

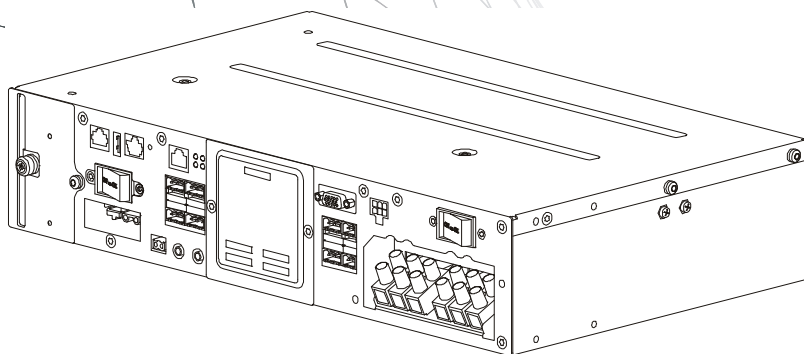
User Manual

SecureUPS On-Line

SecureUPS XU1K3LLXXRCC

120 Vac

Rack-Mount 2U



Important Safety Messages

SAVE THESE INSTRUCTIONS - This manual contains important instructions that should be followed during installation and maintenance of the SecureUPS and batteries.

Read these instructions carefully and look at the equipment to become familiar with the device before trying to install, operate, service or maintain it. The following special messages may appear throughout this bulletin or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.



The addition of this symbol either to a “Danger” or “Warning” safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to physical injury.

Product Handling Guidelines



<18 kg
<40 lb



18-32 kg
40-70 lb



32-55 kg
70-120 lb



>55 kg
>120 lb



Safety and General Information

**Inspect the package contents upon receipt.
Notify the carrier and dealer if there is any damage.**

- Adhere to all national and local electrical codes.
- All wiring must be performed by a qualified electrician.
- Do not work alone under hazardous conditions.
- Install the unit in a non accessible, securely locked enclosure.
- **Changes and modifications to this unit not expressly approved by Schneider Electric could void the warranty.**
- Do not remove the covers. There are no serviceable internal parts.
- Do not operate this unit in direct sunlight, in contact with fluids, or where there is excessive dust or humidity.
- The unit is capable of operating in environments up to 74° C.
The surface of the unit will be hot when ambient temperatures exceed 60° C.
- Be sure the air vents on the unit are not blocked. Allow adequate space for proper ventilation.
- The equipment is heavy. Always practice safe lifting techniques adequate for the weight of the equipment.

Deenergizing safety

- The unit may present a shock hazard even when disconnected from AC and DC power.
- The AC output connectors may be energized by remote or automatic control at any time.

Before installing or servicing the equipment check that the:

- Input power cables should not be connected to the input connector.
- External batteries are disconnected.

Electrical safety

- Use tools with insulated handles.
- Do not handle any metallic connector before power has been disconnected.
- The protective earth conductor for the unit carries the leakage current from the load devices (computer equipment). An insulated ground conductor is to be installed as part of the branch circuit that supplies the unit. The conductor must have the same size and insulation material as the grounded and ungrounded branch circuit supply conductors. The conductor will typically be green, with or without a yellow stripe.
- This is a pluggable, Type A unit. The leakage current from the unit may exceed 3.5mA.
- Connect the unit input ground conductor to the protective earth screw located on the front of the chassis.
- If the unit input power is supplied by a separately derived system, the ground conductor must be properly bonded at the supply transformer or motor generator set.

Battery safety

- The SecureUPS utilizes external batteries. It is not necessary to ground the battery system. The user has the option of referencing the battery system to chassis ground at either a positive or negative battery terminal.
- When replacing batteries, replace with the same number and type.
- Batteries typically last for two to five years. Environmental factors impact battery life. Elevated ambient temperatures, poor quality utility power, and frequent short duration discharges will shorten battery life. Batteries should be replaced before end of life.
- The SecureUPS must be used with recommended battery types from Schneider Electric.
- CAUTION: Before installing or replacing the batteries, remove jewelry such as wristwatches and rings.
High short circuit current through conductive materials could cause severe burns.
- CAUTION: Do not dispose of batteries in a fire. The batteries may explode.
- CAUTION: Do not open or mutilate batteries. Released material is harmful to the skin and eyes and may be toxic.

General information

- The model and serial numbers are on a small label, located on the top cover.
The model and serial numbers can be accessed using the Display interface.
- Recycle the package materials or save them for reuse.

FCC Statement for Class A products

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Product Overview

The APC™ by Schneider Electric SecureUPS provides power conversion for connected equipment.

When used with external batteries the double conversion on-line topology of the SecureUPS helps to protect connected electronics and low voltage signal lamps from utility power blackouts, brownouts, sags, surges, small utility power fluctuations and large disturbances.

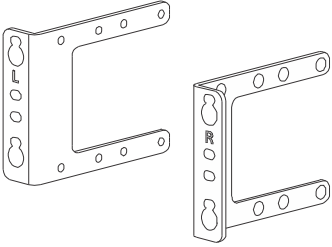
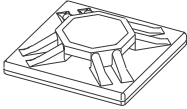



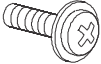
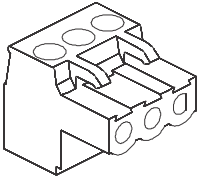
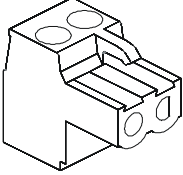

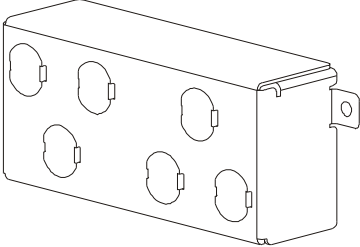
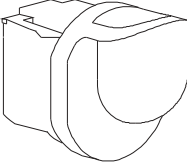
The SecureUPS helps to simplify cabinet design by providing regulated, uninterruptible AC Power to the cabinet components.

The high power battery charger in the SecureUPS enables agencies to add batteries that will help protect connected equipment during prolonged utility power outages.

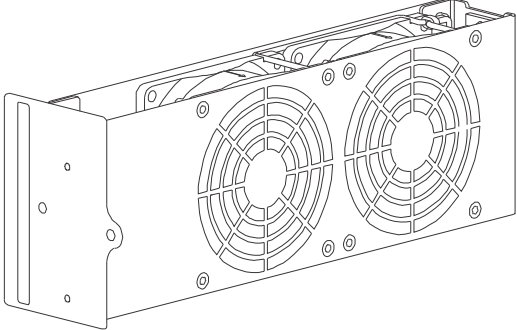
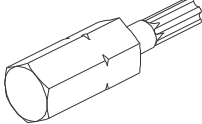
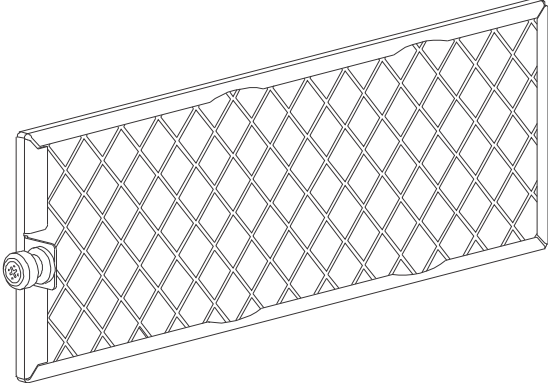
This user manual is available on the APC web site, www.apc.com.

Package Contents

Inspect the contents upon receipt. Notify the carrier and dealer if the unit is damaged.

<p>Rack-Mount Brackets 1 Pair</p> 	<p>Cable tie mount x10</p> 	<p>Label x10</p> 	<p>Cable tie x10</p> 
<p>Flat Head Screws x8</p>  <p>Ornamental Screws x4</p> 	<p>Relay Output Connector x6</p> 	<p>Relay Input Connector x2</p> 	<p>Cable tie x5</p> 
<p>Terminal block cover x1</p> 	<p>Strain relief x6 (spare x6)</p> 		
<p>Temperature Sensor kit x1</p>			

Field Replaceable Parts

SecureUPS Fan Assembly part number 0J-0N-3357	SecureUPS Filter part number 0J-0M-83261A
 <p>Fan assembly screw removal tool bit</p> 	

Accessory

Battery cables and harness kit.

Specifications

For additional specifications refer to the APC web site, www.apc.com.

Environmental

Temperature	Operating	-40° C to 74° C (-40° F to 165° F)
	Storage (without batteries)	-40° C to 85° C (-40° F to 185° F)
Maximum Elevation	Operating	0 m - 3,000 m (0 ft - 10,000 ft)
	Storage	0 m - 15,000 m (0 ft - 50,000 ft)
Humidity	0% to 95% relative humidity, non-condensing	
Protections class		IP20
Note: Environmental factors impact battery life. Elevated ambient temperatures, high humidity, poor quality mains power, and frequent short duration discharges will shorten battery life.		

SecureUPS Physical

Unit weight without packaging	10 kg (22 lb)
Unit weight with packaging	12 kg (26.5 lb)
Unit dimensions without packaging Width x Depth x Height	434 mm x 260 mm x 88 mm (17.1 in x 10.3 in x 3.5 in)
Unit dimensions with packaging Width x Depth x Height	535 mm x 370 mm x 186 mm (21.1 in x 14.6 in x 7.3 in)

Electrical

Input	
Nominal Input Voltage	120 Vac
Nominal Input Current	20 A
Input Voltage Range	100% load = 85 Vac - 155 Vac ± 2 Vac
Input Frequency	40 Hz - 70 Hz
Input Configuration	Single phase, 3 wire (Line, Neutral and Ground)

Output	
Output Topology	Double Conversion On-Line
Nominal Output Voltage	120 Vac
Output Power Rating	1300 W, 1300 VA
Output Voltage Regulation (static)	± 1%
Output Frequency (nominal)	50/60 Hz ± 3 Hz
Output Waveform	True Sine Wave

External Batteries

Battery type	VRLA
Nominal Battery String Voltage	48 Vdc
Battery Charger	15 A maximum, 870 W maximum. Derated for SecureUPS temperature > 45° C (113° F).

Installation

Rack-Mount

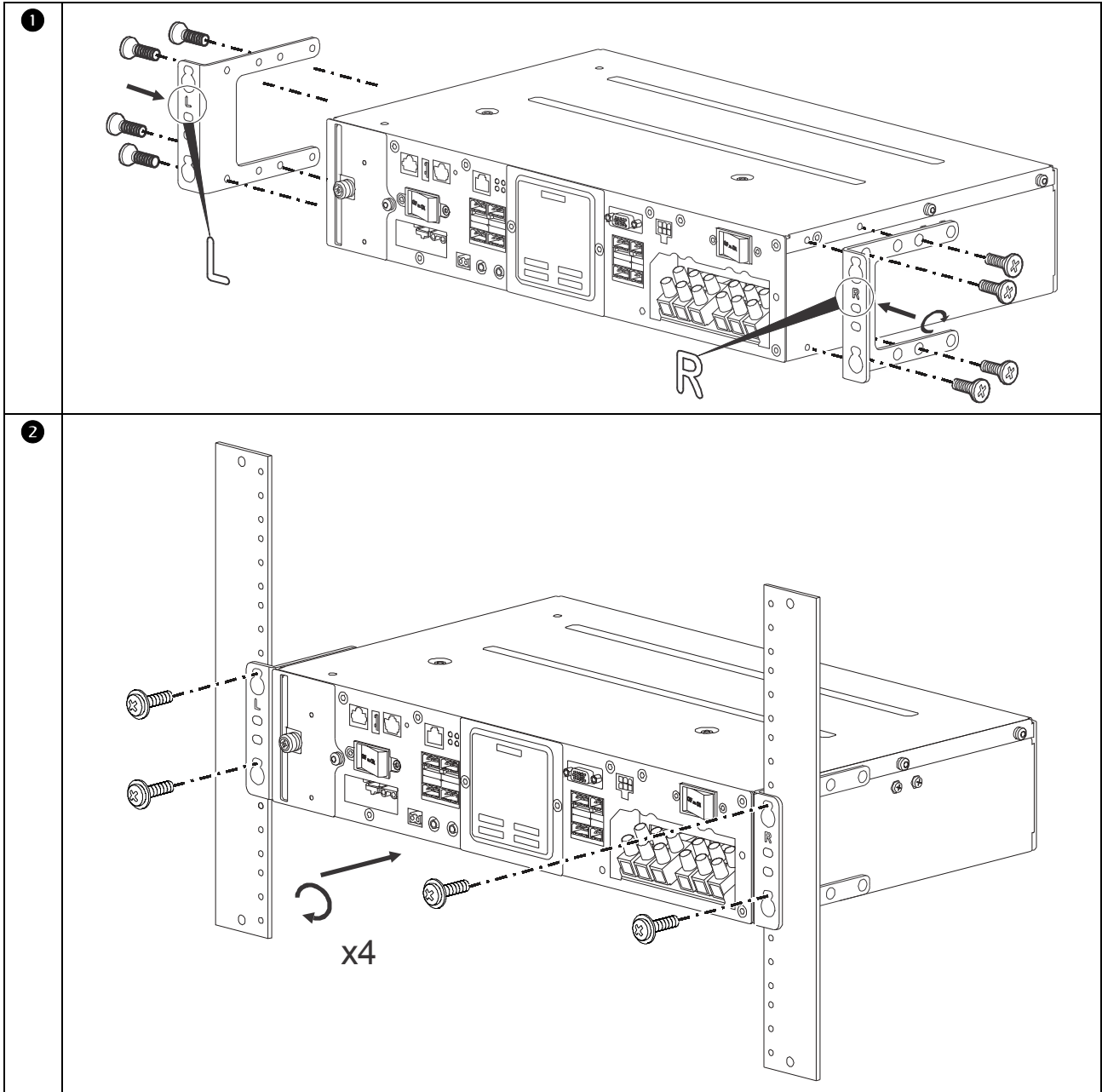
NOTICE

RISK OF FALLING EQUIPMENT

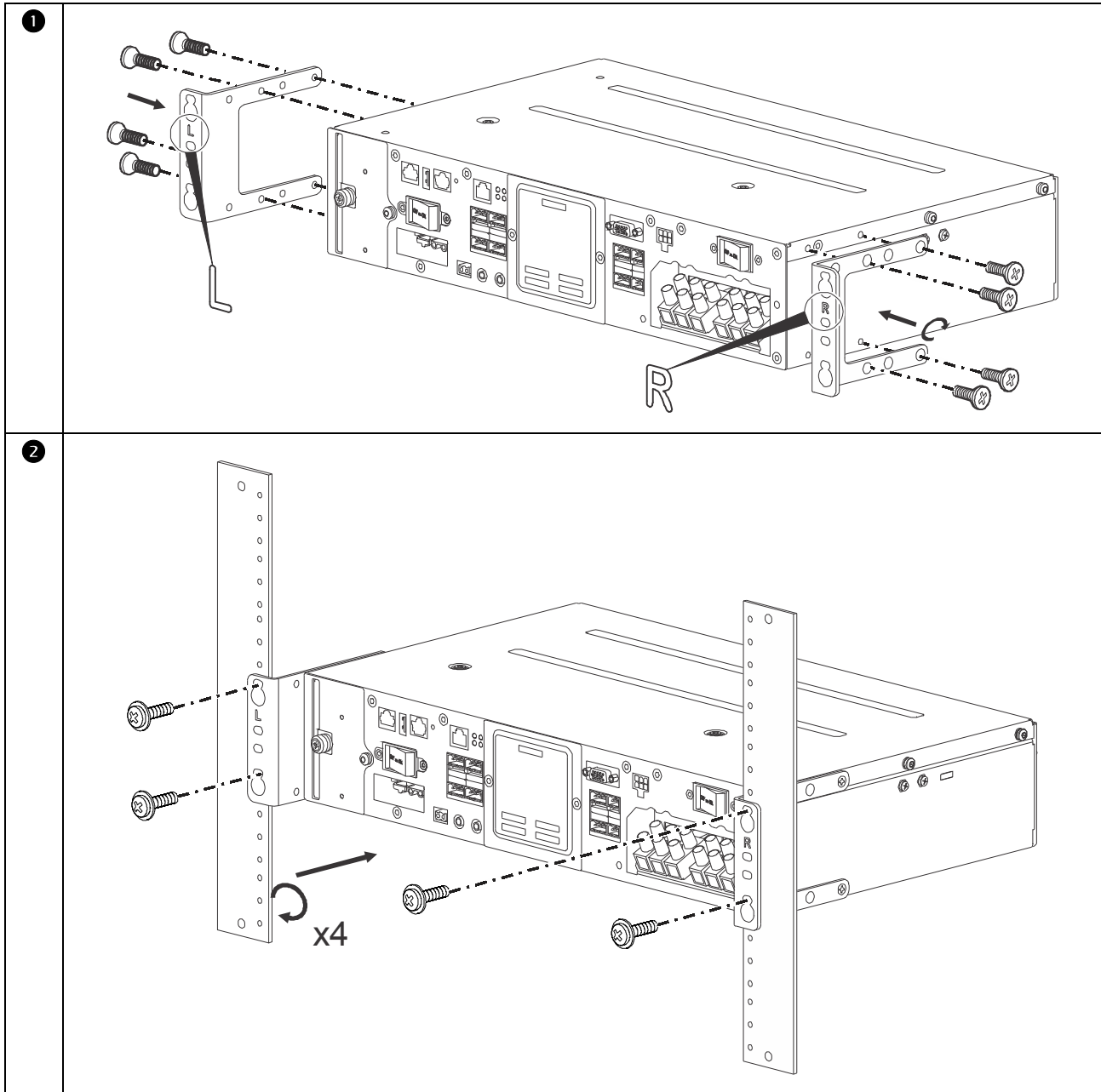
- Follow the installation instructions.
- Secure the rack-mount brackets to the unit using all of the screws supplied for this purpose.
- Secure the unit in the rack using all of the screws supplied for this purpose.

Failure to follow these instructions could result in equipment damage.

Flush Rack-Mount Bracket Installation



Recessed Rack-Mount Bracket Installation



Display Rotation

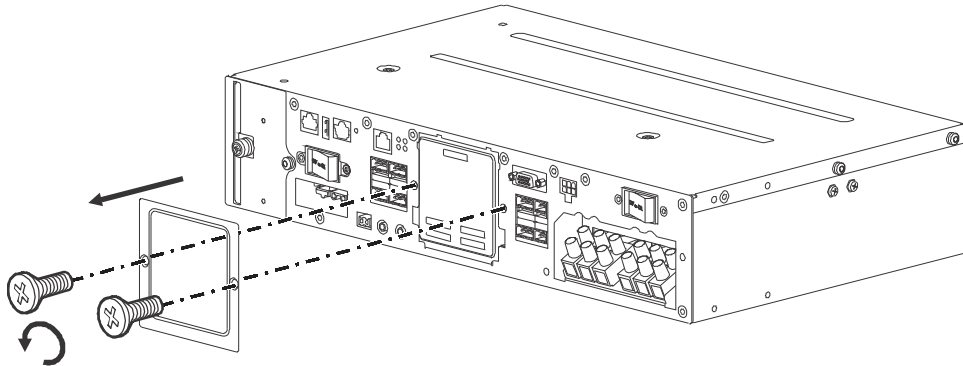
⚠ CAUTION

RISK OF ELECTRIC SHOCK

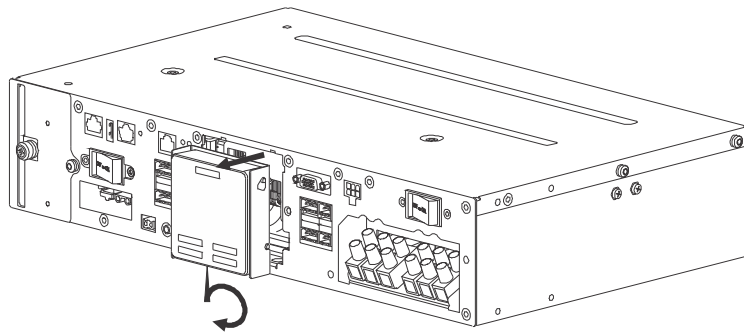
- All electrical work must be performed by a qualified electrician.
- The display panel enclosure has live parts.
- Shut down the SecureUPS before rotating the display.

Failure to follow these instructions could result in minor or moderate injury.

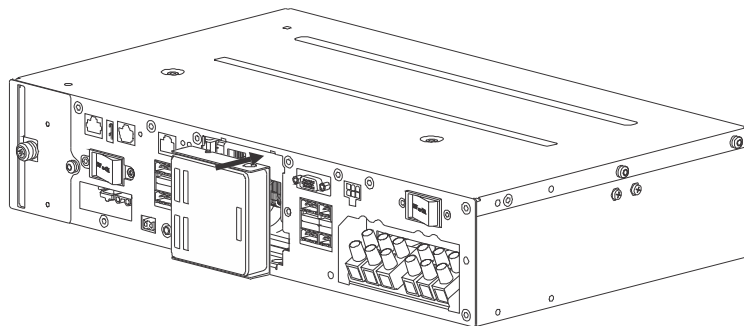
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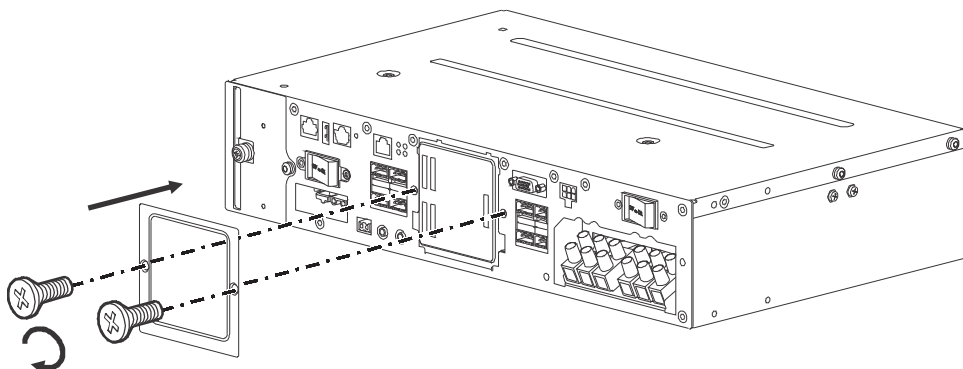
2



3



4



Input/Output Hardware

⚠ CAUTION

RISK OF ELECTRIC SHOCK

- Adhere to all national and local electrical codes.
- All electrical work must be performed by a qualified electrician.
- Turn off all power to this equipment before working on the equipment. Practice lockout/tagout procedures.
- Do not wear jewelry when working with electrical equipment.
- Ensure that line, neutral and ground cables of the input and output terminals are connected.
- Use Snap-In strain reliefs provided with the unit.
- The UPS must be wired into a branch circuit, equipped with a circuit breaker rated as specified in the tables below.
- Actual wire size must comply with required amp capacity and national and local electrical codes.
- Recommended input terminal screw torque: 16 lbf-in (2 Nm).
- All openings that allow access to UPS hardware terminals must be covered.
- Select wire size and connectors according to national and local codes.

Failure to follow these instructions could result in minor or moderate injury.

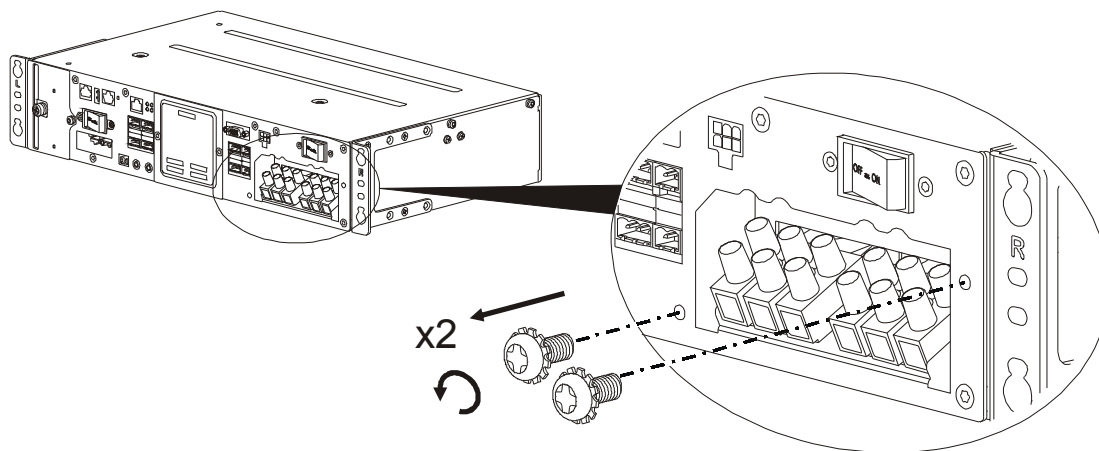
Wiring Specifications

CAUTION*: To reduce the risk of fire, connect the UPS only to a circuit provided with recommended maximum branch circuit overcurrent protection in accordance with the National Electrical Code, ANSI/NFPA 70 and the Canadian Electrical Code, Part I, C22.1.

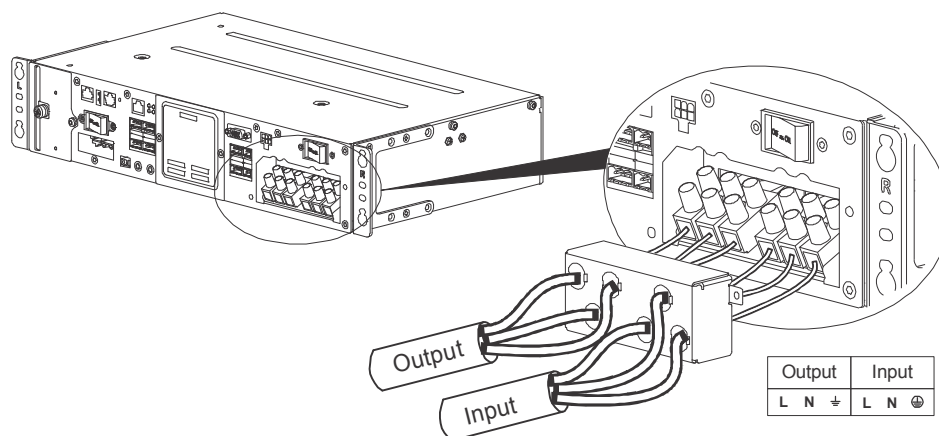
Input connections	Wire to L, N,
Output connections	Wire to L, N,

Wiring	Voltage	Current full load, nominal	External input circuit breaker, (typical)	Wire size, typical
Input	<ul style="list-style-type: none"> • 120 VAC nominal • 85 V AC to 155VAC working range 	<ul style="list-style-type: none"> • 20 A @ nominal 120 VAC • 29 A @ low 85 VAC 	30 A* / 2 pole	8 AWG
Output	120 VAC	11 A		

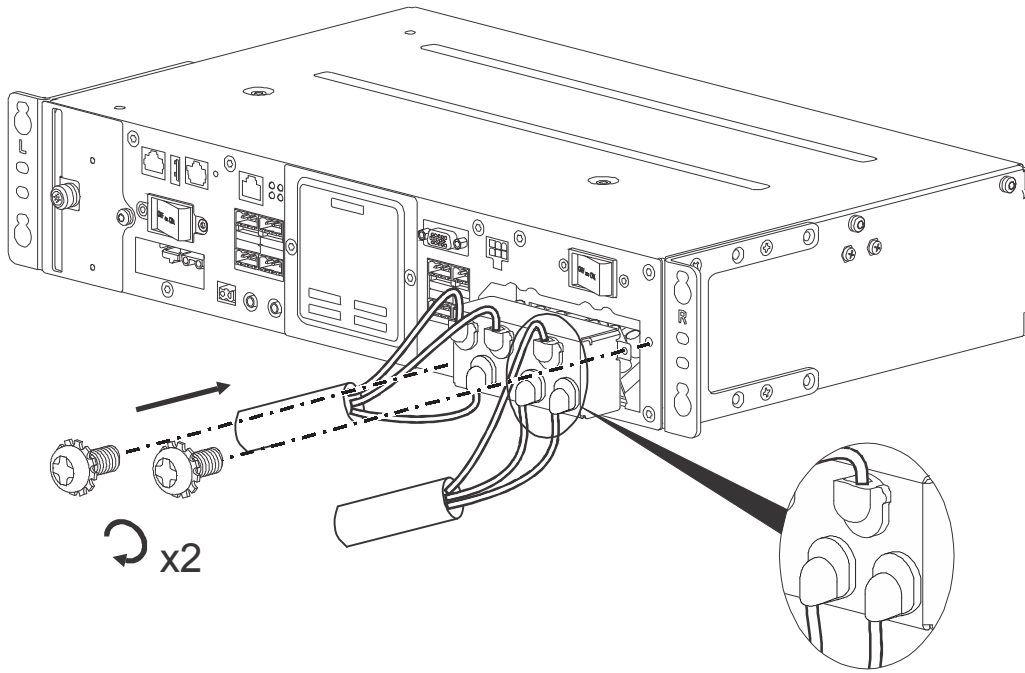
- ❶ Remove terminal cover screws from the SecureUPS.



- ❷
1. Remove the terminal cover knockouts.
 2. Sleeve the jacket of the input and output wires.
 3. Connect the line, neutral and earth/ground wires through the terminal block cover to the SecureUPS.



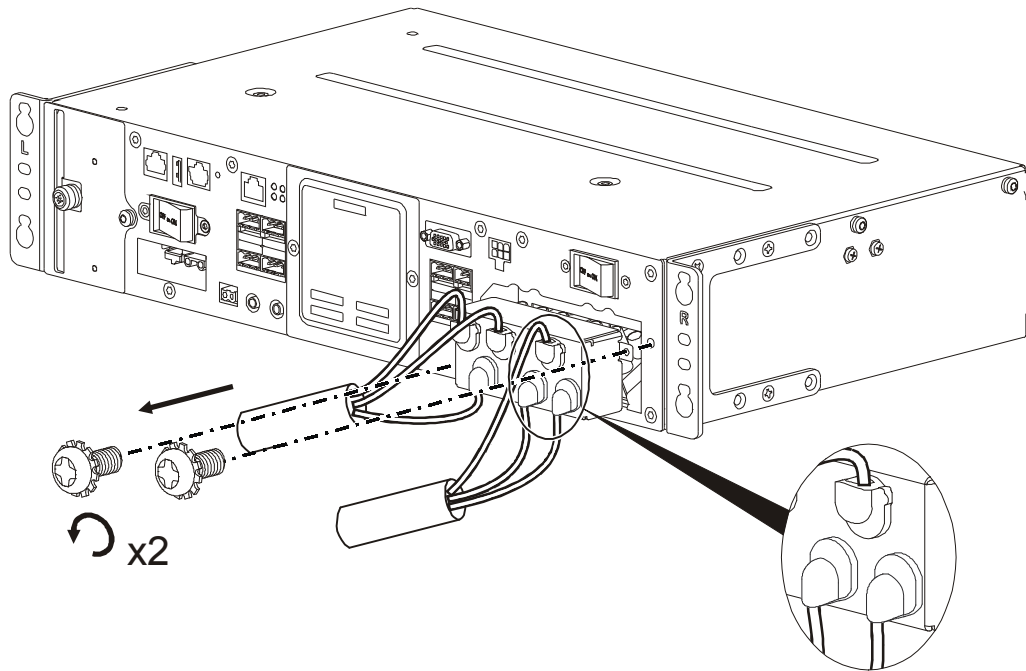
- 3
- Clamp the strain relief on to all the cables.
 - Install the terminal block cover with the screws removed in 1
 - Insert and lock the strain relief in the terminal block cover.



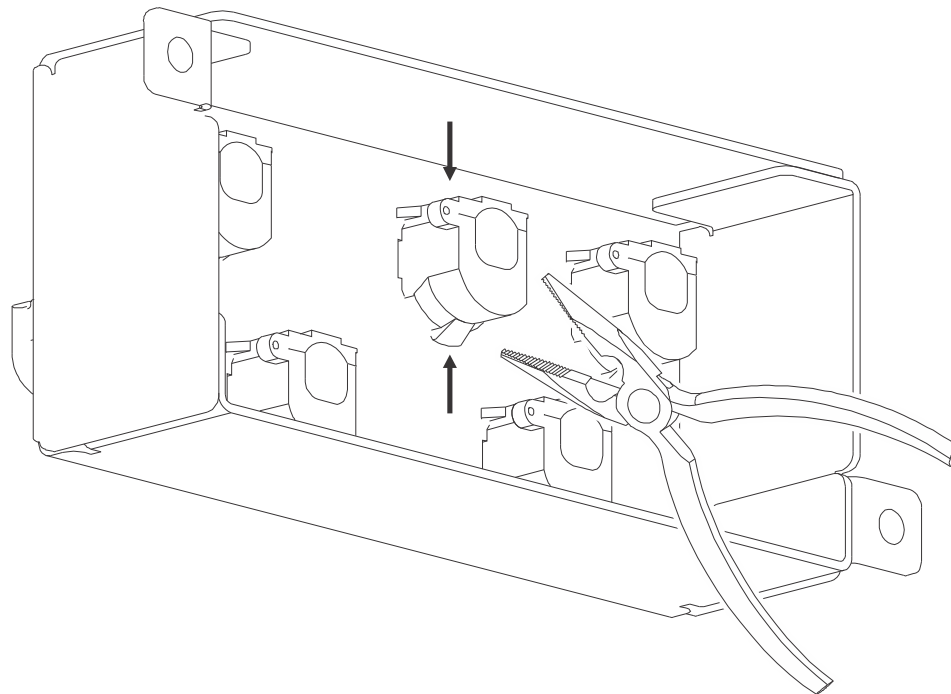
Note: The strain relief should be installed based on the routing of the input and output wires. The wires can be routed up or down from the strain relief.

Remove Strain Relief

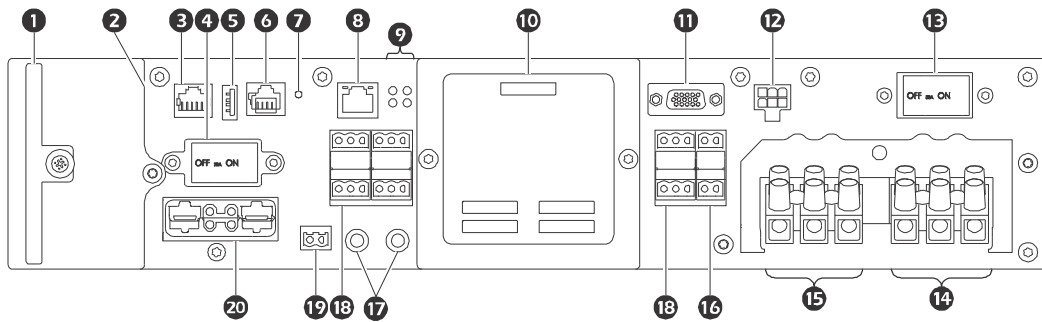
- ❶ Remove terminal cover screws from the SecureUPS.



- ❷
- Remove the cables from the terminal block.
 - Use a plier and press on the snaps of the strain relief inside the terminal cover.
 - Remove the strain relief.
 - Remove the cables from the terminal cover.



Front Panel Features



Key To Identify Front Panel Features

1	Replaceable Filter part number 0J-0M-83261	The filter can be cleaned of dust by gently blowing air or vacuuming the filter after removing it from the SecureUPS.
2	Replaceable Fan Assembly part number 0J-0N-3363	The fan assembly and filter for the SecureUPS can be replaced in the field.
3	Serial port	Serial Com port is used to communicate with the SecureUPS. Note: Use only interface kits supplied or approved by APC by Schneider Electric. Any other serial interface cable will be incompatible with the UPS connector.
4	External Battery Circuit Breaker	The external battery circuit breaker connects/disconnects battery power to the SecureUPS.
5	USB Host Port	Connector for a USB flash drive.
6	Universal I/O (UIO) Port	Use to connect: Temperature sensor AP9335T (supplied)
7	Reset Button	Use the reset button to restart the Network Management Interface. Note: A restart of the Network Management Interface does not affect SecureUPS operation.
8	Ethernet Port	Use for SecureUPS network communication.
9	Status LEDs	Green LED - Output ON Yellow LED - SecureUPS notification Red LED - Unit needs attention Blue LED - Information
10	LCD	The LCD provides access to the interface menu screens.
11	Li-Ion Battery Communication Connector	Use this connector to connect the Li-Ion Battery Communication cable with the SecureUPS. Note: Use only the cables supplied or approved by APC by Schneider Electric.
12	Service bypass panel (SBP) interface	The interface provides RS485 and +24 VDC power to the SBP.
13	Input AC Circuit Breaker	The input AC circuit breaker connects/disconnects AC power to the SecureUPS.
14	AC Input Connector (white)	Use the supplied cable to connect the AC input to the service panel.

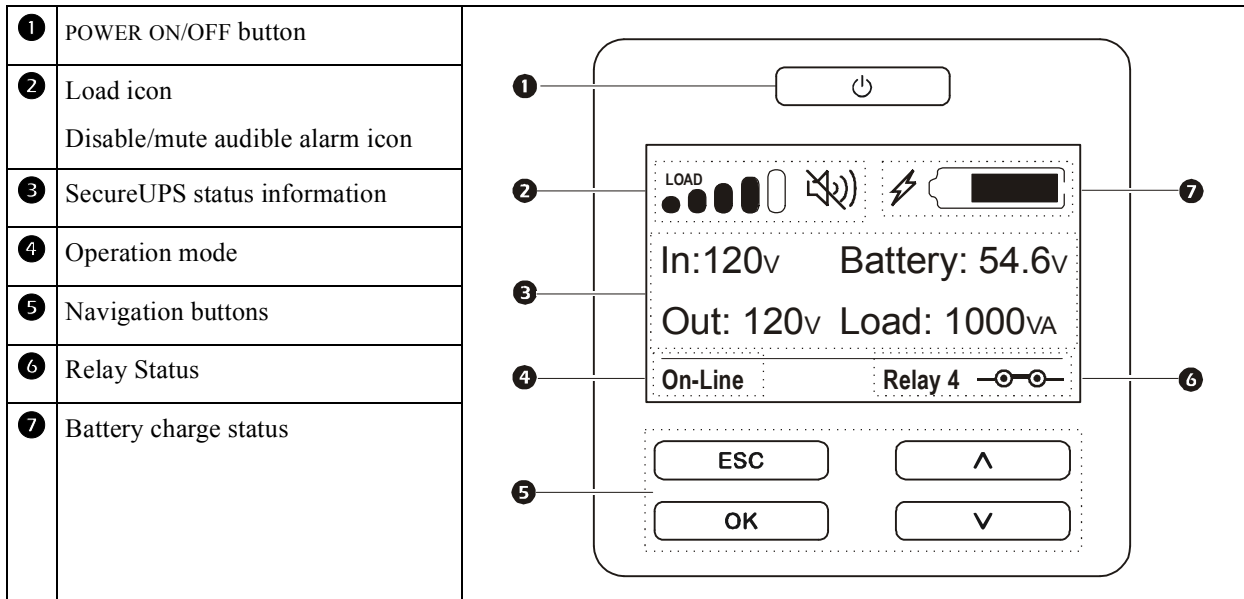
Key To Identify Front Panel Features

15	AC Output Connector (black)	Use the supplied cable to connect the AC output to the load.
16	Relay Input Connector	<p>Relay input connector status is available through the Status menu.</p> <p>Pins one and two, from left to right: Pin 1 - NO (Normally Open Contact) Pin 2 - C (Relay Common)</p> <p>Relay input connector supports the following user configurable functions:</p> <ul style="list-style-type: none"> • Self Test • Ext. Alarm On • Ext. Alarm Off • Output Off • Output On
17	Battery Test Points	<p>To measure the battery voltage.</p> <p>Black - Negative Red - Positive</p>
18	Relay Output Connector	<p>Relays communicate SecureUPS status to cabinet equipment. Relay status is available through the Status menu. Check national and local electrical codes to select proper wire gauge for rated output. Relay contacts support maximum voltage of 250 V with a maximum current of 2 A. Mating connectors for relay output connectors are supplied with the SecureUPS.</p> <p>Pins one through three for each relay, from left to right: Pin 1 - NO (Normally Open Contact) Pin 2 - C (Relay Common) Pin 3 - NC (Normally Closed Contact)</p> <p>Associated trigger events The relays have these user configurable functions</p> <ul style="list-style-type: none"> • On Battery • On Battery Peak • Low Battery • Notification • Alert • Output On • Output Off • On Line • In Bypass
19	Battery Temperature Sensor Connector	<p>The sensor provides external battery temperature to the SecureUPS. Sensor cable and mating connector are supplied with the battery harness kit.</p>
20	High Current DC Output Connector	<p>This connector provides the High Power Charge and Discharge path for the Battery. Cables are not provided along with the UPS. Note: Recommended to use APC branded battery cables.</p>

LCD Interface




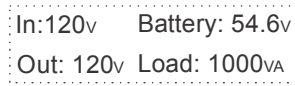
LCD layout




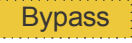


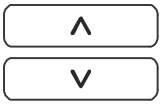
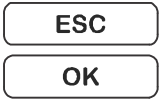


The icons on the LCD may vary depending on the installed firmware version.



LCD icon and button description

For detailed configuration information refer to “Configuration” on page 21.

Icon or Button Illumination	
Power ON/OFF Button	
	<p>Power ON/OFF button: The SecureUPS turns on the output automatically in Bypass Mode when AC Power is applied to the input terminals.</p> <p>Press and hold the ON/OFF button to turn the SecureUPS on/off.</p> <p>No Illumination: The SecureUPS and the output power are off.</p> <p>White Illumination: SecureUPS and the output power are on.</p> <p>Red Illumination: SecureUPS is on and the output power is off.</p>
Battery Icons	
	<p>Battery Charge Status: Indicates the battery charge status by showing the percentage of remaining battery capacity.</p>
	<p>Battery Charge In Progress: Indicates the battery is charging.</p>
SecureUPS Status	
	<p>SecureUPS status information: The current AC input, output, battery voltages and load power are displayed.</p>

Information Icons	
	<p>Load icon: The approximate load percentage is indicated by the number of load bar sections illuminated.</p>
	<p>Mute icon: Indicates the audible alarm is disabled/muted.</p>
Operation Mode Information	
	<p>On-Line mode: The SecureUPS is supplying conditioned AC power to connected equipment.</p>
	<p>Bypass mode: When the SecureUPS is in Bypass mode, connected equipment will receive AC mains power as long as the input voltage is available at the input terminals.</p>
	<p>Battery mode: The SecureUPS is operating on battery power to provide AC power to connected equipment.</p>
Relay Information	
	<p>Relay: There are 6 relays that are selectable for which are managed by the UPS status. The LCD will display the current status of all relays.</p>
Navigation Button Functions	
	<p>Use the UP/DOWN buttons to scroll through the Menu options.</p>
	<p>Press the OK or ESC button to access configuration menus.</p>
	<p>Press the OK button to accept a selected option.</p>
	<p>Press the ESC button to return to the previous menu.</p>

Filter and Fan Replacement and Care

Filter Care

Cleaning intervals

Frequency for filter replacement is dependent on the application and environment where the SecureUPS is installed.

The filter should be removed from the SecureUPS for routine cleaning at least once in every 90 days. When the filter is removed for cleaning the condition of the filter should be checked. If there is visible wear or damage the filter should be replaced.

The filter replacement part number is listed in the “Field Replaceable Parts” on page 5 of this manual.

Reinstall the filter immediately after cleaning.

Note: The absence of the filter, will lead to dust accumulation, impacting the performance of the SecureUPS.

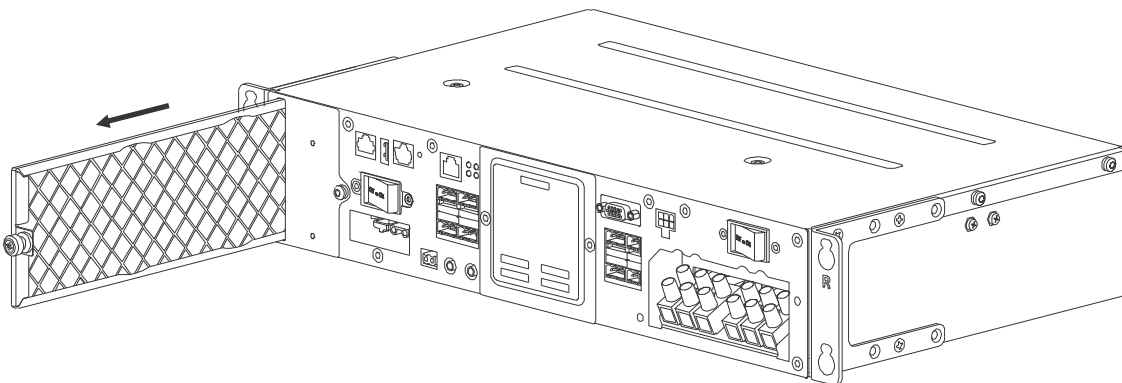
Cleaning methods

There are several acceptable ways to clean the filter.

- Vacuum - A few passes of a vacuum cleaner will remove accumulated dust and dirt.
- Blow with air compressor exhaust- If an air compressor is used be sure to point only the exhaust end of the hose toward the filter.
- Cold water rinse - Use a standard hose nozzle with water to rinse away accumulated dust and dirt. Allow the filter to dry completely before reinstalling.
- Immerse in warm water - In the case where stubborn dirt has accumulated, the filter can be immersed in a solution of warm water and mild detergent. Thoroughly rinse the filter in cool water. Allow the filter to dry completely before reinstalling.

Filter Removal/Replacement

1. Loosen the thumbscrew.
2. Use the thumbscrew on the filter to pull the used filter out of the chassis.
3. Slide the cleaned/replacement filter into the chassis.
4. Tighten the thumbscrew.



Fan Assembly Replacement

⚠ CAUTION

RISK OF ELECTRIC SHOCK

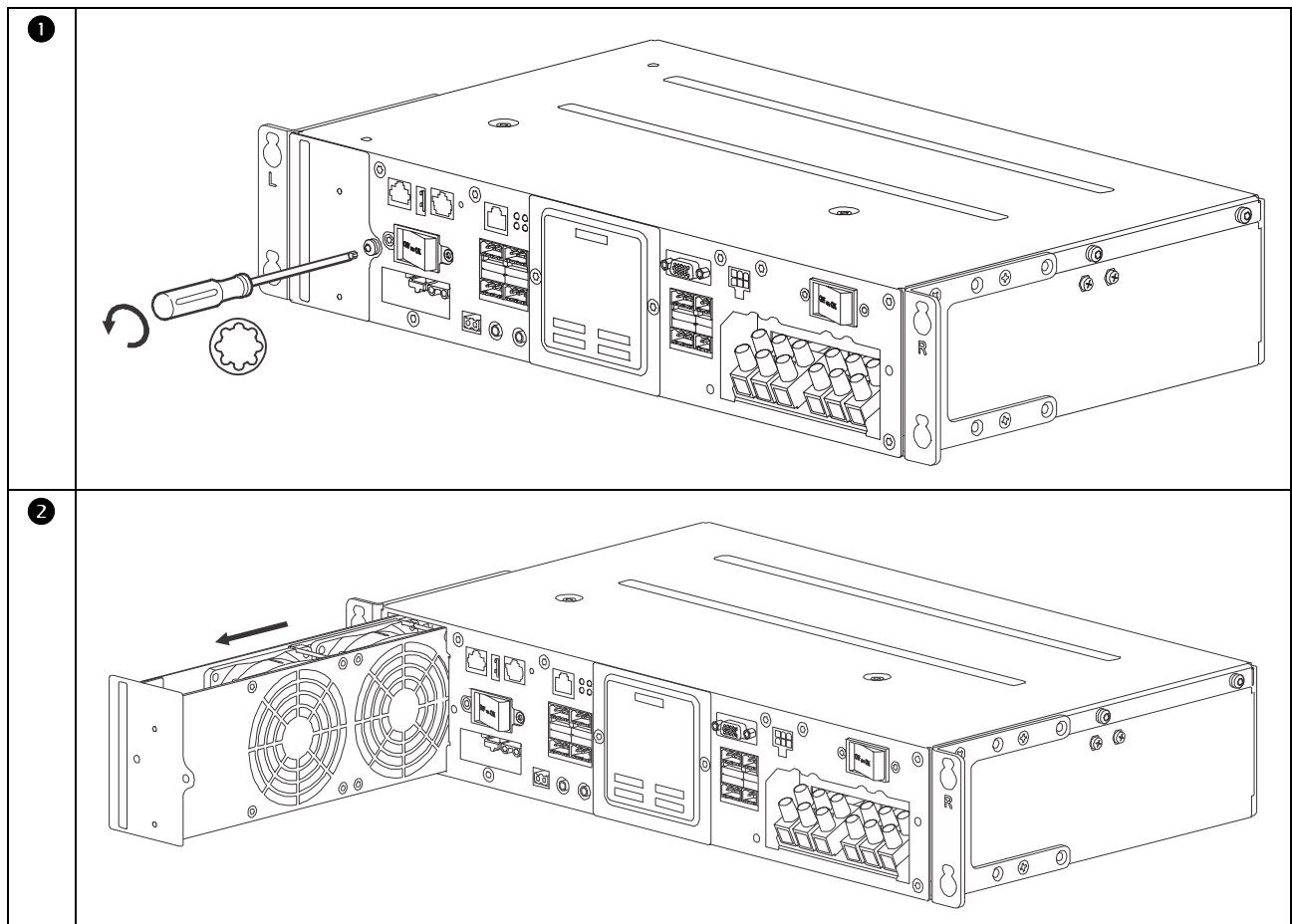
- All electrical work must be performed by a qualified electrician.
- The fan assembly enclosure has live parts.
- Shut down the SecureUPS before replacing the fan.

Failure to follow these instructions could result in minor or moderate injury.

Have the replacement fan assembly ready to install as soon as the original fan assembly is removed.

1. Loosen the thumbscrew of the filter, remove the filter and then remove the fan assembly.
2. To remove the fan assembly, use a Torx head screwdriver to loosen the screw.
3. Hold the top and bottom edges of the assembly and slide it out of the chassis.
4. Slide the replacement fan assembly into the chassis. Tighten the screw. Use torque 10 lb-in (1.1 Nm) maximum.
5. Perform a **Fan test**. Use the SecureUPS interface menu option Main Menu > Test and Diagnostics > Fan Test > Start.

Note: Install a new filter OR reuse it from the old fan assembly. See “Filter Removal/Replacement” on page 18 for instructions.



Connect Equipment

CAUTION

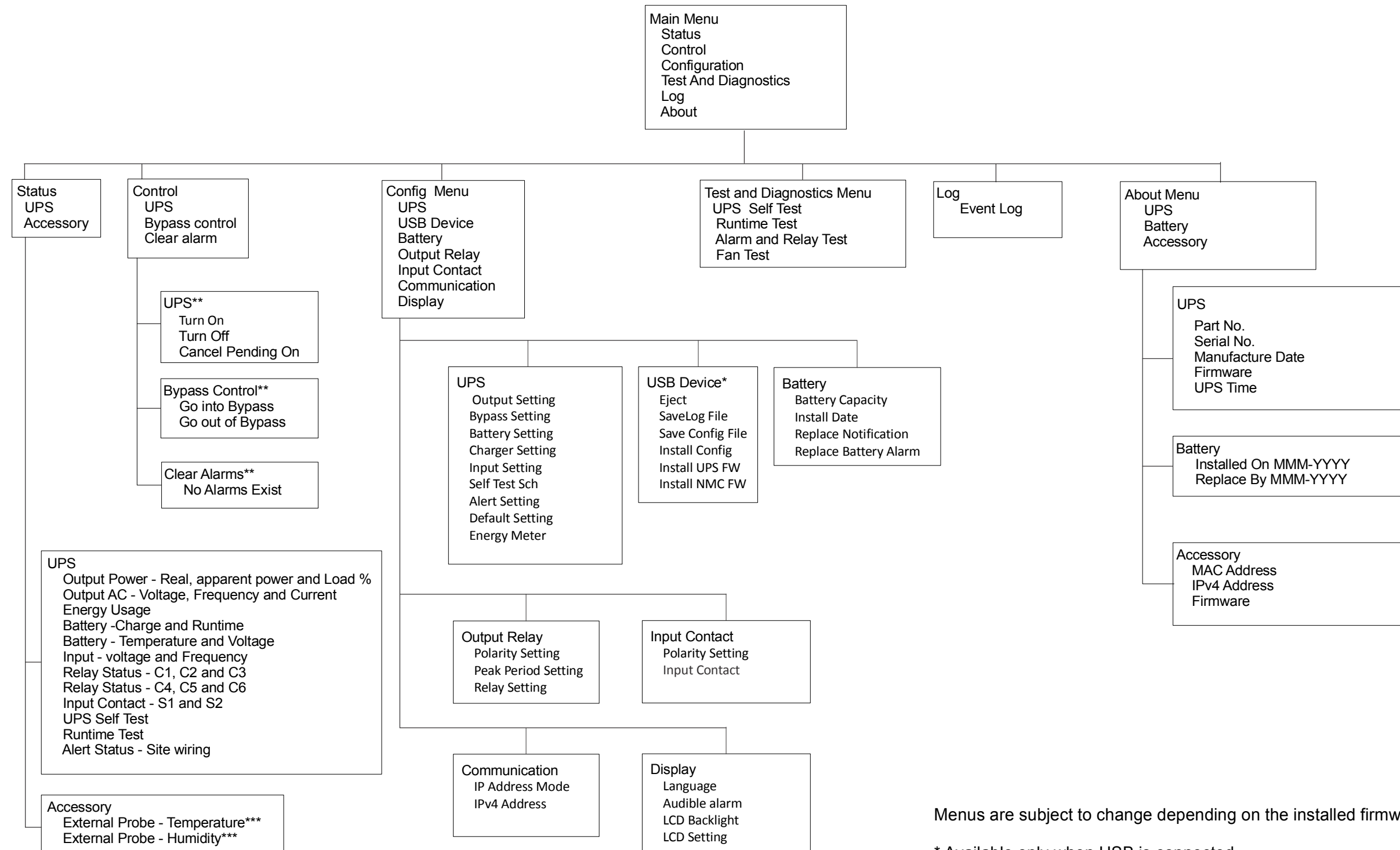
RISK OF ELECTRIC SHOCK

- Disconnect the cabinet circuit breaker before installing or servicing the SecureUPS or connected equipment.
- Disconnect equipment from the SecureUPS before servicing any equipment.
- Disconnect external batteries before installing or servicing the SecureUPS or connected equipment.
- The SecureUPS utilizes external batteries that may present a shock hazard even when disconnected from the mains.
- The SecureUPS AC output connectors may be energized by remote or automatic control at any time.

Failure to follow these instructions could result in minor or moderate injury.

1. Connect equipment to the SecureUPS.
2. Connect the SecureUPS to cabinet utility power.
3. Close the AC and battery circuit breakers.

SecureUPS Menu Overview



Menus are subject to change depending on the installed firmware version

* Available only when USB is connected

** Options displayed will vary based on UPS state.

*** Options displayed will vary based on connected accessories.

Operation

Turn SecureUPS ON/OFF

CAUTION

RISK OF ELECTRIC SHOCK

The output terminals of the SecureUPS are energized as long as the input circuit breaker is on and the input voltage is applied to the input terminals.

Failure to follow these instructions could result in minor or moderate injury.

The SecureUPS turns on when it is connected to AC power. The SecureUPS turns on in the Bypass mode when AC power is connected. The SecureUPS will go to the On Line mode when the AC power is within the input voltage range.

To turn off the SecureUPS press and hold the ON/OFF button on the LCD. Output power is through bypass.

Configuration

The SecureUPS must be turned ON before the unit can be configured.

Configure these settings at any time, using the SecureUPS LCD, or the Network Management web interface. Follow the prompts by using the OK button and the up/down arrow buttons.

UPS Settings

There are three ways to select UPS configuration options.

1. The first time the UPS is turned on the **Setup Wizard** screen will open. On each menu screen select the desired settings. Press OK after each UPS setting is selected.

Note: The UPS will not turn on until all of the settings have been configured.

2. **Main Menu/Configuration/UPS/Default Setting.** This screen allows the user to reset the UPS to factory default settings. Press OK after the UPS setting is selected. Refer to “Configuration” on page 21 and “UPS Menu Overview” .
3. Configure settings using an external interface, such as the Network Management Web interface.

Startup configuration

Function	Description
<div style="border: 1px solid black; padding: 5px;"> <p>Language</p> <p>English</p> <p>Francais</p> <p>Espanol</p> <hr/> <p>Setup Wizard</p> </div>	<p>Select the language required for the display interface.</p> <p>Language options will vary by model and firmware version.</p> <p>Options:</p> <ul style="list-style-type: none"> • English • Francais • Espanol
<div style="border: 1px solid black; padding: 5px;"> <p>Charger Setting</p> <p>Temp Compensation:</p> <p>^ -3.3 mV v</p> <hr/> <p>Setup Wizard</p> </div>	<p>Temperature Compensation allows the user to configure the required value.</p>
<div style="border: 1px solid black; padding: 5px;"> <p>Battery Setting</p> <p>Battery Capacity:</p> <p>^ 100 Ahr v</p> <hr/> <p>Setup Wizard</p> </div>	<p>Battery capacity setting allows the user to configure the battery total ampere hour rating used for the SecureUPS.</p>
<div style="border: 1px solid black; padding: 5px;"> <p>Input Setting</p> <p>AC Qualification Time:</p> <p>30 s v</p> <hr/> <p>Setup Wizard</p> </div>	<p>AC qualification setting allows the user to configure the required time to qualify the AC input applied.</p>

General settings

Configure these settings at any time, using the display interface, or the Network Management Web Interface.

	Parameters	Default Value	Options	Description
Config Menu UPS	Output Frequency	Auto (50/60 ± 3Hz)	Auto (50/60 ± 3 Hz) 50 ± 0.1 Hz 50 ± 3.0 Hz 60 ± 0.1 Hz 60 ± 3.0 Hz	Set the output frequency for the UPS.
	Output Frequency Slew Rate	1 Hz/Sec	0.5 Hz/Sec 1 Hz/Sec 2 Hz/Sec 4 Hz/Sec	Select the rate of change for output frequency in Hertz per second.
	Bypass Lower acceptable Voltage	90 V	86 V - 100 V	If the UPS input voltage is between the lower acceptable voltage and the higher acceptable voltage, the UPS can enter Bypass mode when enabled.
	Bypass Upper Acceptable Voltage	133 V	127 V - 148 V	
	Bypass Setting Acceptable Frequency	Wider Frequency 47 - 63 Hz	<ul style="list-style-type: none"> • Wider Frequency 47 - 63 Hz • Use Output Frequency Setting 	The setting Wider Frequency , enables Bypass mode operation for an input frequency range of 47-63 Hz.
	Low Runtime Alert	150 seconds	0 to 3600 seconds	The UPS will emit an audible alarm when the remaining runtime has reached below this threshold.
	Signal Flash Voltage	45 Vdc	43 - 48 Vdc	Select the voltage at which the configured relay will close, to trigger signal flash voltage during battery discharge.
Battery Temperature Compensation	-3.3 mV / Cell / °C	-2.5 mV to -4.0 mV	<p>Optimal battery charger voltage is dependent upon battery temperature.</p> <p>The UPS battery charger uses the battery temperature sensor to adjust the voltage and current by the compensation value.</p> <p>In the absence of external battery temperature sensor, the SecureUPS will consider the compensation values based on the internal ambient temperature sensor readings.</p> <p>The default value is normally adequate for lead acid batteries. Contact the battery supplier for more information.</p>	

	Parameters	Default Value	Options	Description
Config Menu UPS	Line Qualify Time	30 seconds	7 - 30 seconds	Time required to qualify the input line for UPS state transfer
	Self Test Schedule	Startup + every 14 days since last test	Never Startup Startup + 7 days Startup + 14 days	This is the interval at which the UPS will execute a Self Test .
	Site Wiring Fault	User Can Acknowledge	Disable Enable User Can Acknowledge	Allows the user to configure the behavior of the UPS in response to the site wiring fault alert which is generated due to wrong input AC mains connection with input phase and neutral reversed. Disable: The UPS never indicates site wiring fault to the user. Enable: UPS alerts the user about site wiring fault, when detected. The alert cannot be reset until the site wiring fault is corrected. User Can Acknowledge: UPS alerts the user about site wiring fault, when detected. The alert is active till the user acknowledges it by pressing OK.
	Default Setting	No	Yes/No	Allows the user to restore the UPS to the default factory settings.
	Reset Energy Meter	No	Yes/No	The Energy Meter stores information on UPS output energy usage. The Reset feature allows the user to reset the Energy Meter to 0 kWh.
	Install Choice	Don't install	Don't install Now Next off	Select the option to install firmware update in the UPS. This menu is only available when firmware is available for installation. Don't install: Use to this option to skip the firmware installation. Now: Install firmware immediately, irrespective of UPS state. Next off: Use this option to install the firmware the next time the output is turned off, OR when a shutdown happens with automatic turn on when AC mains returns. Note: When installing with output on, the UPS is providing power.

	Parameters	Default Value	Options	Description
Config Menu USB Device	Eject	No	No/Yes	Ejects the connected USB.
	Save Log File	No	No/Yes	Saves the log file in USB
	Save Config File	No	No/Yes	Saves the config file in USB
	Install Config	No	No/Yes	Reconfigures the configurations, if valid config file is available in the USB. Only few parameters are reconfigured.
	Install UPS FW	No	No/Yes	Installs the UPS firmware, if valid file is available in the USB.
	Install NMC FW	No	No/Yes	Installs the NMC firmware, if valid NMC firmware file is available in the USB.
Config Menu Battery	Battery Capacity	100 Ah	0 - 200 Ah	Total ampere hour rating for 48 Vdc battery string.
	Install Date	Battery Installation Date	Month-Year	Enter the installation date of the battery.
	Replacement Notification Time	183 days	<ul style="list-style-type: none"> • 0-360 days • -1 	<p>To set the Near End of Life alarm, select the number of days before the estimated battery end of life. When this date is reached the UPS will emit an audible alarm and a message will appear on the display interface screen.</p> <p>Example: Using the default value, the Near End of Life alarm will occur 183 days before the estimated end of life date.</p> <p>To disable the notifications select -1.</p>
	Replacement Battery Alarm Reminder	14 days	<ul style="list-style-type: none"> • 0-180 days • -1 	<p>The Near End of Life audible alarm can be muted.</p> <p>Enter the number of days between the time a Near End of Life alarm is acknowledged and the next Near End of Life alarm occurs.</p> <p>To disable the notifications select -1.</p>

	Parameters	Default Value	Options	Description
Config Menu Output Relay	Polarity setting	Energize	<ul style="list-style-type: none"> • Energize • De-Energize 	<p>Energize: Energizes the relay when configured function is valid. Relay contact changes from NC to NO position.</p> <p>De-Energize: De-energizes the relay when configured function is valid. Relay contact changes from NO to NC position.</p>
	Peak Period Setting	N	<ul style="list-style-type: none"> • N • Y 	<p>This setting allows the user to configure peak periods on each day of the week (Sunday to Saturday).</p> <p>Minimum configurable peak period is 30 min and user can select multiple peak periods in a day. This setting is applicable only for OnBatteryPeak output relay function. Relay is not activated during peak periods even when UPS is OnBattery.</p>
Config Menu Output Relay > Relay Setting *x value in Cx varies from 1 to 6	Relay Cx Function	NoAction	<ul style="list-style-type: none"> • No Action • On Battery • On Battery Peak • Low Battery • Notification • Alert • Output On • Output Off • On Line • In Bypass 	Activates the selected relay when the configured function is valid.
	Relay Cx Timer	Disable	<ul style="list-style-type: none"> • Disable • Enable 	Enable/Disable the output relay timer
	Relay Cx Timer	HH:MM - 00:00	00:00 to 24:00	<p>Activates the relay after the set time is elapsed.</p> <p>If the time is configured to 00:00, the output relay is activated immediately after the function is valid.</p>

	Parameters	Default Value	Options	Description
Config Menu Input Contact *x value in Sx varies from 1 to 2	Polarity Setting	High to Low	<ul style="list-style-type: none"> • High to Low • Low to High 	<p>High to Low: Associated input function gets activated on shorting of input contact.</p> <p>Low to High: Associated input function get activated on input contact open</p>
	Input Sx Contact	NoAction	<ul style="list-style-type: none"> • No Action • Self Test • Ext. Alarm On • Ext. Alarm Off • Output Off • Output On 	<p>User configurable input functions.</p> <p>Output Off: The connected load is receiving the AC power (in as is condition) in the bypass mode of the SecureUPS.</p> <p>Output On: The connected load is receiving power in the On Battery / On Line mode through the SecureUPS.</p> <p>Ex: On configuring input contact to Self Test, and if polarity setting is set to High to Low, on shorting this input contact, self test is activated.</p> <p>Note: If Input Sx Contact is configured to Ext. Alarm On, then depending on low or high status of the Input Sx Contact, Relay Cx gets energized/ deenergized, if Relay Cx Function is configured to “Notification”.</p>
Config Menu Communication Network	IP Address Mode		Manual, DHCP, BOOTP	Refer to the Network Management Utility CD.
	IPv4 Address		IP, Subnet, Gateway	
Config Menu Display	Audible Alarm	Enable	<ul style="list-style-type: none"> • Disable • Enable 	When audible alarms are disabled, the UPS will never emit an audible alarm.
	LCD Back Light	Auto Dim	Always On Auto Dim Auto Off	<p>To conserve energy, the LCD back light illumination dims or turns off when no events are active.</p> <p>Full display interface illumination returns when the UPS changes status as a result of an event or when any button on the display interface is pressed.</p>
	LCD Setting	Optimal Values	Color Brightness Contrast	Adjust the brightness and contrast individually for each LCD back light color.

Battery Management

Maintenance

- **Runtime Test (Calibration):** This should be performed any time the steady state load is changed significantly. For example, when an equipment is added to or removed from the SecureUPS load.
If case of no load change, it is recommended that the test should be run every 6 months, or when new batteries are installed.
- **Self test:** The SecureUPS can be configured to perform periodic, automatic **Self Tests**.

End of useful life

- **Near end of life notification:** A message will appear on the SecureUPS display when the batteries are approaching the end of useful life. For configuration details refer to **Replacement Notification Time** and **Replacement Battery Alarm Time**.
The estimated replacement date for the battery is available through the **About** menu.
- **Needs replacement notification:** The SecureUPS display shows when battery replacement is required. The battery must be replaced as soon as possible.
Continued operation after end of useful life notification may cause damage to the batteries.

Recommended actions after installing new external batteries

- Install the external batteries.
- Use the **Configuration/Battery** menu to update the **Install Date** and update the **Replacement Notification Time** to match the new batteries expected lifetime.
- Allow the system to charge for 24 hours to ensure full runtime capability.
- Use the **Test and Diagnostics/Runtime Test** to perform a runtime calibration test.

Troubleshooting


Use the table below to solve minor installation and operation problems.

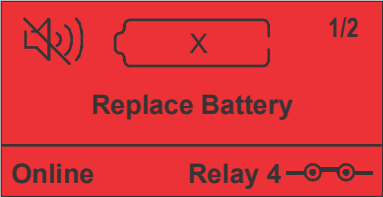
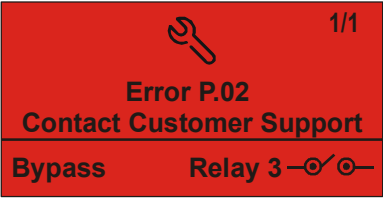


Refer to the APC web site, www.apc.com for assistance with complex SecureUPS problems.

The SecureUPS features firmware that can be upgraded.

Go to the APC web site, www.apc.com/Support, or contact your local Customer Care Center for more information.

Problem and Possible Cause	Solution
SecureUPS will not turn on or there is no output.	
The SecureUPS is not connected to mains power.	Be sure the AC input power cable is securely connected to the SecureUPS and to the cabinet AC power supply.
The charged batteries are not connected.	Be sure the batteries are connected.
The LCD indicates very low or no mains power.	Check the mains power supply to verify acceptable power quality. Check circuit breakers.
There is an internal SecureUPS alert or notification.	A message will be displayed on the LCD to identify the alert or notification and corrective action.
All of the possible issues above have been addressed and the SecureUPS will not turn on.	If the SecureUPS does not turn on when connected to AC power use the Cold Start feature. Follow the instructions below to perform a Cold Start. <ol style="list-style-type: none"> 1. Confirm that batteries are charged and connected to the SecureUPS. 2. Press the Power ON button. The LCD will illuminate and the Power ON button will illuminate red. 3. To turn on the output power press the Power ON button again. Then select the prompt Turn ON with No AC and press OK. To turn output power OFF go to the Control menu and follow the prompts.
SecureUPS emits an audible alarm.	
Normal SecureUPS operation when running on battery power.	The SecureUPS is operating on battery power. Refer to the status of the SecureUPS as shown on the LCD. Press any key to mute audible alarms.
The SecureUPS emits an audible alarm and has a red or amber back light on the LCD.	An Alarm or Notification condition exists. Refer to the display interface screen for information. Contact Customer Care Center if the detected fault is not cleared.

Problem and Possible Cause	Solution
SecureUPS does not provide expected backup time.	
The SecureUPS batteries are weak due to a recent power outage or they are near the end of service life.	Charge the batteries. Batteries require recharging after extended outages and wear out faster when discharged often or when operated at elevated temperatures. If the batteries are near the end of service life, consider replacing the batteries even if the Replace Battery message is not displayed.
SecureUPS operates on battery power while connected to mains power.	
The SecureUPS input circuit breaker has tripped.	Reduce the load on the SecureUPS. Disconnect nonessential equipment and reset the circuit breaker. Check the input circuit breaker rating for the connected equipment.
There is very high, very low, or distorted input line voltage.	Navigate to the Status/SecureUPS menu to verify that the input voltage is within specified operating limits. If no input voltage is indicated on the LCD, contact Customer Support through the APC web site, www.apc.com .
LCD Status displays Overload and the SecureUPS emits a sustained audible alarm.	
The SecureUPS is experiencing an overload condition.	The connected equipment exceeds the maximum load rating for the SecureUPS. The SecureUPS will emit a sustained audible alarm until the overload condition is corrected. Disconnect nonessential equipment from the SecureUPS to correct the overload condition.
LCD Status indicates SecureUPS is operating in Bypass mode.	
The SecureUPS has automatically switched to Bypass mode due to an internal SecureUPS alert or notification.	The LCD will display a message to identify the alert or notification and corrective action.
LCD is illuminated red or amber and displays an alert message. SecureUPS emits a sustained audible alarm.	
The SecureUPS has detected a problem during normal operation.	Follow the instructions displayed on the LCD. Press any key to mute all audible alarms.
The LCD displays the message. 	Be sure the battery cables are securely connected. Be sure the battery circuit breaker is closed. Check the fuse in the battery harness.

Problem and Possible Cause	Solution
<p>The LCD displays the message.</p> 	<p>Allow the battery to recharge for 24 hours.</p> <p>To perform a Runtime test use the SecureUPS interface menu option Test and Diagnostics.</p> <p>If the problem persists, replace the batteries.</p>
<p>LCD turns red or amber, displays an alert message, and emits a sustained audible alarm. Red illumination indicates a SecureUPS alarm that requires immediate attention. Amber illumination indicates a SecureUPS alarm that requires attention.</p>	
<p>There is an internal SecureUPS alert.</p> 	<p>Do not attempt to use the SecureUPS. Turn the SecureUPS off and have it serviced immediately.</p>
<p>The SecureUPS is experiencing an overload condition.</p> 	<p>Reduce the load on the SecureUPS. Disconnect nonessential equipment.</p>
<p>The SecureUPS has detected an internal over temperature alert.</p> 	<ul style="list-style-type: none"> • Check and clear blockages/obstructions of the fan vent holes. • Remove fan filter and clean. Follow the display instructions to clear the alert, after cleaning the fan filter. • Replace fan filter if problem persists.
<p>Replace Battery alert is displayed.</p>	
<p>The battery has a weak charge.</p>	<p>Allow the battery to recharge for at least eight hours. Then, perform a SecureUPS Self Test. If the problem persists after recharging, replace the battery.</p>
<p>The replacement battery is not properly connected.</p>	<p>Be sure the battery cable is securely connected.</p>

Transport

1. Shut down and disconnect all connected equipment.
2. Disconnect the unit from mains power.
3. Disconnect all external batteries (if applicable).
4. Follow the shipping instructions outlined in the *Service* section of this manual.

Service

If the unit requires service, do not return it to the dealer. Follow these steps:

1. Review the *Troubleshooting* section of the manual to eliminate common problems.
2. If the problem persists, contact APC by Schneider Electric Customer Support through the APC web site, **www.apc.com**.
 - a. Note the model number and serial number and the date of purchase. The model and serial numbers are located on the top panel of the unit and are available through the LCD on select models.
 - b. Call APC by Schneider Electric Customer Support and a technician will attempt to solve the problem over the phone.
If this is not possible, the technician will issue a Returned Material Authorization Number (RMA#).
 - c. If the unit is under warranty, it will be repaired or replaced at no cost.
 - d. Service procedures and returns may vary internationally. Refer to the APC web site for country specific instructions.
3. Pack the unit properly to avoid damage in transit. Never use foam beads for packaging. Damage sustained in transit is not covered under warranty.
4. **Before shipping, always disconnect batteries connected to the SecureUPS.**
5. Write the RMA# provided by Customer Support on the outside of the package.
6. Return the unit by insured, prepaid carrier to the address provided by Customer Support.

Limited Factory Warranty

Schneider Electric IT Corporation (SEIT), warrants its products to be free from defects in materials and workmanship for a period of three (3) years. The SEIT obligation under this warranty is limited to repairing or replacing, at its own sole option, any such defective products. Repair or replacement of a defective product or part thereof does not extend the original warranty period.

This warranty applies only to the original purchaser who must have properly registered the product within 10 days of purchase. Products may be registered online at warranty.apc.com.

SEIT shall not be liable under the warranty if its testing and examination disclose that the alleged defect in the product does not exist or was caused by end user or any third person misuse, negligence, improper installation, testing, operation or use of the product contrary to SEIT recommendations of specifications. Further, SEIT shall not be liable for defects resulting from: 1) unauthorized attempts to repair or modify the product, 2) incorrect or inadequate electrical voltage or connection, 3) inappropriate on site operation conditions, 4) Acts of God, 5) exposure to the elements, or 6) theft. In no event shall SEIT have any liability under this warranty for any product where the serial number has been altered, defaced, or removed.

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To obtain service under warranty you must obtain a Returned Material Authorization (RMA) number from customer support. Customers with warranty claims issues may access the SEIT worldwide customer support network through the APC web site: www.apc.com. Select your country from the country selection drop down menu. Open the Support tab at the top of the web page to obtain information for customer support in your region. Products must be returned with transportation charges prepaid and must be accompanied by a brief description of the problem encountered and proof of date and place of purchase.

APC™ by Schneider Electric Worldwide Customer Support

Customer support for this or any other APC™ by Schneider Electric product is available at no charge in any of the following ways:

- Visit the APC web site to access documents in the APC by Schneider Electric Knowledge Base and to submit customer support requests.
 - **www.apc.com** (Corporate Headquarters)
Connect to localized APC web site for specific countries, each of which provides customer support information.
 - **www.apc.com/support/**
Global support searching APC by Schneider Electric Knowledge Base and using e-support.
- Contact the APC by Schneider Electric Customer Support Center by telephone or e-mail.
 - Local, country specific centers: go to **www.apc.com/support/contact** for contact information.
 - For information on how to obtain local customer support, contact the APC by Schneider Electric representative or other distributor from whom you purchased your APC by Schneider Electric product.

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