

APC™ UPS with Lead-Acid batteries

Important UPS Safety Information - SAVE THIS GUIDE







This Safety Guide contains important instructions that should be followed during installation and maintenance of APC UPS and batteries.

It is intended for customers who setup, install, relocate, or maintain APC UPS.

Read, understand, and follow ALL safety instructions contained in this Safety Guide. Failure to follow safety instructions and warnings could result in equipment damage, serious injury, or death.

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

Product Handling Guidelines

 <18 kg <40 lb	 18-32 kg 40-70 lb	 32-55 kg 70-120 lb	 >55 kg >120 lb		
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- Adhere to all national and local electrical codes and select wires sizes and connectors accordingly.
- Do not work alone under hazardous conditions.
- This equipment is for use in a restricted access location.
- All input and output wiring must be done by a qualified electrician.
- 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.
- This UPS contains no user serviceable parts. Some UPS models have user replaceable internal batteries.
- For a UPS with a factory installed power cord, connect the plug directly to a wall outlet. Do not use surge protectors or extension cords.
- The UPS input power cord shall be connected to an earthed mains outlet for safety reasons.
- Always practice safe lifting techniques adequate for the weight of the equipment.
- The batteries are heavy. Remove them 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.

Electrical Safety

- Do not handle any metallic connector before power has been disconnected.
- To comply with EMC regulations, wherever applicable, output cords and network cables attached to the UPS must not exceed 10 meters in length.
- Leakage current for a pluggable, Type A UPS may exceed 3.5 mA when a separate ground terminal is used.
- The protective earth conductor carries the leakage current from the connected equipment. An insulated ground conductor of the same size and insulation as the other supply conductors is to be installed as part of the branch circuit. This ground conductor is typically green in color, with or without a yellow stripe.
- If provided, connect the ground cable between the external battery pack and the UPS.
- 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.
- Do not insert any metal object through any opening in the UPS or any connector.

Hardwire safety

- Check 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.
- 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.

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.

Electrical equipment should be installed, operated, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction, installation, and operation of electrical equipment and has received safety training to recognize and avoid the hazards involved.

- Before installing or servicing the equipment be sure that the:
 - Input circuit breaker is in the **OFF** position.
 - Internal UPS batteries are removed.
 - XLBP battery modules, if any are disconnected.

Battery Safety

WARNING

RISK OF HYDROGEN SULPHIDE GAS, EXCESSIVE SMOKE AND FIRE

- Replace the battery at least every 5 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 number and type of batteries as originally installed in the equipment.
- Replace the battery immediately when:
 - The UPS indicates a battery over-temperature condition
 - There is evidence of electrolyte leakage
 - The UPS indicates any battery related alarm on the battery near the end of its service life

For any of these conditions, 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) that are older than one year, when installing additional battery packs or replacing the battery module(s).

Failure to follow these instructions can result in death, or serious injury and equipment damage.

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

- Servicing of batteries should be performed or supervised by personnel knowledgeable about batteries and required precautions.
- 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.
- Schneider Electric uses Maintenance-Free sealed Lead Acid batteries that normally prevent contact with the internal components. Over-charging, over-heating or other misuse of batteries can result in a discharge of toxic electrolyte that may be harmful to the skin and eyes.
- **CAUTION:** A battery can present a risk of electrical shock and high short-circuit current. The following precautions should be observed when installing or replacing batteries:
 - Disconnect the charging source prior to connecting or disconnecting terminals.
 - Do not wear any metal or conductive items such as wrist watches, rings, and chains. High energy through metal or conductive materials can cause severe burns.
 - Do not lay tools or metal parts on top of batteries.
 - Wear rubber gloves and boots. Use tools with insulated handles.
- **CAUTION:** Do not dispose off 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.
- Determine if the battery is either intentionally or inadvertently grounded. Contact with any part of a grounded battery can result in electric shock and burns by high short-circuit current. The risk of such hazards can be reduced if grounds are removed during installation and maintenance by a qualified person.

General information

- The UPS will recognize external battery packs (XLBP) connected to the UPS. Refer to the UPS user documentation for details.
- The model and serial numbers are located on a label located in the rear panel of the UPS. For some models, an additional label is located on the chassis behind the front bezel.
- Always recycle used batteries. Recycle the package materials or save them for reuse.
- This Safety Guide can be downloaded from Schneider Electric Website, www.se.com.