



by Schneider Electric

SMF Battery

Installation, Maintenance and Warranty

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The APC® by Schneider Electric SMF Battery is optimized for maximum performance when used with an APC home UPS. The battery can also be used for all standby power applications.

Installation

Use one battery for 12 V requirement and two batteries for 24 V requirement.

Use series-parallel connection for higher load requirement.

Maintenance

Follow the instructions to maintain the battery in a proper working condition:

1. Charge the battery after use. Sulphate build-up occurs on the battery plates if the battery is left in a discharged state.
2. Keep the battery top and battery terminals clean and dry. Apply petroleum jelly to avoid corrosion of terminals.
3. Recharge the battery for a minimum of 10 hours after prolonged use.
4. Keep the battery clean and dry.
5. Ensure proper cables are used to carry the required current.
6. Tighten all connections.
7. Recommended preventive maintenance must be performed at least once in 3 months as per the process mentioned in this handbook. See “Recommended Preventive Maintenance”.
8. Maintain proper records of all the readings taken during each preventive maintenance activity. Failure to produce the maintenance record will be treated as failure to perform manufacturer maintenance recommendations. The warranty claim, under such circumstances, will be honoured at the sole discretion of APC.
9. Failure to do regular preventive maintenance can result in lower battery performance and ultimately lower the battery life. This will affect the warranty. See “Warranty Conditions”.

Important Notification

The notification by the Government of India with regard to the handling of a battery states the following:

1. It shall be the responsibility of the customer to ensure that the used battery is not disposed of in any manner other than depositing with the dealer, manufacturer, re-conditioner or at the designated collection centers.

2. Do not discard the battery in a trash can or give/sell to an unauthorized person.
3. It is mandatory for our authorised dealers to accept a used battery and provide a corresponding rebate on purchase of a new battery.
4. Please note that violations of these guidelines may lead to legal Action/Prosecution by the Government Authorities.



Warranty Period

Rating	Period (from date of purchase)
7 Ah	6 months
12 / 18 / 26 / 42 / 65 / 100 / 120 / 150 / 200 Ah	12 months

Warranty Conditions

The warranty is null and void if after shipment it is determined that the battery has been modified, reworked, repaired or not properly stored/maintained in a manner specified by the manufacturer. The warranty is not applicable in cases where the battery is undersized for capacity, over cycled for the application, abused, physically damaged and/or used in extreme temperatures. It may be noted that the Sealed Maintenance Free Battery has a finite life which is governed by charge/discharge cycles and temperatures. These cycles may get consumed within the warranty period (due to excessive use/abuse) and the right to extend warranty on such a battery will rest with APC.

Customer must adhere to the following operating conditions to claim warranty:

- The warranty period shall be adjusted based on the actual operating conditions such as temperature and frequency of discharge as per the specifications on the battery data sheet. The warranty period will reduce by 50% for every 8°C increase in the operating temperature above 25°C (base temperature).
- Use the correct capacity charger corresponding to the battery capacity for charging.
- Charge the battery after every discharge.
- Warranty is null and void if the defects are due to faulty electrical systems, incorrect charging or improper handling of the battery by unauthorized personnel.

- Bulging of the battery, physical abnormality of the battery, container and cover breakage are not considered as manufacturing defects and therefore do not come under the scope of the warranty.
- In case of replacement the defective battery becomes the property of the company and scarp rebate will not be provided.
- Parallel strings of batteries are not recommended unless specifically agreed upon. Incidents of fire due to loose connections, external short circuits, use of non-standard interlinking cables, etc., are not covered under the purview of the warranty.
- The company reserves the right to determine whether the battery needs to be repaired or replaced.
- Adjudication and settlement of the warranty claim may take time as the battery has to be tested for the reported failure.
- Octroi duty and/or local taxes, if any, on the battery, either for replacement or repair, has to be borne by the customer. Recharging is not covered under the purview of this warranty and will be charged.
- Customers are deemed to have read, understood and agreed to these conditions at the time of purchase.
- The warranty is issued subject to the jurisdiction of civil courts in Bangalore.
- The serial number on the battery should match with the serial number on the warranty card in order to accept claim for adjudication.
- Representative from APC must be given access to the battery and its maintenance records, during regular business hours for the warranty to be respected.
- Warranty is null and void if the battery is not used with APC UPS and Inverter.

This warranty is in lieu of all warranties, expressed or implied. The user shall indemnify and hold American Power Conversion (India) Private Ltd. harmless from any claims arising out of use, maintenance, transportation or installation of any equipment warranted herein.

American Power Conversion (India) Private Ltd. makes no warranty or merchantability or fitness for a particular purpose and in no event shall American Power Conversion (India) Private Ltd. be liable for special, indirect, punitive or consequential damages. Any liability will be limited to the purchase price of the product.

This warranty is offered to the original user and the location specified in the supply invoice for the battery and is not transferable.

Safety

The electrolyte in the battery is harmful. Follow the instruction if there is a contact of electrolyte:

- Contact with cloth: Treat with soap and water. Rinse the cloth with large quantity of water before drying.
- Contact with eyes: Splash clean running water continuously for 5 minutes and then immediately consult a doctor.
- Contact with skin: Rinse continuously for about 5 minutes in clean running water. Consult a doctor if necessary.

Recommended Preventive Maintenance

1. Visual Checks:
 - a. Check for any crack/damage, corrosion of battery terminals, acid leakage/ terminal damage. All batteries must be free of any cracks, damages, corrosion of terminals and leakages.
 - b. Check the tightness of inter-cell connectors; check for loose connections, if any, and the quality of fasteners.
 - c. Check all the parallel strings for the uniformity of the inter-cell connectors used. Cable size and length of inter-cell connectors must be the same for all the battery strings.
 - d. Verify that the installation of the batteries is in a clean, dust free and dry place with a minimum of 10 mm gap between 2 batteries.
2. Check the voltage of each cell/battery in a string. The total String Voltage - End Cell Voltage is 10.5 V.
3. Charging Current and Voltage Measurement:
 - a. Float Voltage Setting: 13.6-13.8 V
 - b. Boost Voltage Setting: 14.4-14.7 V
 - c. Current setting: 10% - 25% of the rated capacity

4. Check the battery internal resistance value using HIOKI Meter. Following are recommended values:

Model	Internal Resistance Value
12 V, 7 Ah	28 milliohms
12 V, 12 Ah	17 milliohms
12 V, 18 Ah	16 milliohms
12 V, 26 Ah	12 milliohms
12 V, 42 Ah	9.5 milliohms
12 V, 65 Ah	6 milliohms
12 V, 100 Ah	4.4 milliohms
12 V, 120 Ah	4.2 milliohms
12 V, 150 Ah	3.7 milliohms
12 V, 200 Ah	3 milliohms

5. Conduct the Battery Discharge Test (offline test) to check the state of health of the battery. At the end of the test the cell voltage must be 10.5 V.
6. Check the ambient temperature of the battery and the battery surface temperature using a Temperature Gun. The battery will perform best at 25°C. Higher surface temperature will reduce the life of the battery at the rate of 50% lower life for every 10°C raise in the temperature.
7. Ripple Current and Voltage Measurement: 2% of the rated voltage.



Warranty Registration for SMF Battery

Customer Copy

(To be filled by the Dealer at the time of sale and retained by customer)

1. Customer's Name & Address: _____

2. UPS Type and Model: _____
3. Battery Serial number: _____
4. Date of sale: _____
5. Date of Installation of Battery (If different from date of sale): _____
6. Dealer's Name, Address, Signature & Seal: _____



Warranty Registration for SMF Battery

(To be filled by the Dealer at the time of sale and posted back to APC in enclosed envelope)

1. Customer's Name & Address: _____

2. UPS Type and Model: _____
3. Battery Serial number: _____
4. Date of sale: _____
5. Date of Installation of Battery (If different from date of sale): _____
6. Dealer's Name, Address, Signature & Seal: _____

