APC™
by Schneider Electric

Installation Guide Smart-UPS™ On-Line SRT1500/SRT2400 XLJ Tower

Important Safety Messages

SAVE THESE INSTRUCTIONS - This manual contains important instructions that should be followed during installation and maintenance of the Smart-UPS 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 manual or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.

The addition of this symbol 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

- Adhere to all national and local electrical codes.

- All wiring must be performed by a qualified electrician.

- Changes and modifications to this unit not expressly approved by APC by Schneider Electric could void the warranty.

- This UPS is intended for indoor use only.

- Do not operate this UPS in direct sunlight, in contact with fluids, or where there is excessive dust or humidity.

- Be sure the air vents on the UPS 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.

- The batteries are heavy. Remove the batteries before installing the UPS and external battery packs (XLBPs).

- Additional safety information can be found in the Safety Guide supplied with this unit.

Deenergizing safety

The UPS contains internal batteries and may present a shock hazard even when disconnected from the branch circuit (mains). Before installing or servicing the equipment check that the:

- Input circuit breaker is in the OFF position.

- Internal UPS batteries are removed.

- XLBP battery modules are disconnected.

Electrical safety

- For models with a hardwired input, the connection to the branch circuit (mains) must be performed by a qualified electrician.

- The protective earth conductor for the UPS 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 input power to the UPS. 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 and with or without a yellow stripe.

- The UPS input ground conductor must be properly bonded to protective earth at the service panel.

- If the UPS input power is supplied by a separately derived system, the ground conductor must be properly bonded at the supply transformer or motor generator set.

- For a UPS with a factory installed power cord, connect the UPS power cable directly to a wall outlet. Do not use surge protectors or extension cords.

Battery safety

- When replacing batteries, replace with the same number and type of batteries as originally installed in the equipment.

- Batteries typically last for three 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.

- Replace batteries immediately when the unit indicates battery replacement is necessary.

- Schneider Electric uses Sealed Maintenance-Free valve regulated Lead Acid batteries. Under normal use and handling, there is no contact with the internal components of the battery. Over charging, over heating or other misuse of batteries can result in a discharge of battery electrolyte. Released electrolyte is toxic and may be harmful to the skin and eyes.

- 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 UPS will recognize as many as 10 external battery packs connected to the UPS.
  Note: For each XLBP added, increased recharge time will be required.
- The model and serial numbers are located on a small, rear panel label. For some models, an additional label is located on the chassis under the front bezel.
- Always recycle used batteries.
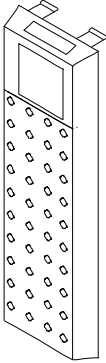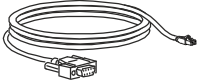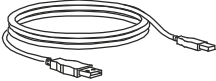- Recycle the package materials or save them for reuse.
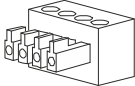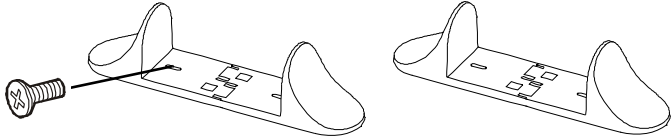
VCCI-A Caution

この装置は、クラスA機器です。この装置を住宅環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

VCCI-A

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Package Contents

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

Front bezel	RJ45 to DB9 cable
	USB cable
	EPO Terminal block
2 pairs stabilizer brackets and 4 flat head screws to secure tower stabilizer brackets to the UPS x4	

Specifications

For additional specifications refer to the APC by Schneider Electric Web site, **www.apc.com**.

Environmental

Temperature	Operating	0 ºC to 40 ºC (32 ºF to 104 ºF)
	Storage	-15 ºC to 45 ºC (5 ºF to 113 ºF)
Elevation	Operating	0 - 3,000 m (0 - 10,000 ft)
	Storage	0 - 15,000 m (50,000 ft)
Humidity	0% to 95% relative humidity, non-condensing	
Protection Class	IP 20 rating	
Note: Charge the battery modules every six months during storage.		

Physical

The UPS is heavy. Follow all lifting guidelines.

	SRT1500XLJ	SRT2400XLJ
Unit weight batteries included, without packaging	26.6 kg (58.7 lb)	32.7 kg (72.1 lb)
Unit weight batteries included, with packaging	31.7 kg (69.9 lb)	37.8 kg (83.4 lb)
Unit dimensions without packaging Height x Width x Depth	85 (2U) mm x 432 mm x 587 mm 3.35 (2U) in x 17 in x 23.1 in	85 (2U) mm x 432 mm x 637.5 mm 3.35 (2U) in x 17 in x 25.1 in
Unit dimensions with packaging Height x Width x Depth	245 mm x 610 mm x 820 mm 9.7 in x 24 in x 32.6 in	245 mm x 610 mm x 870 mm 9.7 in x 24 in x 34.3 in
The model and serial numbers are on a small label located on the rear panel.		

Battery

<table>
<tr><td colspan="2" align="center">⚠ **CAUTION**</td></tr>
<tr><td colspan="2">**RISK OF HYDROGEN SULPHIDE GAS AND EXCESSIVE SMOKE**

• Replace the battery at least every 5 years.

• Replace the battery immediately when the UPS indicates battery replacement is necessary.

• Replace battery at the end of its service life.

• Replace batteries with the same number and type of batteries as originally installed in the equipment.

• Replace the battery immediately when the UPS indicates a battery overtemperature, or when there is evidence of electrolyte leakage. Power off the UPS, unplug it from the AC input, and disconnect the batteries. Do not operate the UPS until the batteries have been replaced.

• *Replace all battery modules (including the modules in External Battery Packs) which are older than one year, when installing additional battery packs or replacing the battery module(s).

Failure to follow these instructions could result in equipment damage and minor or moderate injury.</td></tr>
</table>

*Contact APC by Schneider Electric Worldwide Customer Support to determine the age of the installed battery modules.

	SRT1500XLJ	SRT2400XLJ
Battery type	Sealed, maintenance-free Valve Regulated Lead-Acid battery	
Replacement battery module This UPS has swappable battery modules. Refer to the appropriate replacement battery user manual for installation instructions. Contact your dealer or go to the APC by Schneider Electric Web site, **www.apc.com** for information on replacement batteries.	APCRBC141J	APCRBC152J
Number of battery modules	1 battery module	
Voltage for each battery module	72 VDC	96 VDC
Total battery voltage for the UPS	72 VDC	96 VDC
Ah rating (typical)	5 Ah per battery module	
XLBP cable length	500 mm (19.7 in)	

Battery Module	UPS	XLBP
APCRBC152J	SRT2400XLJ	SRT96BPJ
APCRBC141J	SRT1500XLJ	SRT72BPJ

Electrical

⚠ CAUTION
RISK OF FIRE, RISK OF ELECTRIC SHOCK
Connect the UPS models only to a circuit provided with recommended branch circuit overcurrent protection.
Failure to follow these instructions can result in fire, and minor or moderate injury.

Models	Rating		Branch Circuit Overcurrent Rating / Building Circuit Breaker (CB) Current Rating
	Online	**Green Mode**	
SRT1500XLJ (Input plug: NEMA 5-15P)	1200 VA / 1050 W	1200 VA	15 A
SRT1500XLJ (Input plug: NEMA 5-20P / NEMA L5-20P)	1500 VA / 1350 W	1500 VA	20 A
SRT2400XLJ	2400 VA / 2160 W	2400 VA	30 A

Output	
Output Frequency	50 Hz / 60 Hz (Selectable)
Nominal Output Voltage	100/110/115/120 V
Nominal Output Current	SRT1500XLJ: 12 A (NEMA 5-15P) SRT1500XLJ: 15 A (NEMA 5-20P / NEMA L5-20P)* SRT2400XLJ: 24 A
Input	
Input Frequency	40 Hz - 70 Hz
Nominal Input Voltage	100/110/115/120 V
Nominal Input Current	SRT1500XLJ: 12 A (NEMA 5-15P) SRT1500XLJ: 16 A (NEMA 5-20P / NEMA L5-20P)* SRT2400XLJ: 24 A

*15 A input plug (NEMA 5-15P) is attached to the UPS at the factory by default. Use 20 A input plug (NEMA 5-20P / NEMA L5-20P) for higher capacity.

For details refer "Instructions to use 20 A Input Plug (NEMA 5-20P / NEMA L5-20P) in SRT1500XLJ Model" on page 15.
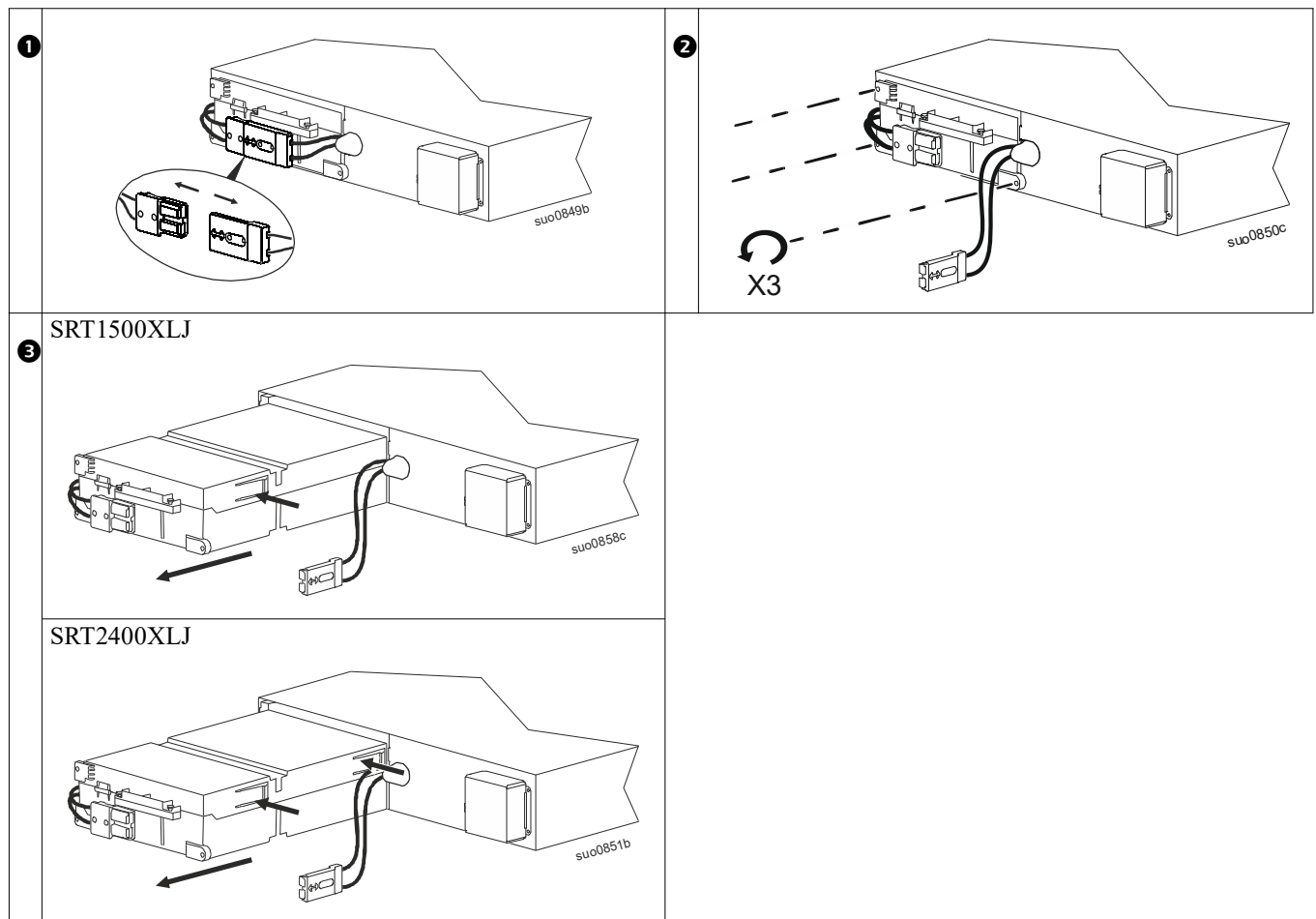
Remove Battery Module

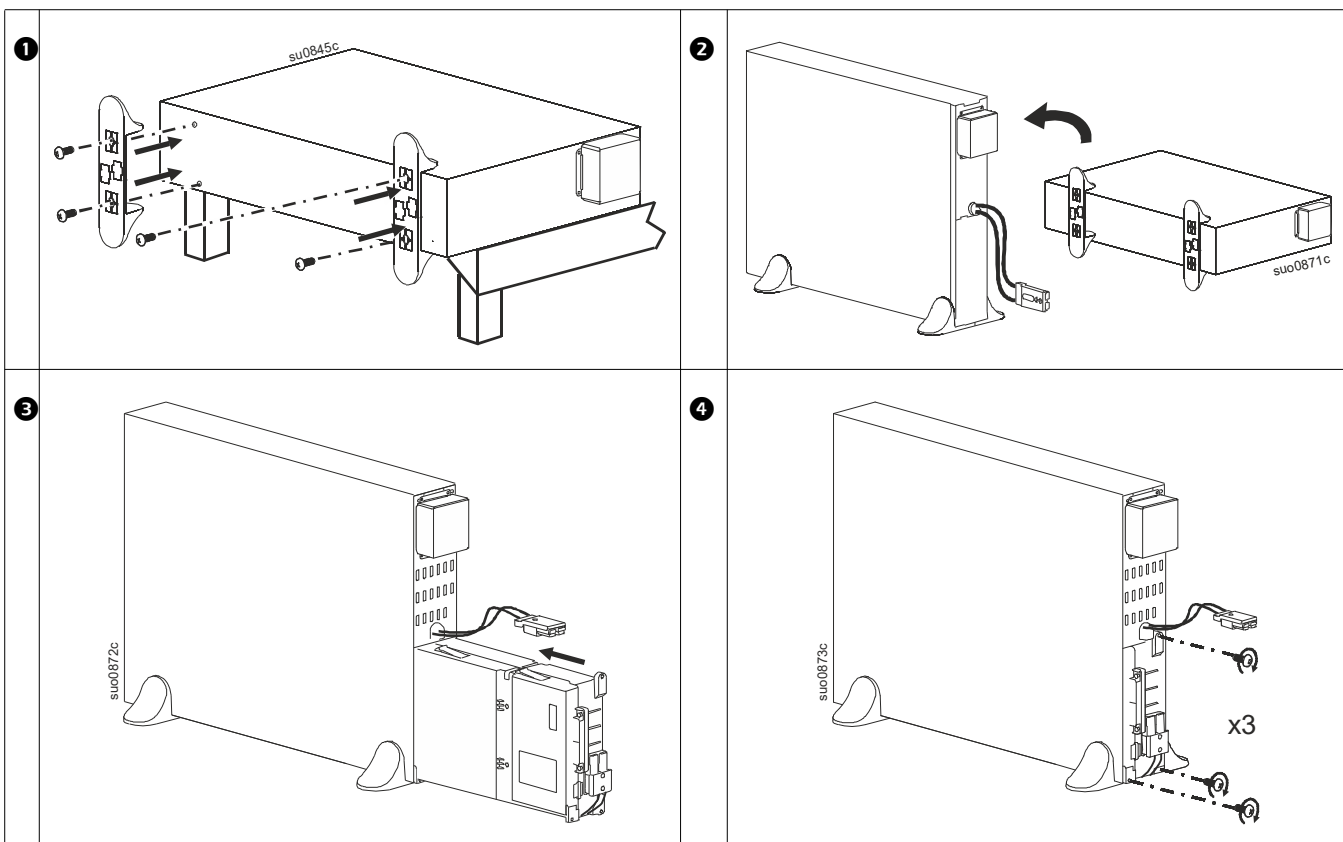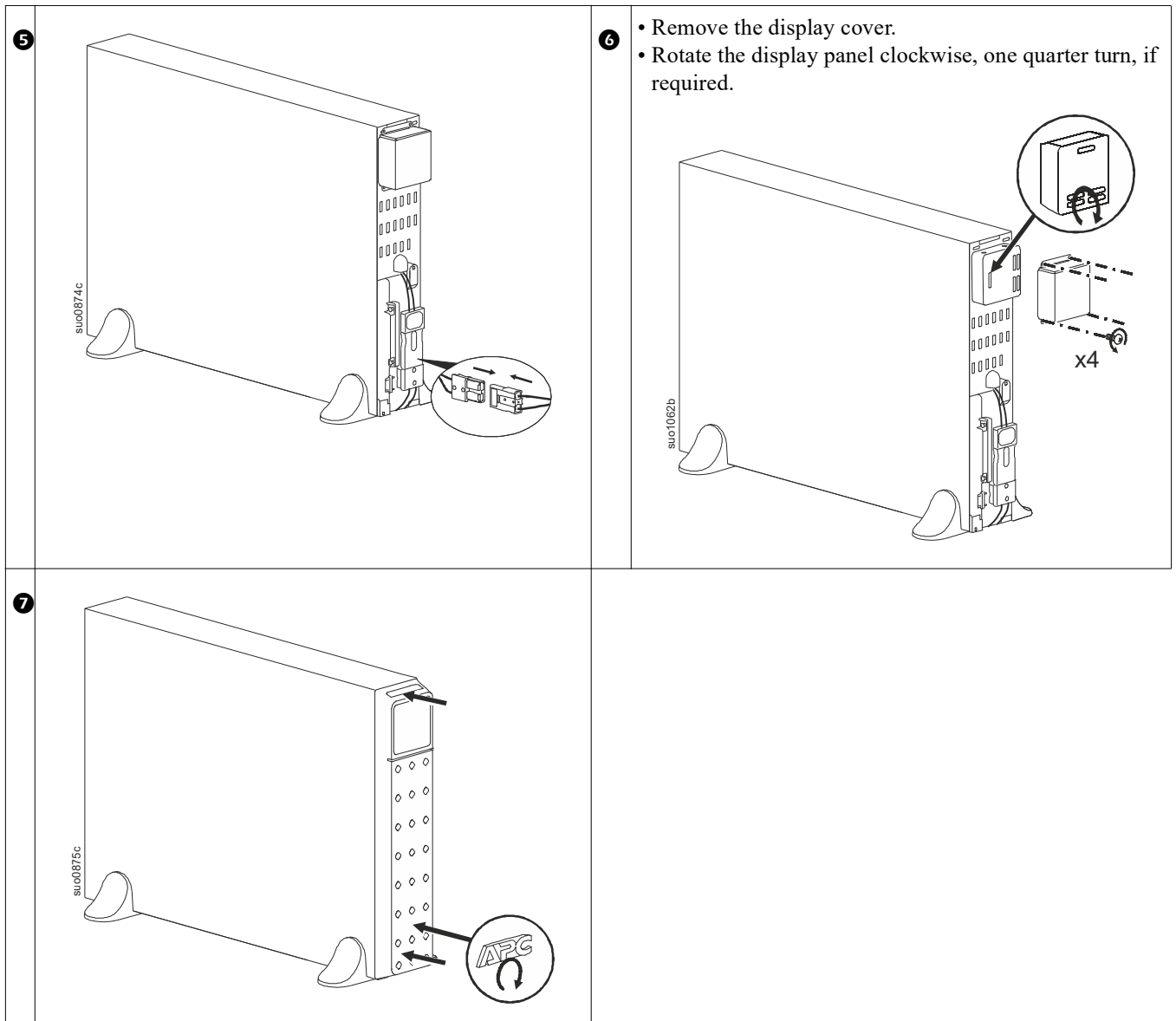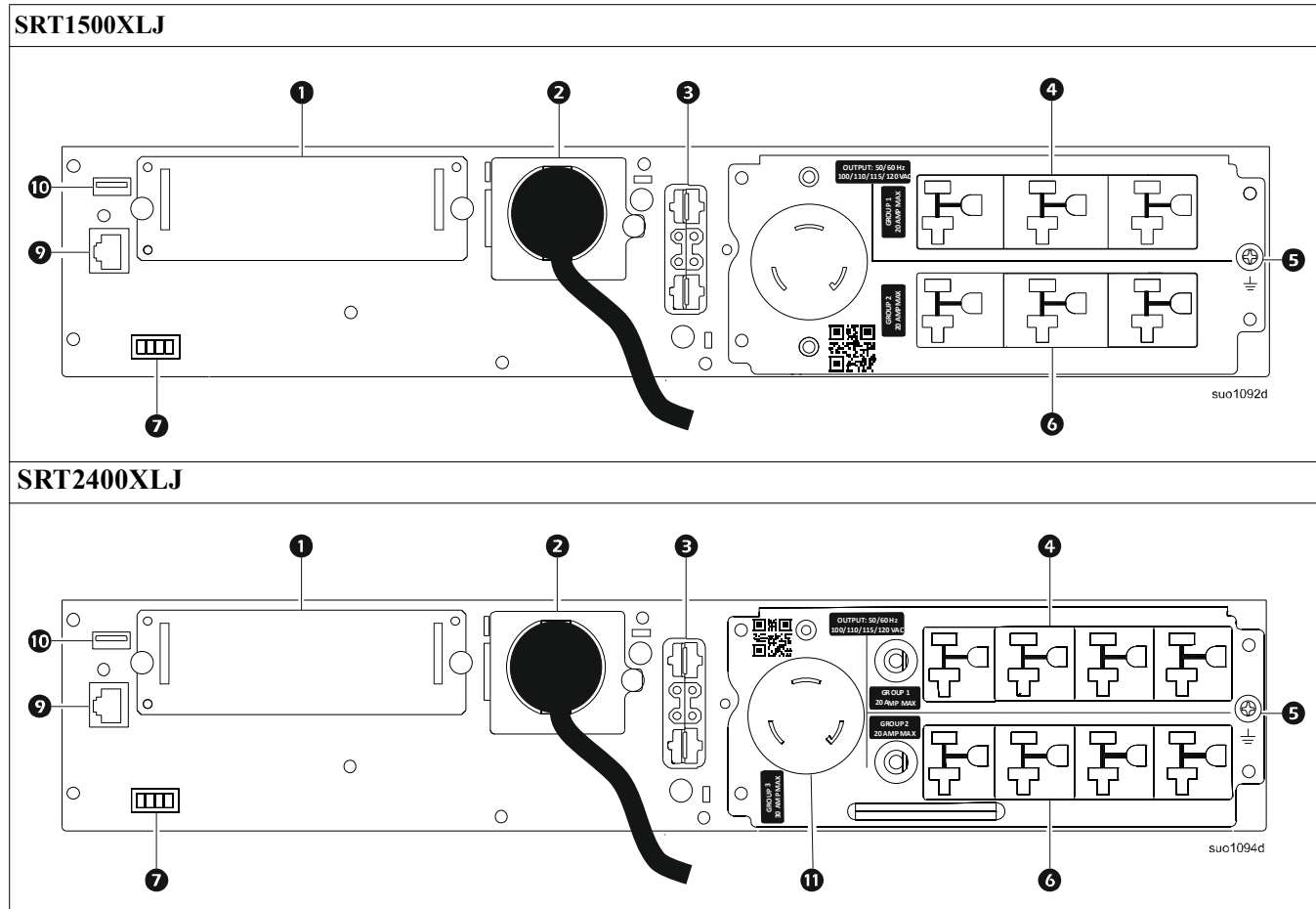| ⚠ CAUTION |
|---|
| **RISK OF FALLING EQUIPMENT**

• The equipment is heavy. Each APCRBC152J battery module weighs 17 kg (37.5 lb) and each APCRBC141J battery module weighs 12.8 kg (28.2 lb).

• Always practice safe lifting techniques adequate for the weight of the equipment.

• Remove the battery modules before installing the UPS.

• Use the battery module handle to slide the battery modules in or out of the UPS.

• Do not use the battery module handle to lift or carry the battery module.

Failure to follow these instructions can result in equipment damage and minor or moderate injury. |

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X3

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SRT1500XLJ

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SRT2400XLJ

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Tower Installation

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❻
- Remove the display cover.
- Rotate the display panel clockwise, one quarter turn, if required.

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Rear Panel Features

SRT1500XLJ

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SRT2400XLJ

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Key to identify rear panel features

❶	**SmartSlot**	The SmartSlot can be used to connect optional management accessories.
❷	**AC input power cable**	All models have factory installed input power cables.
❸	**External battery power and communication connector**	Use the external battery cable on the XLBP to connect the UPS and XLBP. XLBPs provide extended runtime during power outages. The UPS will automatically recognize up to 10 external battery packs.
❹	**Controllable outlet group 1**	Connect electronic devices to these outlets.
❺	**Chassis ground screw**	The UPS and XLBPs have ground screws for connecting the ground leads. Prior to connecting a ground lead, disconnect the UPS from mains power.
❻	**Controllable outlet group 2**	Connect electronic devices to these outlets.
❼	**EPO terminal**	The Emergency Power Off (EPO) terminal allows the user to connect the UPS to a central EPO system.
❾	**Serial Com**	The Serial Com port is used to communicate with the UPS. **Use only interface kits supplied or approved by APC by Schneider Electric. Any other serial interface cable will be incompatible with the UPS connector.**
❿	**USB port**	The USB port is used to connect either a server for native operating system communications, or for software to communicate with the UPS.
⓫	**Main outlet group**	Connect electronic devices to the main outlet group.

UPS Configuration

Connect Emergency Power Off feature

For instructions on how to connect the Emergency Power Off (EPO) switch, refer to the Operation manual on APC by Schneider Electric Web site, **www.apc.com**.
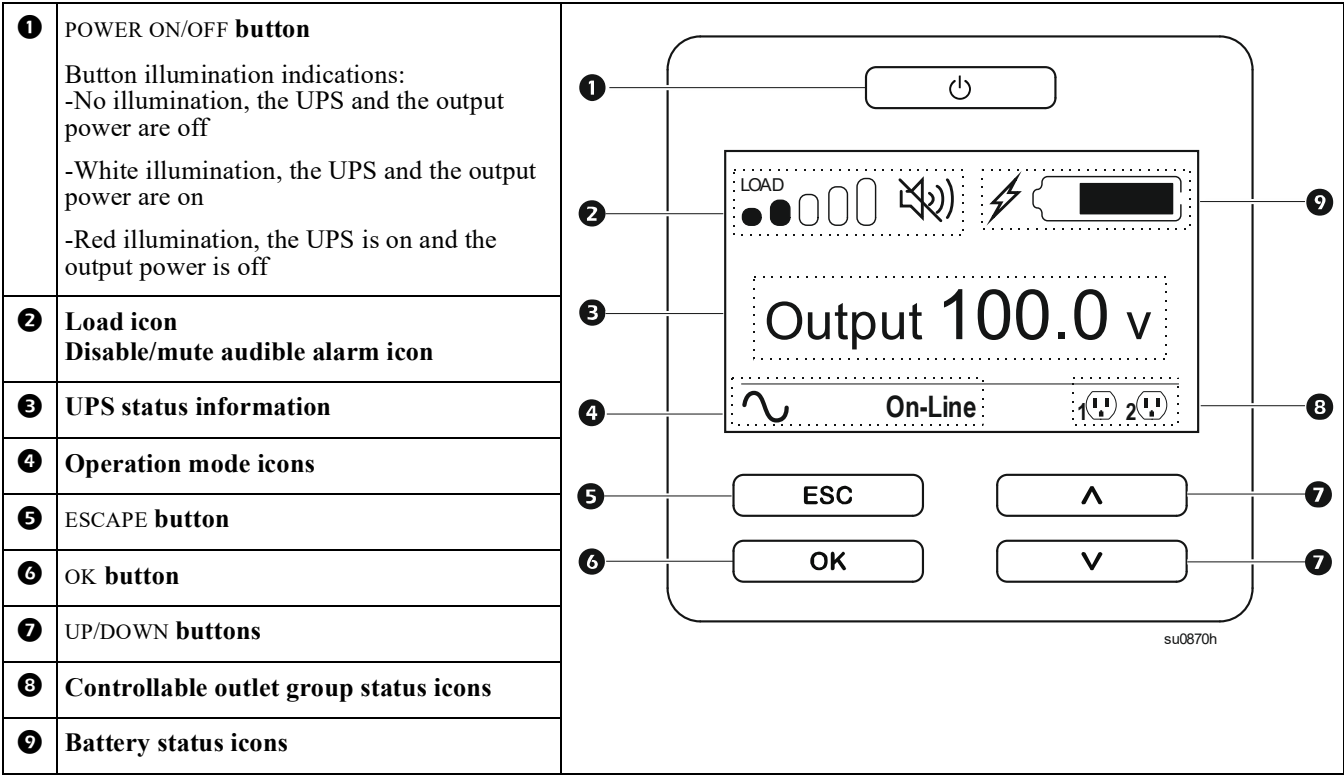
Verify input connection

Verify the phase and neutral terminals are connected to the correct connectors. Ensure ground connection is in place.

Configure controllable outlet groups

The outlets on the UPS are grouped. To configure the controlled outlet features, use the **Advanced** menus on the display interface and navigate to: **Main Menu > Configuration > Outlets > Outlet Group.**

UPS Display Interface

❶	POWER ON/OFF **button** Button illumination indications: -No illumination, the UPS and the output power are off -White illumination, the UPS and the output power are on -Red illumination, the UPS is on and the output power is off
❷	**Load icon** **Disable/mute audible alarm icon**
❸	**UPS status information**
❹	**Operation mode icons**
❺	ESCAPE **button**
❻	OK **button**
❼	UP/DOWN **buttons**
❽	**Controllable outlet group status icons**
❾	**Battery status icons**

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Display interface operation

Use the UP/DOWN buttons to scroll through the options. Press the OK button to accept the selected option. Press the ESC button to return to the previous menu.

The icons on the LCD display interface screen may vary depending on the installed firmware version.	
	Load icon: The approximate load capacity percentage is indicated by the number of load bar sections illuminated. Each bar represents 16% of the load capacity.
	Mute icon: Indicates the audible alarm is disabled/mute.

UPS Status Information

The status information field provides key information on the status of the UPS.
The **Standard** menu will allow the user to select one of the five screens listed below. Use the UP/DOWN buttons to scroll through the screens.
The **Advanced** menu will scroll through the five screens automatically.
• **Input Voltage**
• **Output Voltage**
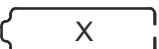• **Output Frequency**
• **Load**
• **Runtime**

In the case of a UPS event, status updates will be displayed defining the event or condition that has occurred.
The display screen illuminates amber to indicate a Message and red to indicate an Alert depending on the severity of the event or condition.

Operation Mode Icons	
	On-Line mode: The UPS is supplying conditioned mains power to connected equipment.
	Bypass mode: The UPS is in **Bypass** mode and the connected equipment will receive mains power as long as the input voltage and frequency are within the configured limits.
	Green mode: When in **Green** mode mains power is sent directly to the load. In the event of a mains power outage, there will be an interruption in power to the load of up to 10 ms while the UPS switches to **On-Line** or **Battery** mode. When enabling **Green** mode consideration should be given to devices that may be sensitive to power fluctuations.

UPS Status Icon	
	Battery mode: The UPS is supplying battery power to connected equipment.
	The UPS has detected an internal fault with the battery. Follow the instructions on the screen.
	The UPS has detected a critical fault with the battery. The battery is at the end of its life and has to be replaced.
	Indicates a UPS alert that requires attention.

Controllable Outlet Group Icons	
	Controllable Outlet Group Power Available: The number next to the icon identifies the specific outlet groups that have available power. Flashing icon indicates the outlet group is turning from OFF to ON with delay.
	Controllable Outlet Group Power Not Available: The number next to the icon identifies specific outlet groups that do not have available power. Flashing icon indicates the outlet group is turning from ON to OFF with delay.

Battery Status Icons	
	Battery Charge Status: Indicates the battery charge status.
	Battery Charging In Progress: Indicates the battery is charging.

Menu overview

The display interface has **Standard** and **Advanced** menu screens. The preference for **Standard** or **Advanced** menu selections is made during initial installation and can be changed at any time through the **Configuration** menu.

The **Standard** menus include the most commonly used options.

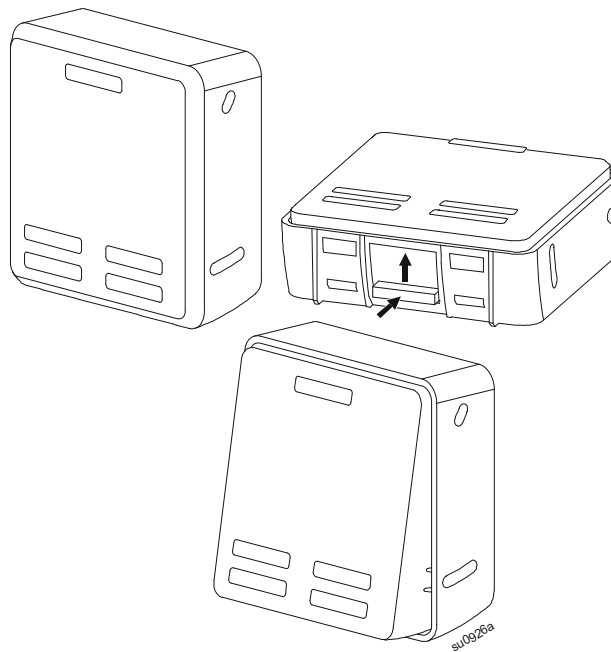The **Advanced** menus provide additional options.

Note: Actual menu screens may differ by model and firmware version.

Refer to the UPS Operation Manual for menu configuration details.

LCD display interface angle adjustment

The angle of the LCD display interface can be adjusted for ease in viewing the displayed messages.

1. Remove the front bezel.
2. Locate the button on the bottom of the display interface panel.
3. Press the button and slide the bottom of the LCD display interface screen out. An audible click will be heard when the screen reaches the maximum angle.

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Instructions to use 20 A Input Plug (NEMA 5-20P / NEMA L5-20P) in SRT1500XLJ Model
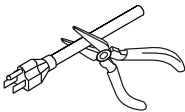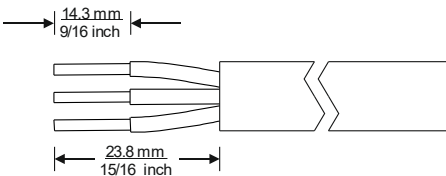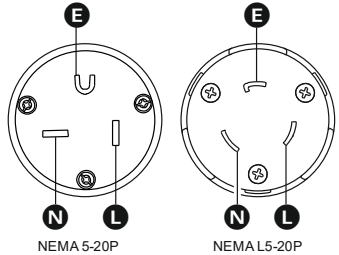
Installation

- The UPS is shipped with a 15 A (NEMA 5-15P) input plug. This input plug is sufficient for UPS power rating of 1200 VA / 1050 W.
- To increase the UPS power rating to 1500 VA / 1350 W, use a 20 A input plug (NEMA 5-20P / NEMA L5-20P).

⚠ CAUTION
RISK OF FIRE, RISK OF ELECTRIC SHOCK • All wiring must be performed by a qualified electrician. • Disconnect the mains input circuit breaker before installing or servicing the UPS. • Disconnect internal and external batteries before installing or servicing the UPS. **Failure to follow these instructions can result in fire, and minor or moderate injury.**

1.	Disconnect the 15 A input plug from the socket.	
1.	Cut the input plug using cutter	
1.	Slide the input plug cover on to the cord.	
1.	Strip the cord jackets and conductors.	14.3 mm 9/16 inch / 23.8 mm 15/16 inch

1.	Connect the NEMA 5-20P / NEMA L5-20P input plug.
	a. Ensure that the colored wires are connected to the respective terminals.
	   E Earth Terminal - Green/Yellow wire.
	   L Line Terminal - Black wire.
	   N Neutral Terminal - White wire.
	b. Tighten the terminal screws. Use 1.57 Nm torque.
		NEMA 5-20P NEMA L5-20P

1.	After replacing the input plug (NEMA 5-20P/NEMA L5-20P), configure the power setting to 1500 VA. To configure the power setting, use menu on display interface and navigate to Main menu > Configuration > UPS > VA setting. **Note:** User must acknowledge the input plug change to NEMA 5-20P / NEMA L5-20P to increase the power capacity.	

Customer support and warranty information are available on the APC by Schneider Electric Web site, **www.apc.com**.