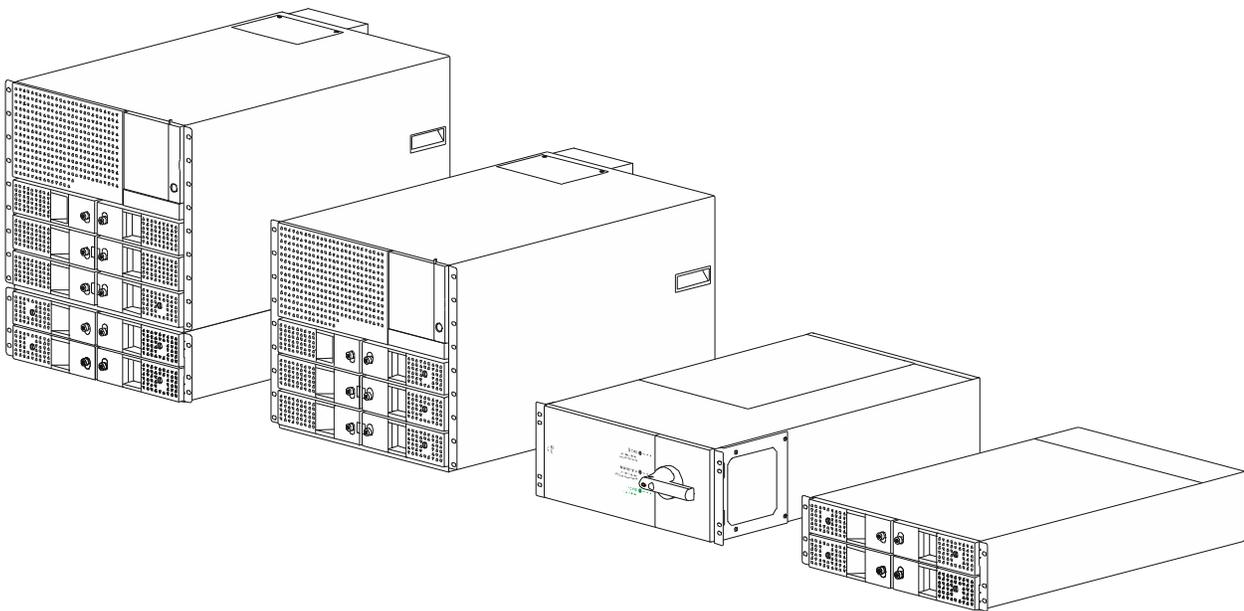


APC™ Smart-UPS™ Modular Ultra Uninterruptible Power Supply and Accessories

Safety and General Information

990-6522-003

12/2021



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Important Safety Instructions

SAVE THESE INSTRUCTIONS - This manual contains important instructions that should be followed during installation and maintenance of the APC™ Smart-UPS™ Modular Ultra series of equipment and batteries.



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

The following special messages may appear throughout this document 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 that 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

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

					
<18 kg <40 lb	18-32 kg 40-70 lb	32-55 kg 70-120 lb	>55 kg >120 lb		

Safety and General Information

- This equipment is for use in a restricted access location.
- Do not work alone under hazardous conditions.
- **Changes and modifications to this unit not expressly approved by Schneider Electric IT Corporation could void the warranty.**
- This UPS and its accessories are intended for indoor use only.

- Do not operate this unit in direct sunlight, in contact with fluids, or where there is excessive dust or humidity.
- Be sure the air vents on the UPS and the Service Bypass Unit (SBU) are not blocked. Allow adequate space for proper ventilation.
- The modules are heavy. Remove all the modules (if installed) before installing the UPS and external battery packs (XBPs), in a rack or moving the system.
- It is recommended to install XBPs at the bottom in rack-mount configurations (the UPS should be installed above the XBPs).
- It is recommended to install peripheral equipment including the SBU above the UPS in rack-mount configurations.

Electrical safety

- For models with a hardwired input, the connection to the branch circuit (mains) must be performed by a qualified electrician.
- 230 V models only: In order to maintain compliance with the EMC directive for products sold in Europe, output cords and the network cables 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 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, with or without a yellow stripe.
- The UPS input ground conductor must be properly bonded to protective earth at the service panel.
- When a SBU is installed, the AC Input ground conductor should be properly bonded to the protective earth at the service panel and the UPS input ground conductor must be properly bonded to the SBU.
- 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.

Hardwire safety

- Check that all branch circuit (mains) and low voltage (control) circuits are deenergized, and locked out before installing cables or making connections, whether in the junction box or to the UPS or to the SBU.
- Select wire size and connectors according to the rating of the UPS and the SBU, national codes, and local codes.
- Wiring must be approved by a local wiring inspector.
- 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 and the SBU hardwire terminals must be covered. Failure to do so may result in personal injury or equipment damage.

De-energizing safety

- The UPS contains internal batteries and may present a shock hazard even when disconnected from AC and DC power.
- The AC and DC output connectors may be energized by remote or automatic control at any time.
- Before installing or servicing the equipment perform the following tasks:
 - Set the *System Enable Switch* to **OFF** position.
 - Set the *Branch Circuit Breaker* to OFF position.
 - Disconnect the battery modules.

- Disconnect external battery packs if provided.
- Disconnect mains/branch circuit.

Battery safety



WARNING

RISK OF CHEMICAL HAZARD AND EXCESSIVE HEAT

- Replace the battery modules at least every 10 years, or at the end of its service life, whichever is earlier.
- Replace the battery module immediately when the UPS indicates battery replacement is necessary.
- Replace battery modules with the same number and type as originally installed in the equipment.
- Replace the battery modules immediately when the UPS indicates a battery over-temperature condition or UPS internal over-temperature. Power off the UPS, unplug it from the AC input, and disconnect the battery modules.
- Do not operate the UPS until the battery modules have been replaced.

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

- Servicing of battery modules should be performed or supervised by personnel knowledgeable about batteries and the required precautions.
- The battery module typically lasts for five to ten years. Environmental factors impact battery life. Elevated ambient temperatures, poor quality utility power, and frequent short duration discharges will shorten the life of the battery modules.
- For long performance of the battery modules, the ambient temperature should be maintained between 68 and 77 °F (20 and 25 °C).
- Replace the battery modules once they have reached the end of their service life even if the UPS has not indicated that replacement of the battery module is necessary.
- The battery modules are user replaceable. Under normal operating conditions, there is no need for replacement. If attempting to replace battery modules,
 - Use only APC battery modules.
 - Do not use third-party battery modules as replacements.
- Schneider Electric uses Lithium Ion batteries.
- Under normal use and handling, there is no contact with the internal components of the battery module.
- Do not drive nails into the battery module.
- Do not strike the battery module with a hammer.
- Do not stand on the battery module.
- Do not short circuit battery module.
- Do not place or use the battery module near heat or fire.
- Do not use a dropped, damaged or deformed battery module.
- Do not use the battery module to power other equipment.
- CAUTION: A battery module can present a risk of electrical shock and high short-circuit current. Contact with any part of a grounded battery can result in electrical shock.
- CAUTION: Before installing or replacing the battery modules, remove conductive jewelry such as chains, wrist watches and rings. High energy through conductive materials could cause severe burns.
- CAUTION: Do not dispose off the battery module in a fire. The battery module may explode.

- CAUTION: Do not open or tamper with the enclosure of the battery module. Doing so will expose the cell terminals which pose an energy hazard.
- CAUTION: Failed battery modules can reach temperatures that exceed the burn thresholds for touchable surfaces.

General information

- The model and serial numbers are located on a small labels:
 - Located behind the front bezel on the left of the chassis (frame).
 - Located on the back top left corner of the chassis.
- **Always recycle used batteries.**
- Recycle the package materials or save them for reuse.

Installation

 **DANGER****RISK OF ELECTRIC SHOCK**

- Adhere to all national and local electrical codes.
- Wiring must be performed by a qualified electrician.
- Read and follow all safety and installation instructions in this manual.
- Be sure that either the Power Distribution Unit (PDU) or the PDU blanking panel is positioned correctly and secured before connecting the unit to AC Mains.
- SYCC, XRCC and AC Tray should be replaced by service personnel only.

Failure to follow these instructions will result in equipment damage, personal injury or death.

 **CAUTION****RISK OF ELECTRIC SHOCK**

- Switch off the electrical panel circuit breaker before installing or servicing the unit or connected equipment.
- Disconnect equipment from the unit before servicing any equipment.
- The AC and DC output connectors may be energized by remote or automatic control at any time.
- Do not use the UPS as a safety disconnect.

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

 **CAUTION****RISK OF DROPPED OR FALLING EQUIPMENT**

- The equipment is heavy. Practice correct lifting techniques adequate for the weight of the equipment.
- Two people should lift the frame and slide it into the rack.
- Place the rack in the location where the equipment will be used.
- Secure the frame in the rack before installing the power modules and the battery modules.
- Do not move the rack once the frame is secured.
- Install the power modules at the top of the frame.
- Install the battery modules below the power modules.

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

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EN 990-6522-003