

Installation Guide APC™ Smart-UPS™ Ultra SRTL5KRM2UI/2UT/2UJ

Important Safety Instructions

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



Read the user documentation to become familiar with the equipment before trying to install or operate it.

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

- 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 Schneider Electric could void the warranty.
- This UPS is for Professional Business Applications and not for Consumer Applications.
- This UPS is intended for indoor use only.
- This UPS must be installed in dedicated IT environments 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.
- 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.
- 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), in a rack.
- Always install XLBPs at the bottom in rack-mount configurations. The UPS must be installed above the XLBPs.
- Always install peripheral equipment above the UPS in rack-mount configurations.
- Additional safety information can be found in the Safety Guide supplied with this unit.
- This UPS must be serviced by service personnel or a qualified electrician.

Deenergizing safety

- The UPS contains internal batteries and may present a shock hazard even when disconnected from AC and DC power.
- Before installing or servicing the equipment check that the:
 - Mains 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.
- 2UI models only: In order to maintain compliance with the EMC directive for products sold in Europe, output cords attached to the UPS must not exceed 10 meters in length.
- 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.
- Connect only SELV circuits to all the communication ports.

Battery safety

WARNING

RISK OF CHEMICAL HAZARD AND EXCESSIVE SMOKE

- Replace the battery at least every 10 years or at the end of its service life, whichever is earlier.
- Replace the battery immediately when the UPS indicates battery replacement is necessary.
- Replace batteries with the same type of batteries as originally installed in the equipment.

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

- Schneider Electric uses Lithium Ion batteries. Under normal use and handling, there is no contact with the internal components of the battery.
- The battery typically lasts for 10 years. Environmental factors impact battery life. Elevated ambient temperatures, poor quality mains power causing frequent short duration discharges will shorten battery life.
- **CAUTION:** Before installing or replacing the batteries, remove conductive jewelry such as chains, wrist watches and rings. High energy through conductive materials could cause severe burns.
- **CAUTION:** Do not place or use the battery pack near heat or fire.
Do not crush, do not dispose off a battery pack in a fire. The batteries may explode..
- **CAUTION:** Do not open the battery pack enclosure. Doing so will expose the cell terminals which pose an energy hazard.
- **CAUTION:** Do not open or mutilate the battery or batteries. Released electrolyte is harmful to the skin and eyes. It may be toxic.
- **Caution:** A battery can present a risk of electric shock and burns by high short-circuit current.
- **CAUTION:** Failed batteries can reach temperatures that exceed the burn thresholds for touchable surfaces.
- Do not use a dropped, damaged or deformed battery pack.
- Do not short circuit battery pack.
- Do not drive nails into the battery pack.
- Do not strike the battery pack with a hammer.
- The XLBPs should be replaced by qualified personnel only.
- The battery modules can be replaced by the user.
NOTE: Live swap of RBM should be performed by qualified personnel only.

Hardwire safety

- Verify that all branch circuit (mains) and low voltage (control) circuits are de-energized, and locked out before installing cables or making connections, whether in the junction box or to the UPS.
- Wiring must be done only by a qualified electrician.
- Check national and local codes before wiring.
- Strain relief is required for all hardwiring (supplied with select products).
Snap in type strain reliefs are recommended.
- All openings that allow access to UPS hardwire terminals must be covered. Failure to do so may result in personal injury or equipment damage.
- Select wire size and connectors according to national and local codes.

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 label on the top cover. For some models, an additional label is located on the chassis inside the front bezel.
- Always recycle used batteries.
- Recycle the package materials or save them for reuse.

FCC Class A Radio Frequency Warning

Note: Applicable only for SRTL5KRM2UT model

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.

VCCI-A Caution

Note: Applicable only for SRTL5KRM2UJ model

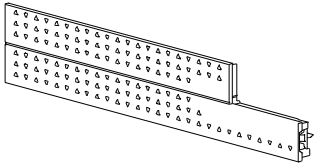
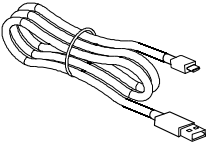
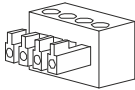
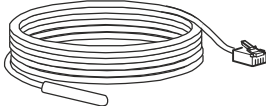
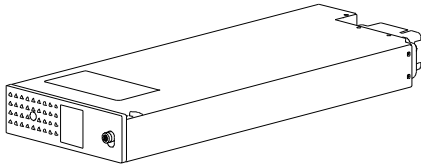
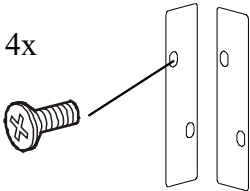
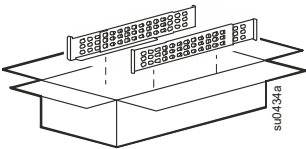
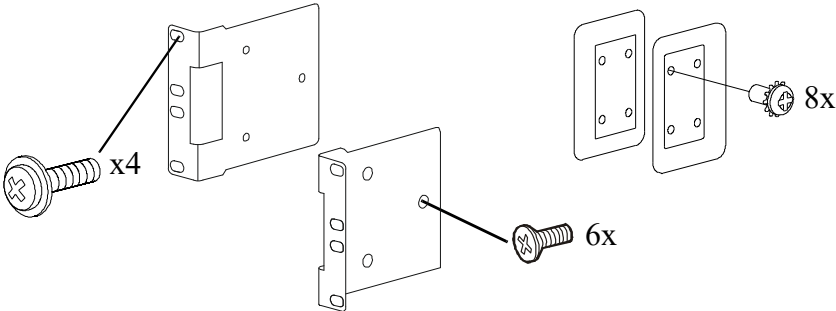
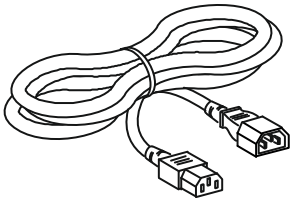
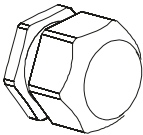
この装置は、クラスA機器です。この装置を住宅環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

VCCI-A

SURT15a

Package Contents

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

Included with all models		
<p>Front bezel</p> 	<p>USB cable</p> 	<p>EPO Terminal block</p>  <p>Temperature sensor probe</p> 
<p>1 Battery module</p> 	<ul style="list-style-type: none"> • 1 pair stabilizer brackets • 4 flat head screws to secure tower stabilizer brackets to the UPS  <p>4x</p>	
<p>Rail Kit with instructions and hardware for installing rails in a rack.</p> 	<ul style="list-style-type: none"> • 1 pair cleat • 8 pan head screws to secure cleat to the UPS • 1 pair rack-mount brackets • 6 flat head screws to secure rack-mount brackets to the UPS • 4 ornamental screws to secure rack-mount brackets to the rails  <p>x4</p> <p>6x</p> <p>8x</p>	
Included with 2UI models only		
<p>2 output power cords:</p> <ul style="list-style-type: none"> • 1.2 m in length • 2 m in length 	<p>Strain relief</p> 	

Specifications

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

Environmental

Temperature	Operating	0 to 40 °C (32 to 104 °F)
	Storage	-15 to 45 °C (5 to 113 °F)
Maximum 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	
International Protection Code	IP 20 rating	
NOTE:		
<ul style="list-style-type: none"> • Charge the RBMs immediately upon receipt / first installation and at least once in nine months during storage or when not in use. • Environmental factors impact battery life. Elevated ambient temperatures, high humidity, poor quality mains power causing frequent short duration discharges will shorten battery life. 		

Physical

The UPS is heavy. Follow all lifting guidelines.

Unit weight without batteries and without packaging (approx.)	19 kg
Unit weight with batteries and with packaging (approx.)	38.50 kg
Unit dimensions without packaging Height x Width x Depth	89 x 432 x 768 mm (3.5 x 19 x 30.25 in)
Unit dimensions with packaging Height x Width x Depth	984 x 585 x 392 mm (38.74 x 23.03 x 15.43 in)

Battery

Battery type	Lithium-Ion
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 our web site, www.apc.com for information on replacement batteries.	SRYLBM
Number of battery modules	1 battery module
Voltage for each battery module Total voltage for the UPS Ah rating	180 V 180 V 4 Ah per battery module Usable: 2.47 Ah per battery module

Battery module	UPS	XLBP
SRYLBM	SRTL5KRM2UI	SRTL180RM2UBP
	SRTL5KRM2UT	
	SRTL5KRM2UJ	SRTL180RM2UBPJ

NOTE: If the battery pack is healthy and the communication is enabled, the **Battery module status** LED on the front panel of the battery pack illuminates **Green** else it illuminates **Red**.

Electrical

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.

Models	Rating		Branch Circuit Overcurrent Rating / Building Circuit Breaker (CB) Current Rating
	Online	Green Mode	
SRTL5KRM2UI	5 kVA / 5 kW	5 kVA	40 A
SRTL5KRM2UT	208 V	4.9 kVA / 4.9 kW	30 A
	240 V	5 kVA / 5 kW	
SRTL5KRM2UJ	5 kVA / 4.6 kW	5 kVA	

Output

Model	SRTL5KRM2UI	SRTL5KRM2UT	SRTL5KRM2UJ
Output Frequency	50/60 Hz \pm 3 Hz		
Nominal Output Voltage	220/230/240 VAC	208/240 VAC	200 VAC

Input

Model	SRTL5KRM2UI	SRTL5KRM2UT	SRTL5KRM2UJ
Input Frequency	40 to 70 Hz \pm 0.1 Hz		
Nominal Input Voltage	220/230/240 VAC	208/240 VAC	200 VAC

Rack-Mount Installation

Refer to the Rail Kit Installation Guide for instructions on rail installation.

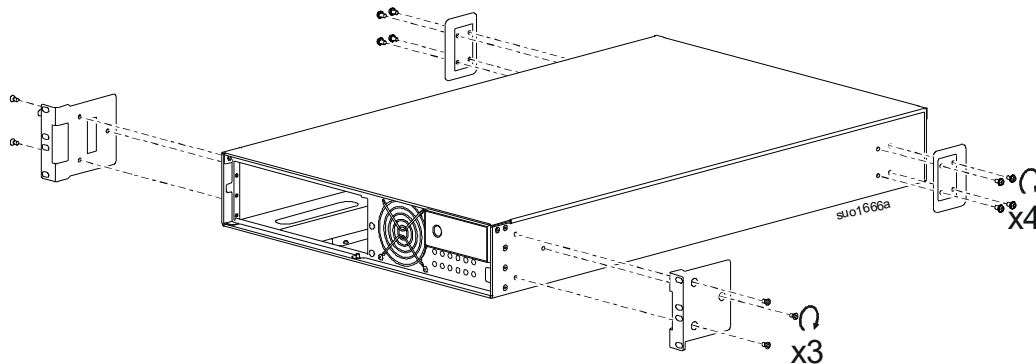
⚠ CAUTION

RISK OF FALLING EQUIPMENT

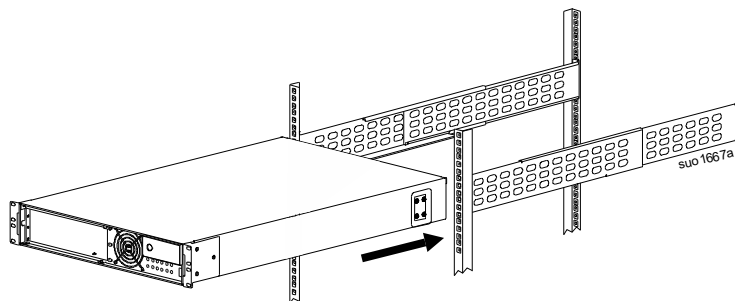
- The equipment is heavy. Always practice safe lifting techniques adequate for the weight of the equipment.
- Always use the recommended number of screws to secure brackets to the UPS.
- Always use the recommended number of screws and cage nuts to secure the UPS to the rack.
- Always install the UPS at the bottom of the rack.
- Always install the external battery pack below the UPS in the rack.

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

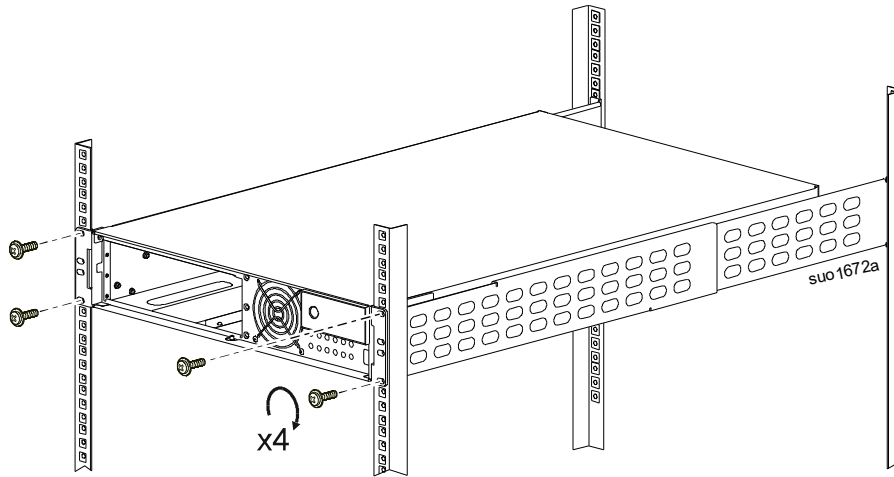
- 1 Install the cleats and rack-mount brackets to the UPS with the screws supplied.



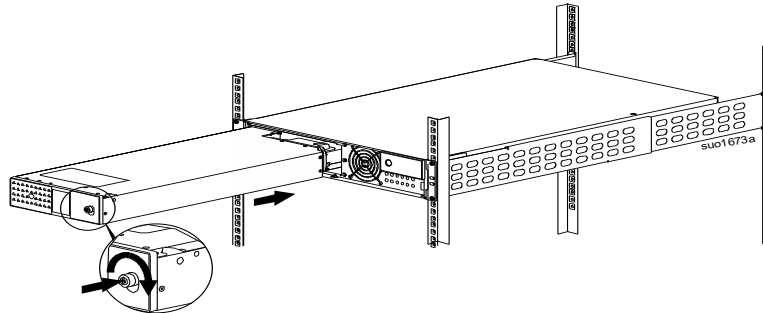
- 2 Lift the UPS and slide it into the rack enclosure.



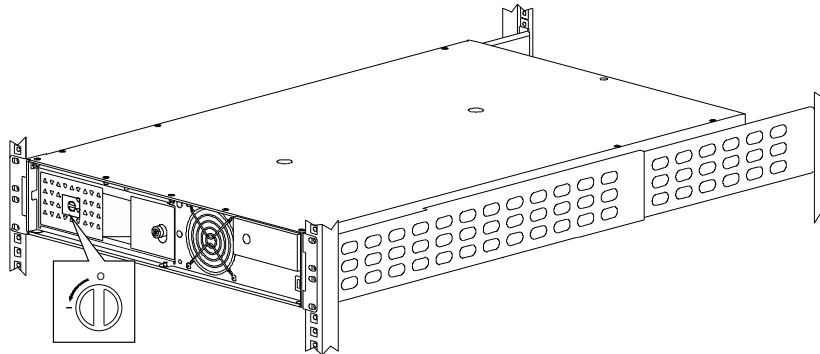
- 3 Secure the UPS to the rack with the screws supplied.



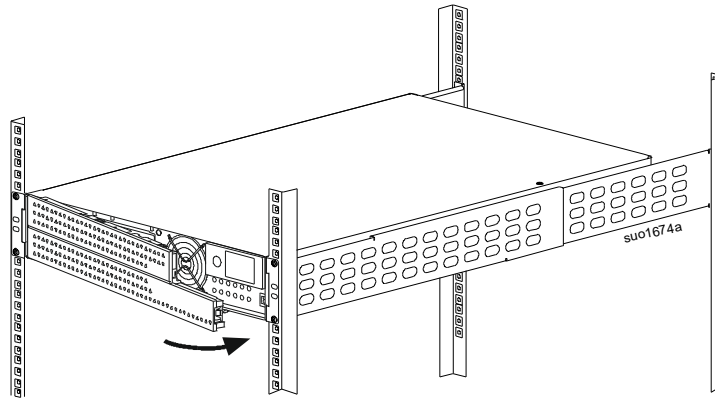
- 4
1. Slide the battery pack till it gets fully inserted into the UPS.
 2. Press the thumbscrew till it engages and turn the thumbscrew clockwise to lock the battery and enable battery communication.
- Note: If the thumbscrew fails to engage, then push the battery pack further into the UPS till it gets fully inserted.



- 5 Rotate the BATTERY ON/OFF switch in counter clockwise direction to turn on the battery pack.



6 Install the bezel.



Tower Installation

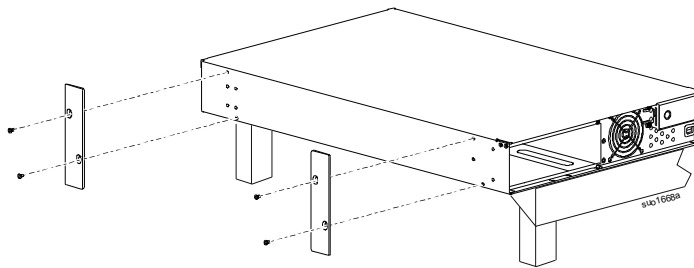
⚠ CAUTION

RISK OF FALLING EQUIPMENT

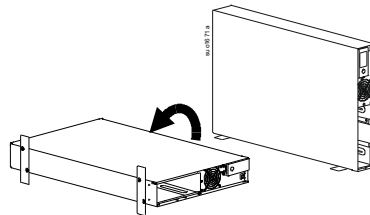
- The equipment is heavy.
- Always practice safe lifting techniques adequate for the weight of the equipment.
- Remove the battery module before installing the UPS.

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

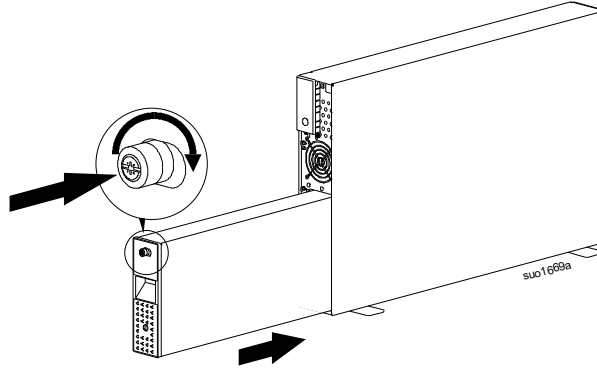
1 Install the stabilizer brackets.



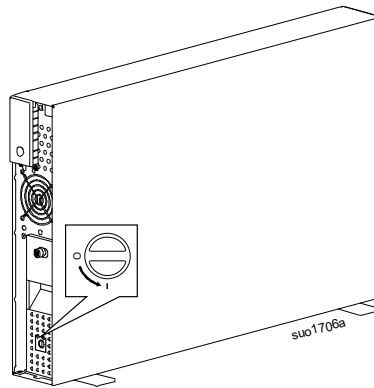
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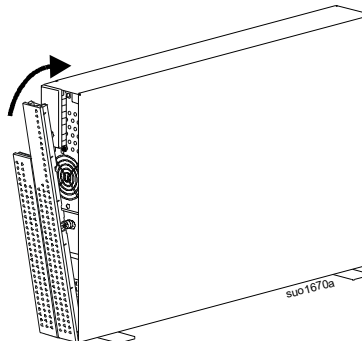
1. Slide the battery pack till it gets fully inserted into the UPS.
2. Press the thumbscrew till it engages and turn the thumbscrew clockwise to lock the battery and enable battery communication.
Note: If the thumbscrew fails to engage, then push the battery pack further into the UPS till it gets fully inserted.



4. Rotate the BATTERY ON/OFF switch in counter clockwise direction to turn on the battery pack.



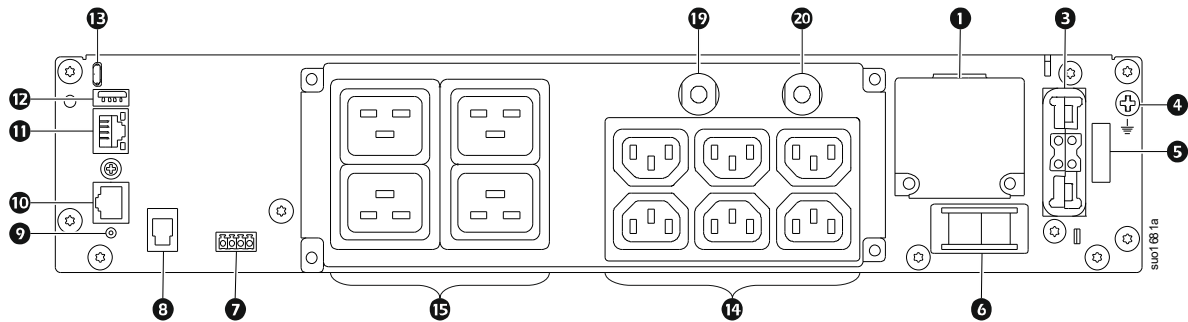
5. Install the bezel. For instructions to install the bezel, refer to “Install the bezel.” on page 9.



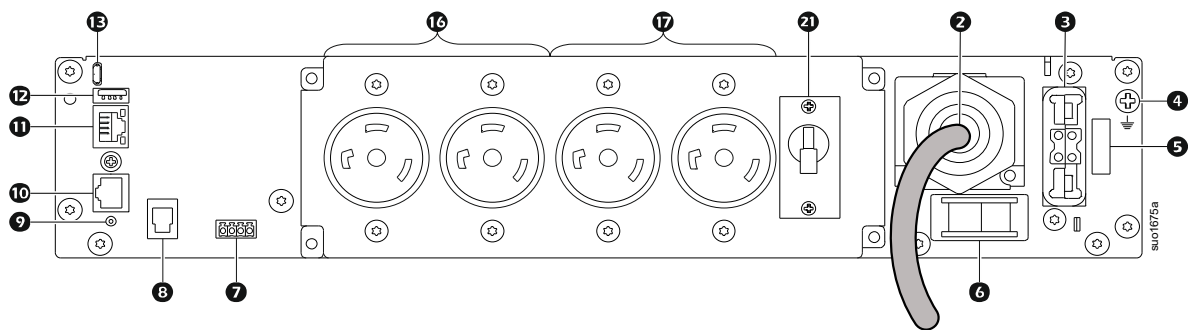
Rear Panel Features

NOTE: Refer to the table “Key to identify rear panel features” on page 11, that provides a key to the callout numbers for the rear panel graphics depicted in this manual.

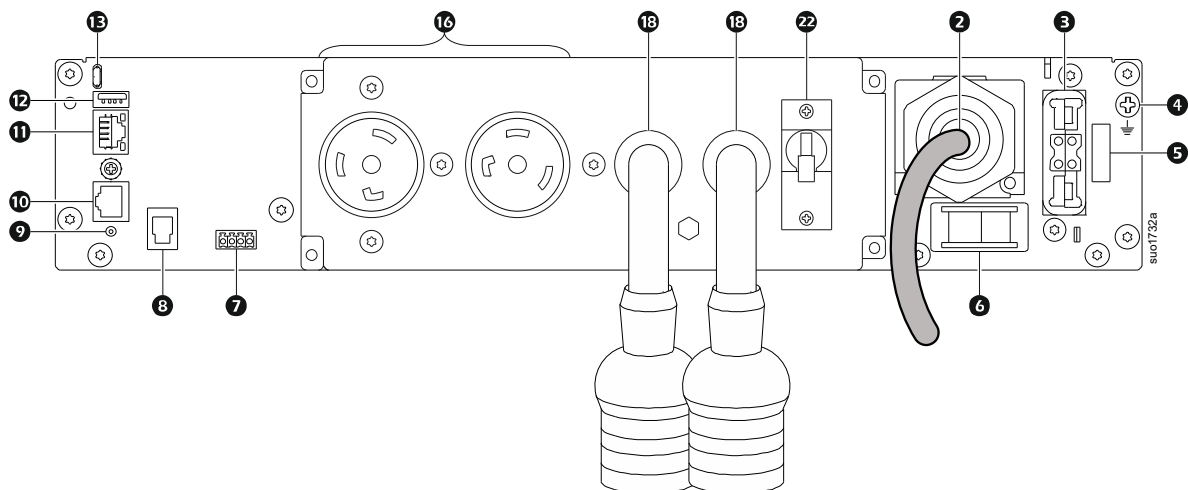
SRTL5KRM2UI



SRTL5KRM2UT



SRTL5KRM2UJ



NOTE: The above illustration is only for reference. The actual location of the rear panel features may vary depending on the model.

Key to identify rear panel features

1	Hardwire input terminal box	Hardwire the mains input.
2	AC input power cord	Connect the power cord to AC Mains.
3	External battery pack receptacle	Connect external battery pack(s) for extended run time. The UPS will automatically recognize up to 10 external battery packs.
4	Chassis ground	For ground connection of the XLBP.
5	Safety Interlock Switch	Battery Enable/Disable switch

⑥	System Enable Switch	System Enable/Disable switch.
⑦	EPO terminal	Emergency Power Off (EPO) terminal allows the user to connect the UPS to a central EPO system.
⑧	External battery pack communication port	Communication between XLBP and UPS.
⑨	RESET switch	Use this switch to reset network management interface.
⑩	Universal I/O port	Use to connect: <ul style="list-style-type: none"> • Temperature sensor AP9335T (supplied) • Temperature/humidity sensor AP9335TH (not supplied) • Relay input/output board AP9810 (not supplied).
⑪	Network port	Use the Network port to connect the UPS to the network. NOTE: Use a shielded cable for this connection.
⑫	Host USB port	For a USB Flash Drive.
⑬	Console port	Use the Console port to configure the network management features.
⑭	IEC C13 outlets	Connect electronic devices to these outlets.
⑮	IEC C19 outlets	
⑯	L6-30R outlets	
⑰	L6-20R outlets	
⑱	Pigtail with L6-20R outlets	
⑲	16 A output circuit breaker for IEC C19 outlets	Protects outlets in the event an overload condition occurs. Connected load should be lower than the circuit breaker capacity.
⑳	10 A output circuit breaker for IEC C13 outlets	
㉑	20 A output circuit breaker for L6-20R outlets	
㉒	20 A output circuit breaker for pigtail with L6-20R outlets	

Wiring Specifications

⚠ CAUTION

RISK OF ELECTRIC SHOCK

- Adhere to all national and local electrical codes.
- Wiring should be performed by a qualified electrician.
- Use snap-In strain relief(s).
- 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.

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

Input connections	Wire to L1, L2/N, 
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System	Input Voltage	Nominal input current	External input circuit breaker, (typical)	Wire size, typical
SRTL5KRM2UI	220/230/240 V	27 A	40 A / 2-pole	6 mm ²
SRTL5KRM2UT	208/240 V	24 A	30 A / 2-pole	L6-30 (factory fitted)
SRTL5KRM2UJ	200 V	24 A	30 A / 2-pole	L6-30 (factory fitted)

Input Hardwiring

NOTE: Applicable only to SRTL5KRM2UI.

⚠ CAUTION

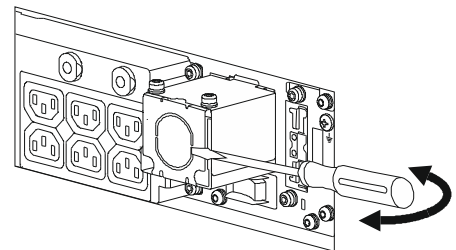
RISK OF ELECTRIC SHOCK

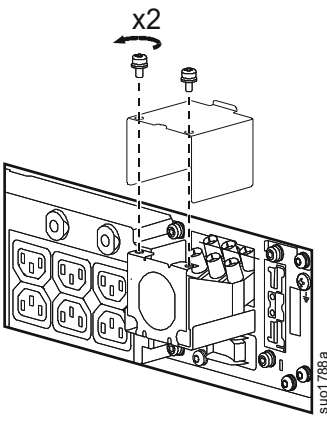
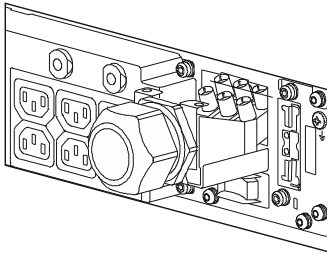
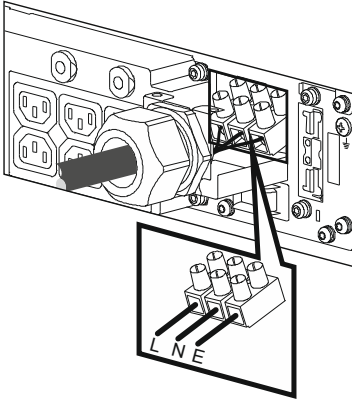
- Disconnect the mains input circuit breaker before installing or servicing the UPS.
- Disconnect internal and external batteries before installing or servicing the UPS.
- The UPS contains internal and external batteries that may present a shock hazard even when disconnected from the mains.
- UPS outlets may be energized from remote.
- Disconnect equipment from the UPS before servicing any equipment.
- Do not use the UPS as a safety disconnect.
- Use Snap-In strain reliefs.
- Recommended input terminal screw torque: 16 lbf-in (2 Nm).

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

1 Locate the hardwire input box.

2 Remove the knock out.



<p>3</p>	<p>Locate the screws securing the cover of the hardwire input box and remove the screws.</p>	
<p>4</p>	<p>Install the snap-in-strain relief on the hardwire input box.</p>	
<p>5</p>	<p>Insert the input wire through the strain relief and connect the wires securely to the input terminals.</p>	

UPS Configuration

Connect Emergency Power Off feature

For instructions on how to connect the Emergency Power Off (EPO) terminal, refer to the Operation manual.

Configure main outlets

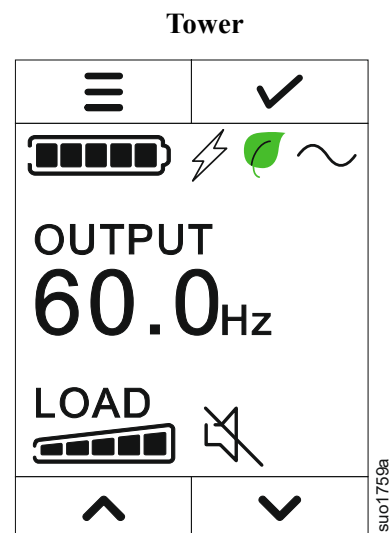
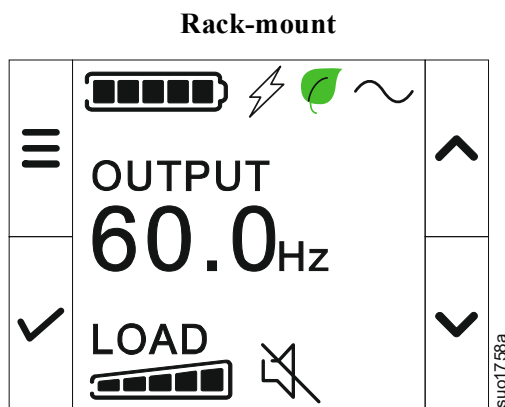
To configure the main outlet features, use the **Advanced** menus on the display interface and navigate to: **Main Menu > Configuration > Main Outlet.**

UPS Display Interface.

①	MENU key	
②	Battery status icon	
③	Battery charging icon	
④	Green mode icon	
⑤	Operation mode icon	
⑥	UP key	
⑦	UPS status information	
⑧	DOWN key	
⑨	Mute icon	
⑩	Load icon	
⑪	OK key	
⑫	POWER key with LED <ul style="list-style-type: none"> • Touch the key to wake up the UPS, when it is off state. • A short touch of the key will display the control menu. Follow the prompts on the screen to either turn the UPS <i>on/off</i> immediately or after a delay. Key illumination indications are the same as the Status LED .	
⑬	Status LED (located on the side of the UPS LCD display interface) <ul style="list-style-type: none"> • Not illuminated: UPS output is off. • Illuminates steady green: UPS is on-line mode. • Illuminates red, blinks every 2 seconds: UPS is on-line mode and battery is disconnected. • Illuminates steady amber: UPS is in battery mode. • Illuminates steady red: UPS has detected an internal error. 	

LCD display interface rotation

The orientation of the LCD display interface gets adjusted automatically based on the orientation of the UPS.



UPS Display Interface operation

The UPS display interface is a touchscreen interface.

Use the UP/DOWN keys to scroll through the options. Touch the OK key to accept the selected option. Touch the ESC key to return to the previous menu.

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 four screens listed below. Use the UP/DOWN keys to scroll through the screens.

The **Advanced** menu will scroll through the four screens automatically.

- Input Voltage
- Output Voltage
- Output Frequency
- Runtime

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

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 approximately 16% of the load capacity.
	Mute icon: Indicates the audible alarm is disabled/mute.
Operation Mode Icons	
	On-Line mode: The UPS is supplying conditioned mains power to connected equipment.
	Bypass mode: In Bypass mode, the connected equipment will receive mains power as long as the input voltage and frequency are within the configured limits.
	Green mode: In Green mode, the connected equipment will receive mains power directly. In the event of a mains power outage, there will be an interruption in power to the load (up to 10 ms) while the UPS switches to On-Line mode or Battery mode. When enabling Green mode consideration should be given to devices that may be sensitive to power fluctuations.
	Battery mode: The UPS is supplying battery power to connected equipment.
	UPS output off: The UPS is not supplying power to the connected equipment.
Battery Status Icons	
	Battery Charge Status: Indicates the battery charge status. Each illuminated bar represents approximately 16% charge.
	Battery Charge In Progress: Indicates the battery is charging.

Menu overview

The UPS 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.

UPS Battery Replacement

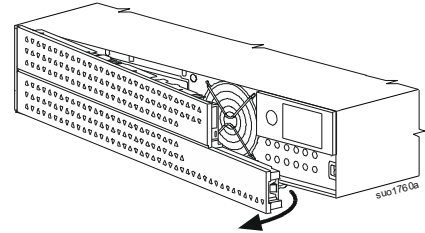
CAUTION

RISK OF DAMAGE TO EQUIPMENT OR PERSONNEL

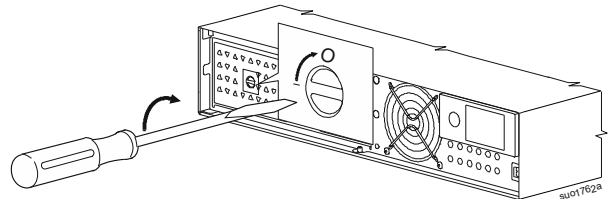
- The equipment is heavy. Always practice safe lifting techniques adequate for the weight of the equipment.
- Be sure to hold the battery module with both hands while sliding the battery module in and out.
- Adhere to all local and national electrical codes.
- Use the handle on the front face of the battery module to slide the battery modules in and out.
- Do not use the handle to lift or carry the battery module.

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

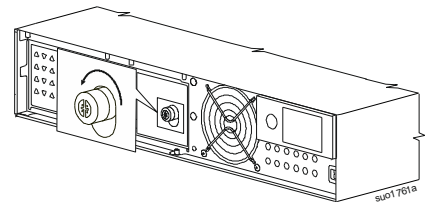
- ❶ Remove the front bezel.



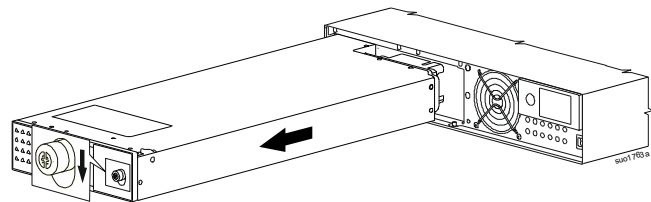
- ❷ Turn the BATTERY ON/OFF switch in clockwise direction, using a screwdriver, to switch *off* the battery.



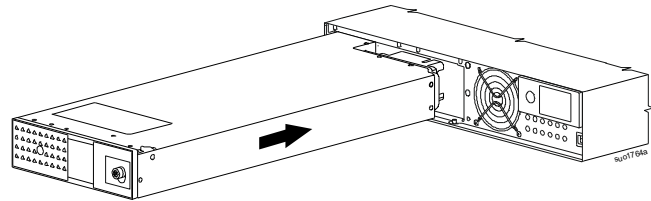
- ❸ Turn the thumbscrew in counter clockwise direction to unlock the battery module.



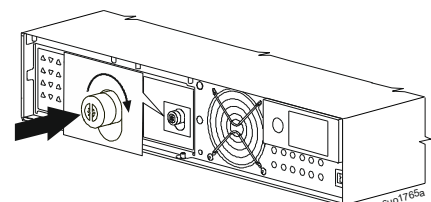
- ❹ Push down and hold the thumbscrew and slide out the battery module.
NOTE: Be sure to support the battery module with both hands while sliding out the battery module.



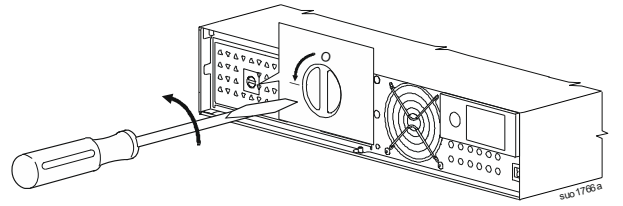
- ❺ Slide the replacement battery module into the UPS till it gets locked in position.
NOTE: Be sure to support the battery module with both hands while sliding in the battery module



- ❻ Press the thumbscrew till it engages and turn it in clockwise direction to lock the battery

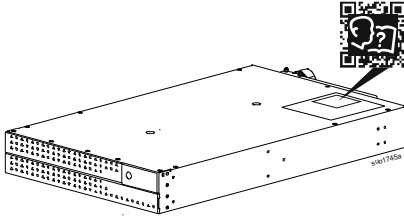


- 7 Turn the BATTERY ON/OFF switch in counter clockwise direction, using a screwdriver, to switch *on* the battery.



Location of QR Code for Operation Manual

Locate the QR code and scan it for downloading the Operation Manual



Select models are ENERGY STAR[®] qualified.

For more information on your specific model refer to our web site, www.apc.com.

Customer support and warranty information are available on our web site, www.apc.com.

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