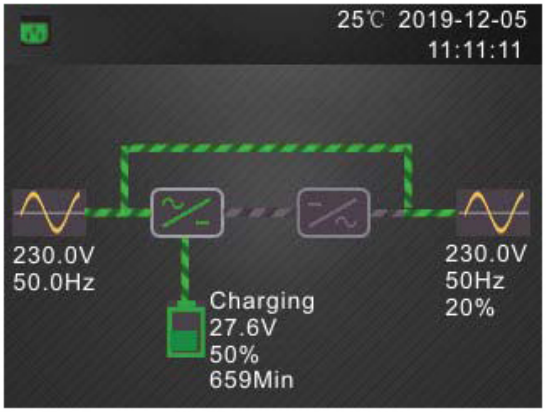
To navigate the Startup wizard:

1. Use the arrow buttons to move the cursor between the Start Up settings, Previous, and Next selections.
2. To change a Start Up setting:
   a. Navigate to the setting using the arrow buttons.
   b. Press the Enter button to select the highlighted setting.
   c. Use the arrow buttons to alternate between setting options.
   d. Press the Enter button to select the setting option or press the ESC button to cancel.
3. To navigate to the previous or next page:
   a. Navigate to the Previous or Next selections.
   b. Press the Enter button to select Previous or Next.

4.2.1 Default Screen and Flow Screens

At start-up, the UPS executes a system test and displays the Vertiv logo screen for about 10 seconds.

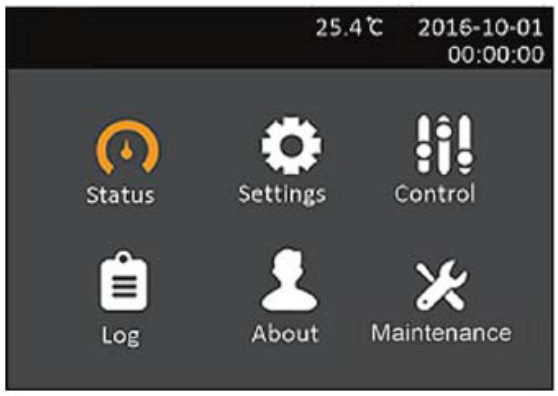
After the test completes, an overview screen shows status information, the active (green) power path, and the non-working power path (gray).



NOTE: While the UPS is operating, the LCD will dim and display a screen saver if there is no active alarm or user interaction for two minutes. After 5 minutes, the screen will turn off. Any button press will wake it. If an alarm or fault occurs or if any button is pressed, the UPS-flow screen displays.

4.2.2 Main menu Screen

To access the main menu, press Enter while at the flow screen. Use the arrow buttons to select the sub-menu options, and press Enter to open the sub menu. Press ESC to return to the flow screen.



4.2.3 Status Screen

The status screen displays voltages, currents, frequencies, and parameters on individual tabs for input, battery, output, and load status.

To view the UPS status information:

1. At the main menu, select the Status icon, and press Enter.
2. Use the arrow buttons to move the cursor left/right and select a tab, then press Enter to display the status information for the selected tab.
3. Use the the arrow keys to move the cursor through status information for the selected tab. Press ESC to return to the tab selection. Press ESC again to return to the main menu.

Input Status Options

L-N voltage (V)

Line-neutral voltage of input power.

L-N current (A)

Line-neutral current of input power.

Frequency (Hz)

Frequency of input of input power.

Energy (kWh)

Input power.

Input blackout count

The number times that the input voltage was lost or dropped below 60 VAC (black out) Resets to 0 when UPS is powered down.

Input brownout count

The number of times that the input voltage was too low to support the load and the UPS was forced to switch to battery power (brown out) Resets to 0 when the UPS is powered down.

Battery Status Options

Battery status

Current battery state: charging, discharging, or fully-charged

Battery voltage (V)

Voltage of battery power

Battery current (A)

Current of battery power

Backup time (Min)

Amount of back-up time remaining for battery

Remaining capacity (%)

Percent of capacity remaining for battery

Discharge count

Number of discharges for the battery module

Total discharge time (Min)

Number of minutes until battery is fully discharged

Battery running time (Day)

Number of days the batteries have been in operation

Battery replacement time

Date of last time battery was replaced

External battery cabinets (2U and 3U VRLA models only)

Number of external battery cabinets connected

Output Status Options

L-N voltage (V)

Line-neutral voltage of output power

L-N Current (A)

Line-neutral current of output power

Frequency (Hz)

Frequency of output power

Energy (kWh)

Output power

Load Status Options

Sout (kVA)

Apparent output power

Pout (kW)

Active output power

Power factor

Power factor of output power

Load percent (%)

Percentage of recent power rated to output power

4.2.4 Settings Submenu

The settings screen consists of tabs that list UPS settings for configuration and adjusting parameters with tabs for:

- Input
- Output
- Battery
- Monitor
- System
- Outlet1

NOTE: Do not change parameter settings or reset to factory defaults when powering-off the UPS.

To modify UPS settings:

1. At the main menu, select the Settings icon, and press Enter.
2. When prompted Enter the Settings password. Use the arrow buttons to increase the digit or change to the next digit. Press Enter when finished. The default Settings password is 111111 (six ones).
3. Use the arrow buttons to move the cursor left/right and select a tab. Then press Enter to navigate the option list for the selected tab.
4. Use the arrow buttons to move the cursor through the options. Press Enter to modify the selected option. Use the arrow buttons to change the setting. Press Enter to confirm the selection or ESC to cancel the selection.
5. Press ESC to exit from the option list and return to the tab selection. Press ESC again to return to the main menu.

NOTE: Parameter settings are password protected, for details see Editing Display and Operation Settings.

Input Parameter Options

Input Waveform sensitivity

Input waveform sensitivity setting.

- High (Default) (4 to 6 ms typical)
- Medium (6 to 8 ms typical)
- Low (8 to 10 ms typical)

Output Parameter Options

Voltage selection

Nominal voltage setting. Set the nominal system voltage to match the input voltage of the UPS

- 200 V
- 208 V
- 220 V
- 230 V (default)
- 240 V

Frequency selection

Selects the frequency of the output:

- Auto : Automatically detects frequency of utility/mains power and sets the nominal frequency to match (default)
- 50 Hz
- 60 Hz

Battery Parameter Options

External battery AH (2U and 3U VRLA models only)

Sets the amp-hour rating of the external battery. This setting should only be adjusted when using third-party external batteries with the "External battery cabinets" setting set to 0. Amp-hours are calculated automatically when using Vertiv EBCs by using the "External battery cabinets" setting.

- 0 - 118 Ah (default of 0)

External battery cabinets (2U and 3U VRLA models only)

Sets the number of attached external battery cabinets or allows the number of EBCs to be detected automatically with Autodetect. Autodetect is used only for Vertiv EBCs. If more than 6 Vertiv EBCs are connected, autodetect does not function and this must be set manually. For third-party external batteries, set this option to 0 and use “External battery AH” setting above.

- 0 - 6
- Autotest (default)

Low battery time

Sounds an alarm when the selected amount of time remains for the UPS to operate in Battery mode.

- 2 - 30 minutes (default of 2)

Battery periodic test enable

The UPS can periodically self-test the battery.

- Enable (default)
- Disable

Battery reminder(months)

Sets the length of time after the batteries are replaced to generate an alarm to remind the user to replace the batteries

- Disable (default)
- 1 - 72 months

Discharge protect time

Sets the maximum discharge time for the UPS. The default setting is the maximum, allowing the battery to fully discharge. This can be set lower to limit the amount of time the UPS will provide battery protection after which it will shut down. If the discharge time remaining on the battery is lower than the setting value, it will have no effect.

- 1 - 4320 minutes (default of 4320)

Max Charge current (2U and 3U VRLA models only)

Sets the maximum charge current for the battery. A higher charge current will charge the battery more quickly but can shorten battery life. A lower value will lengthen the battery charge time and can increase battery life. The load is always prioritized and the charge current will be decreased internally if necessary to support the load.

- 1/2/3 A (default of 3)

Temp compensation

When enabled, the UPS will adjust the charging voltage of the batteries based on temperature in order to preserve battery life. It will increase the voltage if the UPS is operating in a cold environment. It will decrease the voltage if the UPS is operating in a warm environment.

- Enable
- Disable (default)

Replace battery

Activates newly-installed battery packs after replacement and reset all battery statistics for new battery packs.

- Provides a confirmation window with Yes/No options to confirm replacement of batteries.

Monitor Settings Options

Language

Selects the language of the display options are:

- English (default)
- Français (French)
- Português (Portuguese)
- Español (Spanish)
- 简体中文 (Chinese)
- Deutsch (German)
- 日本語 (Japanese)
- Русский (Russian)
- Italiano (Italian)
- Polski (Polish)

Date

Selects the current date for the UPS display, YYYY-MM-DD

Time

Select the current time for the UPS display, HH:MM:SS

Display orientation (2U and 3U models only)

Selects the orientation of the display for use in rack or tower configuration. Options are:

- Auto-rotate = Automatically rotates based on the detected orientation of the UPS (default).
- Horizontal = Screen rotated for rack use.
- Vertical = Screen rotated for tower use.

Audible alarm

If enabled, the UPS will beep when an alarm is generated. If disabled, it will be silent.

- Enable (default)
- Disable

Change settings password

Opens the dialog to change the password used to access and update the UPS parameter settings.

System Parameter Options

Auto restart

Allows the automatic restart of the UPS when input power is restored after a complete shutdown of the UPS system.

- Enable = The UPS will restart automatically when the input power is restored after a complete shut down (default)
- Disable = The UPS will not restart automatically

Auto restart delay

Length of time to elapse before an automatic restart after input power is restored

- 0 - 999 seconds (default 0)

Start with no battery

Allows the UPS to start when the battery has reached the end of discharge (EOD). This can be used to turn on the UPS and power the attached load without battery protection when utility power has been restored after the battery was fully depleted. It works in conjunction with the Auto restart setting above.

- Enable (with Auto restart enable) = The UPS will power the load with no user intervention when mains power returns after the battery has been fully depleted
- Enable (with Auto restart disabled) = The UPS will start up and allow the user to turn on the output when power returns after the battery has been fully depleted
- Disable = The UPS cannot start with a fully depleted battery (default)

Remote control

Allows the UPS to be controlled remotely via the SNMP card.

- Enable (default)
- Disable

Green function (VRLA models)

The UPS will shut down automatically after 180 minutes when the UPS is in battery mode and output load is less than the value below.

- OFF (default)
- 5%
- 10%
- 15%

IT system compatibility

When this option is enabled, the “Input phase reversed” and “Input ground lost” alarms are disabled.

- Enable (default)
- Disable

N-G Output Bond in Battery Mode

When this option is enabled, the output Neutral is connected to Ground when UPS is in battery mode.

- Enable (default)
- Disable

EPO logic

Select the EPO function control logic. Options are:

- Active open = The UPS will activate the EPO function when Pin 1 and Pin 2 are open (default)

- Active close = The UPS will activate the EPO function when Pin 1 and Pin 2 are closed (shorted)

Outlet1 Parameter Options

Turn on/off outlet (LI models)

Turns on or turns off the outlet based on the current state. Provides a confirmation window with Yes/No options to confirm turning on the outlet.

Turn off outlet (VRLA models)

Opens the dialog to turn off the programmable outlet.

Reboot outlet (VRLA models)

Opens the dialog to turn on the programmable outlet.

Turn on delay

Length of time before outlet turns on after UPS start-up.

- 0 - 30 minutes (default of 0)

Turn off when UPS overload on battery

When this option is enabled, the programmable outlet will turn off if the UPS is overloaded while in battery mode.

- Enable
- Disable (default)

Settings based on discharge time

Controls outlets based on amount of time the battery has discharged.

Threshold of turning off the outlet (min)

Length of time that the outlet is powered after the batteries begin to discharge. Select the checkbox to enable or disable (default) the option.

- 0 - 30 minutes (default of 5)

Turn on when power returns for (min)

Length of time after the mains input power returns before turning on the outlet. Select the checkbox to enable or disable (default) the option.

- 0 - 30 minutes (default of 0)

Settings based on backup time

Control outlets based on battery backup time remaining.

Threshold of turning off the outlet (min)

When the selected amount of time remains on battery mode, the outlet is turned off. Select the checkbox to enable or disable (default) the option.

- 0 - 30 minutes (default of 5)

Turn on when power returns for (min)

Length of time after the mains input power returns before turning on the outlet. Select the checkbox to enable or disable (default) the option.

- 0 - 30 minutes (default of 0)

Settings based on capacity

Control outlets based on battery capacity remaining.

Threshold of turning off the outlet (%)

When the selected percentage of capacity remains in battery mode, the outlet turns off. Select the checkbox to enable or disable (default) the option.

- 20 - 80 % (default of 20)

Turn on when power returns for (min)

Length of time after the mains input power returns before turning on the outlet. Select the checkbox to enable or disable (default) the option.

- 0 - 30 minutes (default of 0)

4.2.5 Control Screen

The Control screen offers UPS-control options.

To adjust the UPS controls:

1. At the main menu, select the Control icon, and press Enter.
2. Press Enter on the Control tab.
3. Use the arrow buttons to move the cursor through the options. Press Enter on the option to be modified.
4. Use the the arrow buttons to move through the options. Press Enter to select the option or ESC to cancel.
5. Press ESC to exit the option list and return to the tab selection Press ESC again to return to the main menu.

Control Options

Turn on/off

Opens the dialog to change operating modes.

Mute/Unmute audible alarm

Silences or un-silences the audible alarm.

Start/Stop battery manual test

Starts the battery self test manually. If the manual self test is already running, stop the self test.

Clear faults

Clears displayed faults after the issue causing the fault is resolved.

Reset power statistics

Resets the the power statistics.

4.2.6 Log Screen

The Log Screen offers tabs that list the current alarms and the alarm/event history. Table 4.2 on the next page on the below page, describes the alarm messages you may see in the logs.

To view the logs:

1. At the main menu, select the Log icon, and press Enter.
2. Use the arrow buttons to move the cursor left/right and select a tab, then press Enter to display the log for the selected tab.
3. Use the arrow buttons to move the cursor though the log.
4. Press ESC to exit the log and return to the tab selection. Press ESC again to return to the main menu.

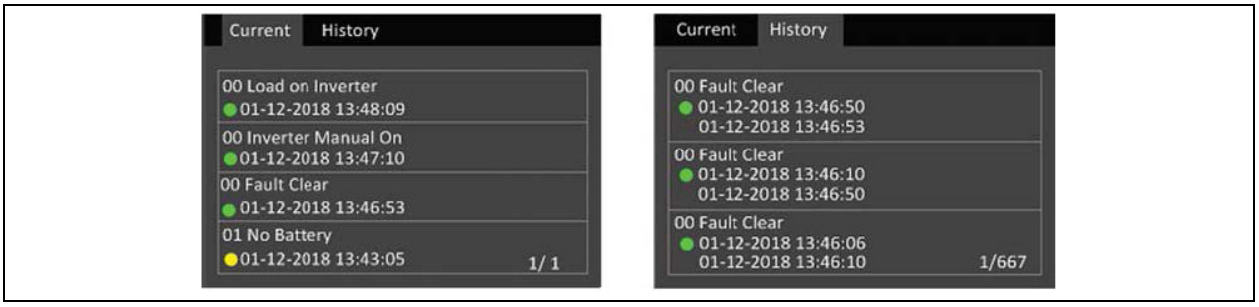


Table 4.2 Alarm Messages table

Message	Description
Aux. power fault	UPS internal auxiliary power voltage fault. Contact Vertiv Technical Support.
Battery cabinet connect abnormal	More than 10 external battery cabinets are connected to the UPS. Disconnect excess battery cabinets.
Battery EOD	The battery has reached the end of discharge and mains/utility power is unavailable. Restore the mains power. The UPS will power off if it is not restored.
Battery low prewarning	This alarm occurs when the battery approaches the EOD. After the pre-warning, the battery capacity allows two minutes discharge at full load. The user can set the time with the Low Battery Time setting in Battery settings from 2 min - 30 min, (2 min by default). This allows for any loads to be shut down before the system powers off if utility power cannot be restored.
Battery mode	The UPS operating in battery mode. The alarm will clear when utility power is restored.
Battery overtemp	Battery ambient temperature too high. Ensure that the battery ambient temperature is not higher than setting value 40 ~ 60 °C (default: 50 °C)
Battery replacement timeout	The system time is past the time set for the batteries to be replaced. If you have disabled the “Batt. note duration” or have no batteries installed, the alarm will not occur.
Battery reversed	The battery positive and negative are reversed. Reconnect the battery and check the battery cable connections.
Battery test fail	The voltage of the battery was low when the periodic or manual self-test was run. Battery replacement is Recommended.
Battery test started	The battery periodic self-test or manual self-test has finished. This will display in the log whenever the event occurs.
Battery test stopped	The battery periodic self-test or manual self-test has finished. This will display in the log whenever the event occurs.
Battery to utility transition	The UPS has transferred the load to the mains power from the battery. This will display in the log whenever the event occurs.
Battery voltage abnormal	The battery voltage exceeds the normal range. Check if the battery terminal voltage exceeds the normal range.
Battery to utility transition	The UPS has transferred the load to the mains power from the battery. This will display in the log whenever the event occurs.
Battery voltage abnormal	The battery voltage exceeds the normal range. Check if the battery terminal voltage exceeds the normal range.
Bypass abnormal	May be caused by bypass voltage and frequency outside of range, bypass power-off and incorrect bypass cables connection. Check that the bypass voltage and frequency are within the setting range. Check the bypass cables connection

Table 4.2 Alarm Messages table (continued)

Message	Description
Bypass abnormal in ECO mode	May be caused by ECO bypass voltage and frequency outside of range, ECO bypass power-off, and incorrect ECO bypass cables connection. Check that the ECO bypass voltage and frequency are within the setting range. Check the bypass cable connection
Bypass mode	The UPS is on bypass. This will clear when the UPS returns to Normal mode.
Bypass over-current	The load is drawing more current than the UPS is rated to supply in bypass mode. Reduce the load.
Charger fault	The charger output voltage is abnormal, and the charger is off. Contact Vertiv Technical Support.
Communication fail	Internal communication is abnormal. Check that the communication cables are connected correctly.
DC bus abnormal	The inverter is off due to DC bus voltage out of acceptable range. The load will transfer to bypass if the bypass is available because the bus voltage is outside of the acceptable range.
DC/DC fault	The discharger is faulty, because the bus voltage exceeds the range when the discharger starts. Contact Vertiv Technical Support.
EOD turn off	The inverter is off due to EOD. Check the mains power-off state and recover the mains in time
Fan fault	At least one fan is faulty. Check if the fan is blocked or the cable connection is loose.
Faults cleared	The faults have been cleared using Settings > Controls > Clear faults. This will display in the log whenever the event occurs.
Guaranteed shutdown	The battery has finished discharging, then system shuts down because Guaranteed Shutdown is enabled. This alarm will clear when the UPS is turned on again.
Input abnormal	The rectifier and charger are off due to the mains voltage and frequency exceeding normal range. Check that the rectifier input phase voltage and frequency exceed the normal range or that the mains has power-off
Input ground lost	Check that the PE line is well connected and that the alarm can be cleared at the display.
Input neutral lost	The mains input neutral is not detected. The alarm will clear when the neutral connection has been restored.
Input phase reversed	The mains input line and neutral are reversed. Shut off external input breaker and connect the lines correctly.
Insufficient capacity to start	The UPS is on bypass and is started with a load greater than 105% of the rated capacity. Reduce the load to the rated capacity or below to start the unit.
Inverter fault	The inverter is turned off when the inverter output voltage or current exceed the ranges set. If bypass is available, the UPS will transfer to bypass mode, otherwise the system will power off. Contact Vertiv Technical Support.
Inverter overload	Inverter load capacity is larger than the rated value, overload delay time is up, inverter shuts down. If bypass is available, the system will transfer to the bypass mode, otherwise the system will power off. Check the output load. If overloaded, reduce the load, and the system will transfer to the inverter mode after five seconds with no alarm.
Inverter relay welded	The inverter relay is shorted. Contact Vertiv Technical Support.
Load off due to output short	A short has occurred on the output. Check the output cables and for any equipment that may have shorted.
Load off due to shutdown on battery	The system was shut down in battery mode. This will clear when the system is turned back on.
Manual power- on	The system was turned on via the display panel. This will display in the log whenever the event occurs.
Manual shutdown	The system was shut down via the display panel. This will display in the log whenever the event occurs.
No battery	No battery detected. Check the battery and battery cable connection(s).

Table 4.2 Alarm Messages table (continued)

Message	Description
On maintenance bypass	The UPS is operating in maintenance bypass mode. This will display in the log whenever the event occurs.
Operating on inverter	The UPS output is being powered by the inverter. This will display in the log whenever the event occurs.
Output disabled	The system is in standby state, and the dry contact shutdown is enabled. Check if the shutdown dry contact is enabled.
Output off due to bypass abnormal	The bypass voltage or frequency is outside the acceptable range, and the bypass is in stand-by mode. Check that the input is normal.
Output off due to overload & bypass abnormal	The output is off due to an overload of the UPS output, and the bypass voltage or frequency is outside the acceptable range. Check that the input is normal.
Output off, voltage is not zero	This occurs when the output is off and the system detects that there is still voltage on the output. Check output equipment for backfeeds or contact Vertiv Technical Support.
Load off due to shutdown on battery	The system was shut down in battery mode. This will clear when the system is turned back on.
Output pending	Remote shutdown has been initiated, and the system will turn off shortly.
Output short	A short has occurred on the output. Check the output cables and for any equipment that may have shorted.
Rectifier fault	The rectifier is off because the bus voltage is out of the acceptable range when the rectifier starts. Contact Vertiv Technical Support.
Rectifier overload	The output power is larger than the rectifier overload point. Check that the input voltage meets the output load, mains input 176 V ~ 100 V, the load 100% ~ 50% linear derating.
Remote power- on	The UPS was powered on remotely. This will display in the log whenever the event occurs
Remote shut- off	The UPS was powered on remotely. This will display in the log whenever the event occurs
Remote shutdown	Any mode shutdown was initiated by the dry contact input. This will display in the log whenever the event occurs.
REPO	Shutdown caused by the REPO terminal Normally-Closed contact input opening. This will display in the log whenever the event occurs.
Restore factory defaults	On the Maintenance page, “Restore Factory Defaults” has been set while the UPS is in the stand-by state. This will return settings to their factory settings.
Shutdown due to over temp	During the UPS operation, the system checks if the heat sink temperature exceeds the setting range. If an overtemperature occurs, check if : 1. The ambient temperature is too high. 2. Dust is blocking any of the UPS vents. 3. A fan fault has occurred.
System over temp	During the UPS operation, the system checks if the heat sink temperature exceeds the setting range. If an overtemperature occurs, check if : 1. The ambient temperature is too high. 2. Dust is blocking any of the UPS vents. 3. A fan fault has occurred.
Turn on fail	The UPS does not start because there is no mains/utility power or it is outside of the range of the voltage required to supply the full load. Check the AC input power.
UPS has no output	Both Inverter and Bypass are not supplying power due to the UPS output being turned off remotely or via the LCD, or are unavailable due to no input power or input power out of range. Check that UPS is on and input power is available.

4.2.7 About Screen

The About screen offers tabs that list information about the product.

- Product tab - shows UPS identification information, firmware versions, and information about the communication card (when the card is installed).

To view the product and battery-age information:

1. At the main menu, select the About icon, and press Enter.
2. Use the arrow buttons to move the cursor left/right and select a tab, then press Enter to display the information for the selected tab.
3. Use the arrow buttons to move the cursor.
4. Press ESC to return to the tab selection. Press ESC again to return to the main menu.

Product Information

Product Type

UPS model name.

Serial number

UPS serial number.

Time since startup

Elapsed time since start-up of the UPS.

UPS FW version

Version of UPS firmware on the control board.

Communication FW version

Version of communication firmware on the communication board.

LCD module FW version

Version of LCD module firmware on the display panel.

Network

MAC address

Shows the MAC address of the SNMP card. This is only shown when the SNMP card is installed and setup.

IPv4 address

Shows the IPv4 address of the SNMP card. This is only shown when the SNMP card is installed and setup.

4.2.8 Maintenance screen

The Maintenance screen offers operation of restore factory default.

To restore factory default:

1. Put the UPS in standby mode.
2. At the main menu, select the Maintenance icon, and press Enter.
3. Use the arrow buttons to move the cursor to Restore factory defaults, then press Enter.

4. A prompt will appear to confirm the selection. Use the arrow buttons to select Yes and press Enter.

NOTE: The operation is password protected. The password is 12345.

Restore factory default

If the operation success, it will restore configuration to factory defaults.

4.3 Editing Display and Operation Settings

You may adjust the display settings and UPS configuration via the LCD. The display and operation settings are password protected. The default password is 111111 (six ones).

To enter the password:

1. Use the arrow buttons to increase the digits or move to the next digit.
2. Repeat to select each digit, and press Enter to submit the password.

Settings Prompts

While using the operation and display panel, prompts display to alert you to specific conditions or require confirmation of commands or settings. Following table lists the prompts and their meaning.

Table 4.3 Display Prompts and Meanings

PROMPT	MEANING
Cannot set this online, please shut down output	Appears when changing important output settings (output voltage, output frequency.).
Please input password	Appears when password protected operation is executed.
Password is correct	Appears when the Settings password is input correctly.
Incorrect password, please input again	Appears when the Settings password is input incorrectly.
Input new password	Appears when the attempting to change the Setting password.
Confirm new password	Appears when the attempting to change the Setting password.
Password changed OK	Appears upon successful change of the Settings password.
Fail to change password, please try again	Appears when attempting to change the Settings password but the new and confirmation passwords do not match.
Operation failed, condition is not met	Appears when attempting to execute a operation for which the required conditions are not met.
Turn on failed, condition is not met	Appears when proper conditions are not met for UPS power-on. Applies when using the power button or when execute the command of 'Turn on/Turn off' on the LCD panel 'Control' page.
Turn on UPS?	Appears when execute the command of 'Turn on' on the LCD panel 'Control' page.
Turn off UPS?	Appears when execute the command of 'Turn off' on the LCD panel 'Control' page.
Mute audible alarm?	Appears when execute the command of 'Mute audible alarm' on the LCD panel 'Control' page.
Unmute audible alarm?	Appears when execute the command of 'Unmute audible alarm' on the LCD panel 'Control' page.
Start battery manual test?	Appears when execute the command of 'Start battery manual test' on the LCD panel 'Control' page.
Stop battery manual test?	Appears when execute the command of 'Stop battery manual test' on the LCD panel 'Control' page.
Clear faults?	Appears when execute the command of 'Clear faults' on the LCD panel 'Control' page.
Reset power statistics?	Appears when execute the command of 'Reset power statistics' on the LCD panel 'Control' page.
New alarm present	Appears when new alarm occurs.
New Fault present	Appears when new fault occurs.

4.3.1 Changing the Password

The default password is 111111 (six ones). You must use the current password to change the password.

1. At the main menu, select the Settings icon, and press Enter.
2. At the password prompt, use the up-arrow to select the first digit, press the down-arrow to move to the next digit, repeat for each digit, then press Enter to access the settings.
3. Use the arrow buttons to select the Monitor tab, then press Enter.
4. Use the down arrow to highlight Change Settings Password, press Enter, and re-enter the current password. The Input new password dialog opens, see below.
5. Enter the new password, then confirm the new password. A confirmation dialog opens to indicate a successful password change.
6. Press ESC to return to the settings or main menu.

Figure 4.2 New and Confirm Password dialogs

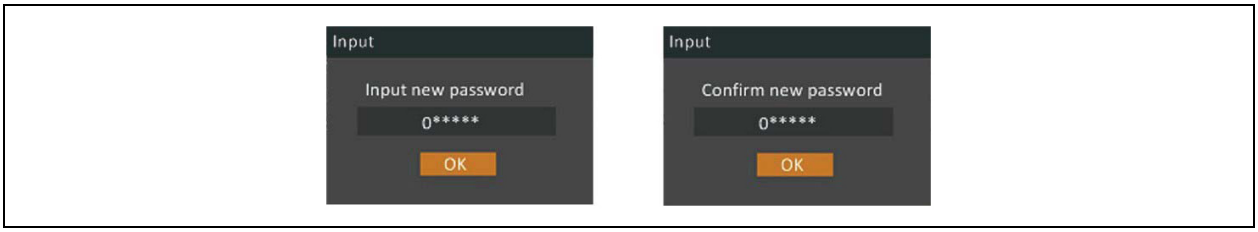


Table 4.4 Operating Mode Description

Operating mode	DESCRIPTION
Normal mode	When the input voltage is within the acceptable range, the UPS will power the output directly from the mains. In this mode, when the battery is fully charged, the fan will turn off for energy saving.
Buck mode	When the input voltage is higher than the voltage regulation range but lower than high loss point, the buck AVR will be activated.
Boost mode	When the input voltage is lower than the voltage regulation range but higher than low loss point, the boost AVR will be activated..
Battery mode	When the input voltage is beyond the acceptable range or an input power failure occurs, the UPS will provide backup power from the battery. An alarm will sound every 10 seconds.
Standby mode	UPS is powered off and no output supply power, but still can charge batteries.
Fault mode	When a fault occurs the output will turn off.

Table 4.5 Faults

Fault	Cause
DC/DC fault	The DC bus voltage exceeds the acceptable range.
DC bus abnormal	The inverter is off because the DC bus voltage is abnormal
Inverter fault	The inverter is off when the inverter output voltage and current exceed the acceptable range.
Inverter output short circuit	The inverter has a short circuit.

Table 4.5 Faults (continued)

Fault	Cause
Battery voltage abnormal	The battery voltage exceeds the normal range.
Over temp	The internal heat sink temperature or ambient temperature exceeds the setting range, and the output is off.
Overload	The UPS output is overloaded
Charger failure	The charger does not have output and battery voltage is low

Table 4.6 Audible Alarm

Alarm source	Alarm
UPS Fault	Continuously sounding
Battery Mode	Sounding every 10 seconds
Battery low pre-warning	Sounding every 2 seconds
Overload pre-warning	Sounding every second
No battery	Sounding every 2 seconds
Battery overcharge	Sounding every 2 seconds
Input ground lost or phase reversed	Sounding every 2 seconds
EPO	Sounding every 2 seconds
Over temp pre-warning	Sounding every 2 seconds
Charger fail pre-warning	Sounding every 2 seconds
Battery fault	Sounding every 2 seconds (UPS output is off)
Battery replacement timeout	Sounding every 2 seconds
EEPROM fail	Sounding every 2 seconds

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5 Maintenance and Battery Replacement

5.1 Precautions

Although the EDGE is designed and manufactured to ensure personal safety, improper use can result in electrical shock or fire. To ensure safety, observe the following precautions:

- Turn off and unplug the UPS before cleaning it.
- Clean the UPS with a dry cloth. Do not use liquid or aerosol cleaners.
- Never block or insert any objects into the ventilation holes or other openings of the UPS.
- Do not place the UPS power cord where it might be damaged.

5.2 Battery Charging

The batteries are valve-regulated, non-spillable, lead-acid in all models except for the LI, which uses LiFeP04 type lithium-ion batteries. In all cases, the batteries should be kept charged to retain their design life. The EDGE charges the batteries continuously when it is connected to input power. If the EDGE will be stored for a long time, Vertiv™ recommends connecting the UPS to input power every 4 to 6 months for at least 2 hours for LI models and 24 hours for lead acid models to ensure full recharge of the batteries.

The Lithium Ion batteries used in the EDGE LI series, as well as all Vertiv Lithium-Ion UPSs, contain a Battery Management System (BMS) that self-monitors the safety of the LI batteries in real-time. This is an agency tested and certified requirement now eliminating the industry wide safety risk known with previous Li-Ion batteries.

5.3 Replacing the UPS Batteries

IMPORTANT! Before you proceed, please review the battery safety precautions available at https://www.vertiv. com/ComplianceRegulatoryInfo.

You may safely replace the internal battery pack. See the Specifications, for the part number of the replacement battery for your UPS model number.

NOTE: Replace the battery with the same type and number as originally installed.

NOTE: The internal battery pack is hot-swappable. However, caution should be exercised because during this procedure the load is unprotected from disturbances and power outages. Do not replace the battery while the UPS is operating in Battery Mode. This will result in a loss of output power and will drop the connected load.

To replace the batteries on 1U, 2U, and 3U models:

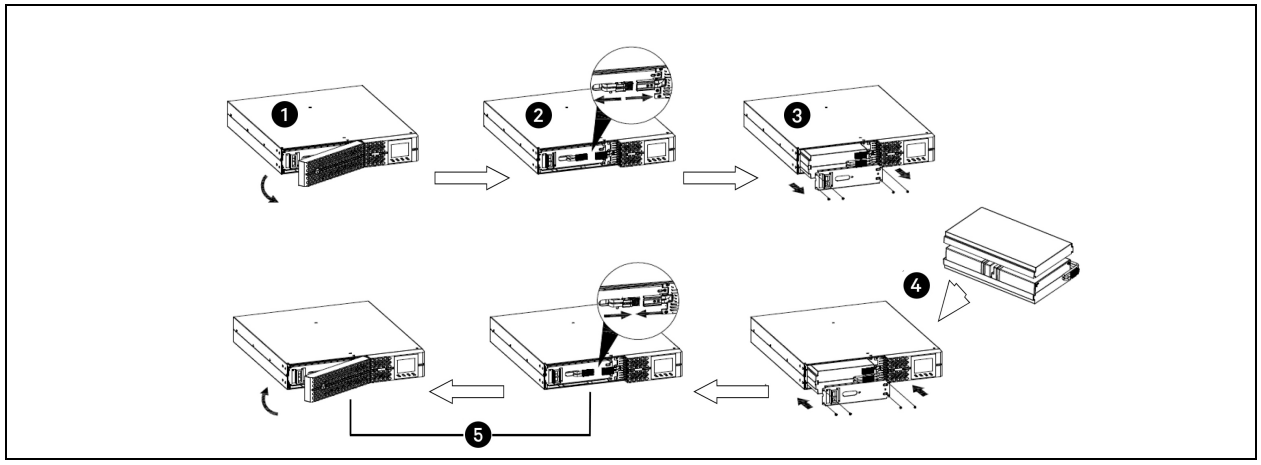
1. Remove the front bezel by pulling firmly until the snaps release.
2. Disconnect the battery connector by squeezing the ends and gently pulling the two pieces apart.
3. Remove the screws holding the metal battery cover plate. Pull the battery kit out.
4. Orient the connector and the new battery in the same way as the original battery, then slide them into the UPS. Reinstall the metal battery cover.
5. Reconnect the battery connectors. Snap the front bezel back on.

6. Navigate through the menu to Settings > Battery > Replace Battery and confirm battery replacement.

NOTE: Default Settings password is 111111

7. Properly dispose of old batteries at an appropriate recycling center or return them to Vertiv in the packing material for the replacement batteries.

Figure 5.1 Removing the battery box from 1U, 2U, and 3U units to replace batteries



ITEM	DESCRIPTION
1	Remove the front panel from the UPS.
2	Disconnect the battery connector by squeezing the ends and pulling the two pieces apart.
3	Remove the screws holding the metal battery cover plate. Pull the battery kit out.
4	Orient the connector and the new battery in the same way as the original battery, then slide them into the UPS. Reinstall the metal battery cover.
5	Reconnect the battery connectors. Snap the front bezel back on.

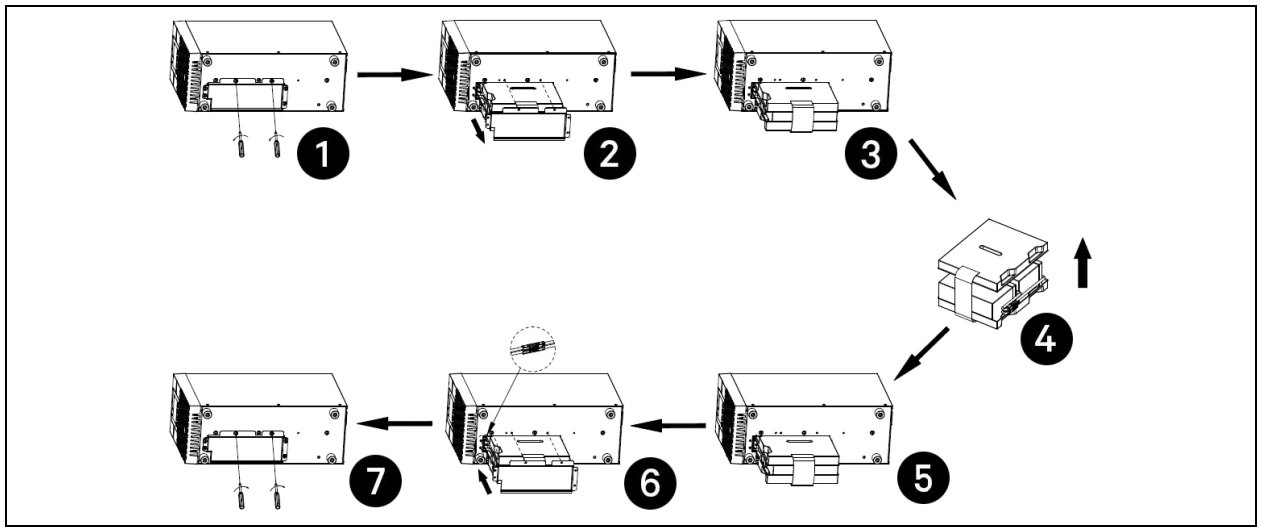
To replace the batteries on MT models:

1. Place the unit on its left side and remove the 6 screws and the metal battery cover plate.
2. Slide out the existing battery kit and disconnect the two halves of the battery connector.
3. Orient the connector and the new battery in the same way as the original battery, connect the two halves of the battery connector, and slide into UPS.
4. Replace the metal plate and secure with the 6 screws.
5. Navigate through the menu to Settings > Battery > Replace Battery and confirm battery replacement.

NOTE: Default Settings password is 111111

6. Properly dispose of the old batteries at an appropriate recycling facility or return them to Vertiv in the packing material from the new batteries.

Figure 5.2 Replacing the batteries on MT models



ITEM	DESCRIPTION
1	With unit laying on left side, remove screws from battery cover.
2	Remove the battery cover.
3	Slide out the battery kit and disconnect the battery connector.
4	Connect the battery connector to the replacement battery.
5	Slide the replacement battery kit into the UPS.
6	Replace the battery cover.
7	Secure the battery cover with the screws.

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6 Specifications

Table 6.1 Specifications, EDGE-500IRM1U,EDGE-1000IRM1U and EDGE-1500IRM1U

MODEL	EDGE-500IRM1U	EDGE-1000IRM1U	EDGE-1500IRM1U
Power Rating @ 230V	**500VA / 450W / 2.2A**	**1000VA / 900W / 4.4A**	**1500VA / 1350W / 6.7A**
Dimensions, D×W×H, in. (mm)			
Unit Dimensions, W x D x H, mm	438 x 380 x 43	438 x 480 x 43	438 x 600 x 43
Shipping Dimensions, W x D x H, mm	550 x 620 x 200	570 x 700 x 200	780 x 570 x 200
Weight, lb.(kg)			
Unit Weight, kg	11.3	16.1	22.8
Shipping Weight, kg	17.3	23.4	30.5
Input			
Voltage Input Range (with battery operation)	0 to 300 VAC		
Voltage Input Range (without battery operation)	144 to 290 VAC		
Input Voltage Measurement Tolerance	±5%		
Nominal Voltage Setting	200 / 208 / 220 / 230 / 240 VAC		
High Line Buck to Battery	241 / 251 / 266 / 278 / 290 VAC		
High Line Battery to Buck	235 / 245 / 260 / 272 / 284 VAC		
High Line Normal to Buck	220 / 229 / 242 / 253 / 264 VAC		
High Line Buck to Normal	215 / 224 / 237 / 248 / 259 VAC		
Low Line Boost1 to Normal	185 / 192 / 203 / 212 / 221 VAC		
Low Line Normal to Boost1	180 / 187 / 198 / 207 / 216 VAC		
Low Line Boost2 to Boost1	160 / 166 / 176 / 183 / 191 VAC		
Low Line Boost1 to Boost2	155 / 161 / 171 / 178 / 186 VAC		
Low Line Battery to Boost2	155 / 161 / 171 / 178 / 186 VAC		
Low Line Boost2 to Battery	144 / 150 / 158 / 166 / 173 VAC		
Frequency Input Range	45 to 65 Hz Autodetect 50 / 60 Hz Battery to Normal comeback at 50Hz: 47 to 53Hz Battery to Normal comeback at 60Hz: 57 to 63Hz		
Internal Rear-panel Input Breaker Rating	5 A	8 A	10 A
Input Surge Protection	EN61000-4-5; Line to Line: Level 2; Line to Earth: Level 3 (624J L/N, 624J L/G, 624J N/G)		
Input Power Receptacle	IEC 320 C14		

Table 6.1 Specifications, EDGE-500IRM1U,EDGE-1000IRM1U and EDGE-1500IRM1U (continued)

MODEL	EDGE-500IRM1U	EDGE-1000IRM1U	EDGE-1500IRM1U
Power Rating @ 230V	**500VA / 450W / 2.2A**	**1000VA / 900W / 4.4A**	**1500VA / 1350W / 6.7A**
Output			
Output Voltages (on battery)	200 / 208 / 220 / 230 / 240 VAC (230 VAC is factory default)		
Output Frequency (on battery)	Autodetect 50/60 Hz ±1%		
Output Receptacles - not controllable	(3) IEC 320 C13		
Output Receptacles - controllable	(3) IEC 320 C13		
Transfer Time	Adjustable with Input Waveform Sensitivity setting. See Settings Submenu for details.		
Output Waveform (on Battery)	Pure Sinewave		
Output Overload Operation	101% - alarm warning 106% - alarm warning and shutdown after 60 seconds 126% - alarm warning and shutdown after 50 seconds 151% - alarm warning and shutdown after 2 seconds 201% - alarm warning and immediate shutdown		
Protection	Electronic (over current, short circuit w/ latching shutdown)		
AC-mode Efficiency	98% or greater for 200/208/220/230/240 VAC		
Buck- Boost1- and Boost2- mode	94% or greater for 200/208/220/230/240 VAC	96% or greater for 200/208/220/230/240 VAC	
Recharge Time	4 hours to recover 90%		
Internal Battery			
Part Number	EDGE-500I1UBATKIT	EDGE-1000I1UBATKIT	EDGE-1500I1UBATKIT
Protection	Electronic (overcurrent, short circuit with latching shutdown)		
Type	Valve-regulated lead-acid (VRLA) in compliance with UL 1989		
Quantity x Voltage x Ah	2 x 6V x 9Ah	4 x 6V x 9Ah	6 x 6V x 9Ah
Environment			
Operating temperature	0 °C to 40 °C		
Storage temperature	- 25 °C to +55 °C without battery inside		
Relative Humidity (Operation)	20% to 90%, non-condensing		
Operating Altitude	3000 m @ 0°C to 40 °C without derating		
Audible Noise	<45 dBA AVR mode, >70% load <55 dBA Battery mode		
Agency			

Table 6.1 Specifications, EDGE-500IRM1U,EDGE-1000IRM1U and EDGE-1500IRM1U (continued)

MODEL	EDGE-500IRM1U	EDGE-1000IRM1U	EDGE-1500IRM1U
Power Rating @230V	**500VA / 450W / 2.2A**	**1000VA / 900W / 4.4A**	**1500VA / 1350W / 6.7A**
Compliance	CE, CB Report		
Safety	IEC/ EN62040-1:2008+A1:2013		
RFI/EMI	EN62040-2:2006(C1)		
Transportation	ISTA 2A		

Table 6.2 Specifications, EDGE-750IMT, EDGE-1000IMT and EDGE-1500IMT

MODEL	EDGE-750IMT	EDGE-1000IMT	EDGE-1500IMT
Power Rating @230V	**750VA / 675W / 3.3A**	**1000VA / 900W / 4.4A**	**1500VA / 1350W / 6.7A**
Dimensions, D×W×H, in. (mm)			
Unit Dimensions, W x D x H, mm	145 x 370 x 220		145 x 480 x 220
Shipping Dimensions, W x D x H, mm	230 x 450 x 325		230 x 570 x 325
Weight, lb.(kg)			
Unit Weight, kg	11.2	11.8	18.2
Shipping Weight, kg	12.6	13.2	20
Input			
Voltage Input Range (with battery operation)	0 to 300 VAC		
Voltage Input Range (without battery operation)	144 to 290 VAC		
Input Voltage Measurement Tolerance	±5%		
Nominal Voltage Setting	200 / 208 / 220 / 230 / 240 VAC		
High Line Buck to Battery	241 / 251 / 266 / 278 / 290 VAC		
High Line Battery to Buck	235 / 245 / 260 / 272 / 284 VAC		
High Line Normal to Buck	220 / 229 / 242 / 253 / 264 VAC		
High Line Buck to Normal	215 / 224 / 237 / 248 / 259 VAC		
Low Line Boost1 to Normal	185 / 192 / 203 / 212 / 221 VAC		
Low Line Normal to Boost1	180 / 187 / 198 / 207 / 216 VAC		
Low Line Boost2 to Boost1	160 / 166 / 176 / 183 / 191 VAC		
Low Line Boost1 to Boost2	155 / 161 / 171 / 178 / 186 VAC		
Low Line Battery to Boost2	155 / 161 / 171 / 178 / 186 VAC		
Low Line Boost2 to Battery	144 / 150 / 158 / 166 / 173 VAC		

Table 6.2 Specifications, EDGE-750IMT, EDGE-1000IMT and EDGE-1500IMT (continued)

MODEL	EDGE-750IMT	EDGE-1000IMT	EDGE-1500IMT
Power Rating @ 230V	**750VA / 675W / 3.3A**	**1000VA / 900W / 4.4A**	**1500VA / 1350W / 6.7A**
Frequency Input Range	45 to 65 Hz Autodetect 50 / 60 Hz Battery to Normal comeback at 50Hz: 47 to 53Hz Battery to Normal comeback at 60Hz: 57 to 63Hz		
Internal Rear-panel Input Breaker Rating	5 A	8 A	10 A
Input Surge Protection	EN61000-4-5; Line to Line: Level 2; Line to Earth: Level 3 (624J L/N, 624J L/G, 624J N/G)		
Input Power Receptacle	IEC 320 C14		
Output			
Output Voltages (on battery)	200 / 208 / 220 / 230 / 240 VAC (230 VAC is factory default)		
Output Frequency (on battery)	Autodetect 50/60 Hz ±1%		
Output Receptacles - not controllable	(3) IEC 320 C13		
Output Receptacles - controllable	(2) IEC 320 C13		(3) IEC 320 C13
Transfer Time	Adjustable with Input Waveform Sensitivity setting. See Settings Submenu for details.		
Output Waveform (on Battery)	Pure Sinewave		
Output Overload Operation	101% - alarm warning 106% - alarm warning and shutdown after 60 seconds 126% - alarm warning and shutdown after 50 seconds 151% - alarm warning and shutdown after 2 seconds 201% - alarm warning and immediate shutdown		
Protection	Electronic (over current, short circuit w/ latching shutdown)		
AC-mode Efficiency	98% or greater for 200/208/220/230/240 VAC		
Buck- Boost1- and Boost2- mode	95% or greater for 200/208/220/230/240 VAC	96% or greater for 200/208/220/230/240 VAC	
Recharge Time	4 hours to recover 90%		
Internal Battery			
Part Number	EDGE-750IMTBATKIT	EDGE-1000IMTBATKIT	EDGE-1500IMTBATKIT
Protection	Electronic (overcurrent, short circuit with latching shutdown)		
Type	Valve-regulated lead-acid (VRLA) in compliance with UL 1989		
Quantity x Voltage x Ah	2 x 12V x 9Ah	2 x 12V x 10Ah	4 x 12V x 9Ah
Environment			
Operating temperature	0 °C to 40 °C		
Storage temperature	- 25 °C to +55 °C without battery inside		
Relative Humidity (Operation)	20% to 90%, non-condensing		

Table 6.2 Specifications, EDGE-750IMT, EDGE-1000IMT and EDGE-1500IMT (continued)

MODEL	EDGE-750IMT	EDGE-1000IMT	EDGE-1500IMT
Power Rating @230V	**750VA / 675W / 3.3A**	**1000VA / 900W / 4.4A**	**1500VA / 1350W / 6.7A**
Operating Altitude	3000 m @ 0°C to 40 °C without derating		
Audible Noise	<45 dBA AVR mode, >70% load <55 dBA Battery mode		
Agency			
Compliance	CE ,CB Report		
Safety	IEC/ EN62040-1:2008+A1:2013		
RFI/EMI	EN62040-2:2006 (C1)		
Transportation	ISTA 2A		

Table 6.3 Specifications, EDGE-1500IRT2UXL, EDGE-2200IRT2UXL,EDGE-3000IRT2UXL and EDGE-3000IRT3UXL

MODEL	EDGE-1500IRT2UXL	EDGE-2200IRT2UXL	EDGE-3000IRT2UXL	EDGE-3000IRT3UXL
Power Rating @230V	**1500VA / 1350W / 6.7 A**	**2200VA / 1980W / 9.8A**	**3000VA / 2700W / 13.3A**	
Dimensions, D×W×H, in. (mm)				
Unit Dimensions, W x D x H, mm	438 x 510 x 86	438 x 630 x 86		438 x 485 x 132
Shipping Dimensions, W x D x H, mm	565 x 700 x 240	600 x 800 x 240		550 x 670 x 282
Weight, lb.(kg)				
Unit Weight, kg	21.5	26.7	33.8	36.4
Shipping Weight, kg	29.6	34.9	41.6	42.1
Input				
Voltage Input Range (with battery operation)	0 to 300 VAC			
Voltage Input Range (without battery operation)	144 to 290 VAC			
Input Voltage Measurement Tolerance	±5%			
Nominal Voltage Setting	200 / 208 / 220 / 230 / 240 VAC			
High Line Buck to Battery	241 / 251 / 266 / 278 / 290 VAC			
High Line Battery to Buck	235 / 245 / 260 / 272 / 284 VAC			

Table 6.3 Specifications, EDGE-1500IRT2UXL, EDGE-2200IRT2UXL,EDGE-3000IRT2UXL and EDGE-3000IRT3UXL (continued)

MODEL	EDGE-1500IRT2UXL	EDGE-2200IRT2UXL	EDGE-3000IRT2UXL	EDGE-3000IRT3UXL
Power Rating @230V	**1500VA / 1350W / 6.7 A**	**2200VA / 1980W / 9.8A**	**3000VA / 2700W / 13.3A**	
High Line Normal to Buck	220 / 229 / 242 / 253 / 264 VAC			
High Line Buck to Normal	215 / 224 / 237 / 248 / 259 VAC			
Low Line Boost1 to Normal	185 / 192 / 203 / 212 / 221 VAC			
Low Line Normal to Boost1	180 / 187 / 198 / 207 / 216 VAC			
Low Line Boost2 to Boost1	160 / 166 / 176 / 183 / 191 VAC			
Low Line Boost1 to Boost2	155 / 161 / 171 / 178 / 186 VAC			
Low Line Battery to Boost2	155 / 161 / 171 / 178 / 186 VAC			
Low Line Boost2 to Battery	144 / 150 / 158 / 166 / 173 VAC			
Frequency Input Range	45 to 65 Hz Autodetect 50 / 60 Hz Battery to Normal comeback at 50Hz: 47 to 53Hz Battery to Normal comeback at 60Hz: 57 to 63Hz			
Internal Rear-panel Input Breaker Rating	10 A	16 A		
Input Surge Protection	EN61000-4-5; Line to Line: Level 2; Line to Earth: Level 3 Input Power (624J L/N, 624J L/G, 624J N/G)			
Input Power Receptacle	IEC 320 C14	IEC 320 C20		
Output				
Output Voltages (on battery)	200 / 208 / 220 / 230 / 240 VAC (230 VAC is factory default)			
Output Frequency (on battery)	Autodetect 50/60 Hz ±1%			
Output Receptacles - not controllable	(3) IEC 320 C13	(3) IEC 320 C13 (1) IEC 320 C19	(6) IEC 320 C13 (1) IEC 320 C19	
Output Receptacles - controllable	(3) IEC 320 C13			
Transfer Time	Adjustable with Input Waveform Sensitivity setting. See Settings Submenu for details.			
Output Waveform (on Battery)	Pure Sinewave			

Table 6.3 Specifications, EDGE-1500IRT2UXL, EDGE-2200IRT2UXL,EDGE-3000IRT2UXL and EDGE-3000IRT3UXL (continued)

MODEL	EDGE-1500IRT2UXL	EDGE-2200IRT2UXL	EDGE-3000IRT2UXL	EDGE-3000IRT3UXL
Power Rating @ 230V	**1500VA / 1350W / 6.7 A**	**2200VA / 1980W / 9.8A**	**3000VA / 2700W / 13.3A**	
Output Overload Operation	101% - alarm warning 106% - alarm warning and shutdown after 60 seconds 126% - alarm warning and shutdown after 50 seconds 151% - alarm warning and shutdown after 2 seconds 201% - alarm warning and immediate shutdown			
Protection	Electronic (over current, short circuit w/ latching shutdown)			
AC-mode Efficiency	98% or greater for 200/208/220/230/240 VAC			
Buck- Boost1- and Boost2- mode	96% or greater for 200/208/220/230/240 VAC			
Recharge Time	4 hours to recover 90%			
Internal Battery				
Part Number	EDGE-1500IRT2UBATKIT	EDGE-2200IRT2UBATKIT	EDGE-3000IRT2UBATKIT	EDGE-3000IRT3UBATKIT
Protection	Electronic (overcurrent, short circuit with latching shutdown)			
Type	Valve-regulated lead-acid (VRLA) in compliance with UL 1989			
Quantity x Voltage x Ah	4 x 12V x 9Ah	6 x 12V x 7Ah	6 x 12V x 10Ah	
External Battery Cabinets				
Model Number	GXT5-EBC48VRT2U	GXT5-EBC72VRT2U		
Type	Valve-regulated lead-acid (VRLA) in compliance with UL 1989			
Protection	Circuit breaker			
Quantity x Voltage x Ah	4 x 12V x 9Ah	6 x 12V x 9Ah		
Dimensions, W x D x H, mm	430 x 497 × 85	430 x 602 x 85		
Shipping dimensions, W x D x H, mm	570 x 617 x 262			
Unit weights, kg	28.5	39		
Dimensions, W x D x H, mm	41.5	50		
Environment				
Operating temperature	0 °C to 40 °C			
Storage temperature	- 25 °C to +55 °C without battery inside			
Relative Humidity (Operation)	20% to 90%, non-condensing			
Operating Altitude	3000 m @ 0°C to 40 °C without derating			

Table 6.3 Specifications, EDGE-1500IRT2UXL, EDGE-2200IRT2UXL,EDGE-3000IRT2UXL and EDGE-3000IRT3UXL (continued)

MODEL	EDGE-1500IRT2UXL	EDGE-2200IRT2UXL	EDGE-3000IRT2UXL	EDGE-3000IRT3UXL
Power Rating @230V	**1500VA / 1350W / 6.7 A**	**2200VA / 1980W / 9.8A**	**3000VA / 2700W / 13.3A**	
Audible Noise	<45 dBA AVR mode, >70% load <55 dBA Battery mode			
Agency				
Compliance	CE, CB Report			
Safety	IEC/ EN62040-1:2008+A1:2013			
RFI/EMI	EN62040-2:2006 (C1)			
Transportation	ISTA 2A			

Table 6.4 Specifications, EDGELI-1500IRT2U, EDGELI-2200IRT2U, EDGELI-3000IRT2U

MODEL	EDGELI-1500IRT2U	EDGELI-2200IRT2U	EDGELI-3000IRT2U
Power Rating @ 230V	**1500VA / 1350W / 6.7 A**	**2200VA / 1980W / 9.8A**	**3000VA / 2700W /13.3A**
Dimensions, D×W×H, in. (mm)			
Unit Dimensions, W x D x H, mm	438 x 410 x 86	438 x 510 x 86	438 x 610 x 86
Shipping Dimensions, W x D x H, mm	550 x 620 x240	565 x 700 x 240	600 x 800 x 240
Weight, lb.(kg)			
Unit Weight, kg	12.8	17.5	24.3
Shipping Weight, kg	20.4	25.2	32.1
Input			
Voltage Input Range (with battery operation)	0 to 300 VAC		
Voltage Input Range (without battery operation)	144 to 290 VAC		
Input Voltage Measurement Tolerance	±5%		
Nominal Voltage Setting	200 / 208 / 220 / 230 / 240 VAC		
High Line Buck to Battery	241 / 251 / 266 / 278 / 290 VAC		
High Line Battery to Buck	235 / 245 / 260 / 272 / 284 VAC		
High Line Normal to Buck	220 / 229 / 242 / 253 / 264 VAC		
High Line Buck to Normal	215 / 224 / 237 / 248 / 259 VAC		
Low Line Boost1 to Normal	185 / 192 / 203 / 212 / 221 VAC		
Low Line Normal to Boost1	180 / 187 / 198 / 207 / 216 VAC		
Low Line Boost2 to Boost1	160 / 166 / 176 / 183 / 191 VAC		
Low Line Boost1 to Boost2	155 / 161 / 171 / 178 / 186 VAC		
Low Line Battery to Boost2	155 / 161 / 171 / 178 / 186 VAC		
Low Line Boost2 to Battery	144 / 150 / 158 / 166 / 173 VAC		
Frequency Input Range	45 to 65 Hz Autodetect 50 / 60 Hz Battery to Normal comeback at 50Hz: 47 to 53Hz Battery to Normal comeback at 60Hz: 57 to 63Hz		
Internal Rear-panel Input Breaker Rating	10 A	16 A	
Input Surge Protection	EN61000-4-5; Line to Line: Level 2; Line to Earth: Level 3 (624J L/N, 624J L/G, 624J N/G)		
Input Power Receptacle	IEC 320 C14	IEC 320 C20	

Table 6.4 Specifications, EDGELI-1500IRT2U, EDGELI-2200IRT2U, EDGELI-3000IRT2U (continued)

MODEL	EDGELI-1500IRT2U	EDGELI-2200IRT2U	EDGELI-3000IRT2U
Power Rating @ 230V	**1500VA / 1350W / 6.7 A**	**2200VA / 1980W / 9.8A**	**3000VA / 2700W /13.3A**
Output			
Output Voltages (on battery)	200 / 208 / 220 / 230 / 240 VAC (230 VAC is factory default)		
Output Frequency (on battery)	Autodetect 50/60 Hz ±1%		
Output Receptacles - not controllable	(3) IEC 320 C13	(3) IEC 320 C13 (1) IEC 320 C19	
Output Receptacles - controllable	(3) IEC 320 C13		
Transfer Time	Adjustable with Input Waveform Sensitivity setting. See Settings Submenu for details.		
Output Waveform (on Battery)	Pure Sinewave		
Output Overload Operation	101% - alarm warning 111% - alarm warning and shutdown after 10 seconds 121% - alarm warning and immediate shutdown		
Protection	Electronic (over current, short circuit w/ latching shutdown)		
AC-mode Efficiency	97.5% or greater for 200/208/220/230/240 VAC		
Buck- Boost1- and Boost2- mode	95% or greater for 200/208/220/230/240 VAC		
Recharge Time	1.7 hours to recover 90%	1.7 hours to recover 90%	2.4 hours to recover 90%
Internal Battery			
Part Number	PSI5-1500LIBATKIT	PSI5-2200LIBATKIT	PSI5-3000LIBATKIT
Protection	Electronic (overcurrent, short circuit with latching shutdown)		
Type	LIFePO4 Battery in compliance with IEC62619, UL1973, and UL1642		
Quantity (Total Wh)	1 (240Wh)	2 (384Wh)	3 (576Wh)
Environment			
Operating temperature	0 °C to 40 °C		
Storage temperature	- 20 °C to +50 °C without battery inside		
Relative Humidity (Operation)	8% to 90%, non-condensing		
Operating Altitude	3000 m @ 0°C to 40 °C without derating		
Audible Noise	<45 dBA AVR mode, >70% load <55 dBA Battery mode		
Agency			

Table 6.4 Specifications, EDGELI-1500IRT2U, EDGELI-2200IRT2U, EDGELI-3000IRT2U (continued)

MODEL	EDGELI-1500IRT2U	EDGELI-2200IRT2U	EDGELI-3000IRT2U
Power Rating @230V	1500VA / 1350W / 6.7 A	2200VA / 1980W / 9.8A	3000VA / 2700W /13.3A
Compliance	CE, CB Report, EAC, RCM, UKCA		
Safety	IEC/EN62040-1:2008+A1:2013 (UPS) IEC62619, UL 1973, and UL 1642 (li-ion battery)		
RFI/EMI	EN62040-2:2006(C1)		
Transportation	ISTA 2A UN38.3 (Lithium-ion)		

6.1 Battery Run Times

Table 6.5 Battery Run Time in Minutes, EDGE-500IRM1U

LOAD			Internal Battery Only
%	VA	W	Minutes
100	500	450	5.2
90	450	405	6.3
80	400	360	7.6
75	375	337.5	8.4
70	350	315	9.3
60	300	270	11.7
50	250	225	15.0
40	200	180	20.1
30	150	135	28.9
25	125	112.5	32.2
20	100	90	42.7
10	50	45	88.7

Table 6.6 Battery Run Time in Minutes, EDGE-1000IRM1U

LOAD			Internal Battery Only
%	VA	W	Minutes
100	1000	900	5.2
90	900	810	6.3
80	800	720	7.6
75	750	675	8.4
70	700	630	9.3
60	600	540	11.7
50	500	450	15.0
40	400	360	20.1
30	300	270	28.9
25	250	225	32.2
20	200	180	42.7
10	100	90	88.7

Table 6.7 Battery Run Time in Minutes, EDGE-1500IRM1U

LOAD			Internal Battery Only
%	VA	W	Minutes
100	1500	1350	5.4
90	1350	1215	6.5
80	1200	1080	7.9
75	1125	1012.5	8.6
70	1050	945	9.6
60	900	810	11.9
50	750	675	15.1
40	600	540	20.3
30	450	405	28.9
25	375	337.5	32.4
20	300	270	42.4
10	150	135	89.1

Table 6.8 Battery Run Time in Minutes, EDGE-750IMT

LOAD			Internal Battery Only
			9 AH
%	VA	W	Minutes
100	750	675	5.9
90	675	607.5	7.1
80	600	540	8.6
75	563	506.25	9.5
70	525	472.5	10.5
60	450	405	13.3
50	375	337.5	17.0
40	300	270	22.5
30	225	202.5	31.8
25	188	168.75	36.0
20	150	135	47.1
10	75	67.5	92.7

Table 6.9 Battery Run Time in Minutes, EDGE-1000IMT

LOAD			Internal Battery Only
			10 AH
%	VA	W	Minutes
100	1000	900	5.4
90	900	810	6.5
80	800	720	7.9
75	750	675	8.7
70	700	630	9.6
60	600	540	12.1
50	500	450	15.5
40	400	360	20.7
30	300	270	29.6
25	250	225	33.1
20	200	180	43.9
10	100	90	91.9

Table 6.10 Battery Run Time in Minutes, EDGE-1500IMT

LOAD			Internal Battery Only
			9AH
%	VA	W	Minutes
100	1500	1350	6.0
90	1350	1215	7.2
80	1200	1080	8.8
75	1125	1013	9.7
70	1050	945	10.9
60	900	810	13.6
50	750	675	17.3
40	600	540	23.2
30	450	405	33.1
25	375	338	37.4
20	300	270	49.6
10	150	135	111.2

Table 6.11 Battery Run Time in Minutes, EDGE-1500IRT2UXL

LOAD			INTERNAL BATTERY ONLY	NUMBER OF EXTERNAL BATTERY CABINETS					
				1	2	3	4	5	6
%	VA	W	Minutes						
100	1500	1350	6.0	27.6	55.9	85.7	116.1	146.7	177.6
90	1350	1215	7.2	31.9	63.9	97.4	131.4	165.7	200.2
80	1200	1080	8.8	37.7	74.5	112.7	151.4	190.4	229.5
75	1125	1012.5	9.7	40.7	80.1	120.8	162.0	203.5	245.0
70	1050	945	10.9	45.0	87.9	132.0	176.6	221.5	266.5
60	900	810	13.6	55.1	106.0	158.0	210.4	263.1	315.9
50	750	675	17.3	68.8	130.3	192.8	255.7	263.1	382.0
40	600	540	23.2	90.3	168.1	246.8	325.9	405.0	484.3
30	450	405	33.1	125.1	228.7	333.0	437.6	542.4	647.2
25	375	337.5	37.4	139.6	253.8	368.8	484.0	599.3	714.6
20	300	270	49.6	179.2	322.3	466.0	610.0	754.0	898.1
10	150	135	111.2	362.3	637.5	913.0	1188.7	1464.4	1740.2

Table 6.12 Battery Run Time in Minutes, EDGE-2200IRT2UXL

LOAD			INTERNAL BATTERY ONLY	NUMBER OF EXTERNAL BATTERY CABINETS					
				1	2	3	4	5	6
%	VA	W	Minutes						
100	2200	1980	4.4	26.0	54.6	84.8	115.5	146.6	177.9
90	1980	1782	5.4	30.3	62.7	96.7	131.3	166.2	201.2
80	1760	1584	6.7	30.3	72.9	111.6	150.8	190.4	230.0
75	1650	1485	7.4	38.8	78.7	120.1	162.0	204.1	246.4
70	1540	1386	8.3	42.6	85.9	130.5	175.7	221.1	266.6
60	1320	1188	10.8	52.3	103.8	156.5	209.7	263.1	316.6
50	1100	990	14.1	65.9	128.6	192.4	256.6	321.0	385.5
40	880	792	19.0	86.4	165.6	245.7	326.1	406.8	487.5
30	660	594	27.0	120.4	226.3	332.9	439.9	546.9	654.0
25	550	495	30.2	133.6	249.7	366.5	483.6	600.8	718.1
20	550	396	39.7	170.8	315.6	461.0	606.7	752.5	898.3
10	220	198	92.4	343.8	620.6	897.8	1175.0	1452.4	1729.7

Table 6.13 Battery Run Time in Minutes, EDGE-3000IRT2UXL/EDGE-3000IRT3UXL

LOAD			INTERNAL BATTERY ONLY	NUMBER OF EXTERNAL BATTERY CABINETS					
				1	2	3	4	5	6
%	VA	W	Minutes						
100	3000	2700	6.1	19.8	39.9	61.5	83.7	106.2	129.0
90	2700	2430	7.2	23.1	46.1	70.5	95.5	120.9	146.4
80	2400	2160	8.6	27.4	53.9	81.9	110.4	139.2	168.2
75	2250	2025	9.4	29.9	58.6	88.6	119.2	150.0	181.1
70	2100	1890	10.3	33.0	64.1	96.5	129.5	162.7	196.1
60	1800	1620	12.8	40.8	78.1	116.6	155.6	194.8	234.2
50	1500	1350	16.2	51.9	97.5	144.3	191.5	238.9	286.4
40	1200	1080	21.4	68.6	126.6	185.6	244.9	304.4	364.0
30	900	810	30.6	96.9	175.1	254.2	333.5	413.0	492.6
25	750	675	33.6	106.2	191.0	276.5	362.3	448.3	534.3
20	600	540	43.8	137.1	243.4	350.4	457.6	564.9	672.3
10	300	270	93.7	284.1	491.2	698.7	906.4	1114.1	1321.9

Table 6.14 Battery Run Time in Minutes, EDGELI-1500IRT2U

LOAD			INTERNAL BATTERY ONLY
%	VA	W	Minutes
100	1500	1350	8.7
90	1350	1215	9.7
80	1200	1080	11.1
70	1050	945	12.9
60	900	810	15.3
50	750	675	18.5
40	600	540	23.5
30	450	405	31.4
20	300	270	43.7
10	150	135	84.9

Table 6.15 Battery Run Time in Minutes, EDGELI-2200IRT2U

LOAD			INTERNAL BATTERY ONLY
%	VA	W	Minutes
100	2200	1980	9.3
90	1980	1782	10.5
80	1760	1584	12.0
70	1540	1386	13.9
60	1320	1188	16.6
50	1100	990	20.2
40	880	792	25.5
30	660	594	34.3
20	440	396	47.1
10	220	198	90.7

Table 6.16 Battery Run Time in Minutes, EDGELI-3000IRT2U

LOAD			INTERNAL BATTERY ONLY
%	VA	W	Minutes
100	3000	2700	10.5
90	2700	2430	11.8
80	2400	2160	13.5
70	2100	1890	15.6
60	1800	1620	18.6
50	1500	1350	22.6

Table 6.16 Battery Run Time in Minutes, EDGELI-3000IRT2U (continued)

LOAD			INTERNAL BATTERY ONLY
40	1200	1080	28.6
30	900	810	38.5
20	600	540	52.4
10	300	270	102.6

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Appendices

Appendix A: Technical Support

Our Technical Support staff is ready to assist you with any installation or operating issues you may encounter with your Liebert® product. Visit https://www.vertiv.com/en-us/support/ for additional assistance. Alternatively, please call or e-mail us:

In Europe, Middle East, and Asia

EMEA Multi-language technical support and warranty

e: warranty.channel.emea@vertiv.com

p: Toll free 0080011554499

In the Asia-Pacific

APAC Technical support and warranty

e: DPG.Warranty@vertiv.com

p: AU (Australia): 1300-367-686 opt.1

PH (Philippines): 620-3655 opt.2

SG (Singapore): 1800-467-2326 opt.2

MY (Malaysia): 1800-221-388

In the United States

Technical support

e: liebert.upstech@vertiv.com

p: 1-800-222-5877 menu option 1

Monitoring support

e: liebert.monitoring@vertiv.com

p: 1-800-222-5877 menu option 2

Warranty support

e: microups.warranty@vertiv.com

p: 1-800-222-5877 menu option 3

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