

## User Manual Smart-UPS™ SUA750I-IND

### Important Safety Information

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 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

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

Read the Safety Guide supplied with this unit before installing the UPS.

- 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 could void the warranty.
- This UPS is for indoor use only.
- Do not operate this UPS in direct sunlight, in contact with fluids, or where there is excessive dust or high humidity.
- Do not operate the UPS near open windows or doors.
- Be sure the air vents on the UPS are not blocked. Allow adequate space for proper ventilation.  
**Note:** Allow 20 cm clearance on both front and rear sides of the UPS.
- The equipment is heavy. Always practice safe lifting techniques adequate for the weight of the equipment.
- The battery typically lasts for two to three years. Environmental factors impact battery life. Elevated ambient temperatures, poor quality AC power, and frequent short duration discharges will shorten battery life.
- Connect the Smart-UPS power cable directly to a wall outlet. Do not use surge protectors or extension cords.
- Do not switch off the utility power to the UPS. Use the UPS on/off switch in the front panel to switch on/off the power to the connected loads.

## Radio Frequency Warning

This is a Class A product. In a domestic environment this product may cause radio interference, in which case the user may be required to take corrective actions.

# Product Description

The APC by Schneider Electric Smart-UPS™ is a high performance uninterruptible power supply (UPS). The UPS helps to provide protection for electronic equipment from utility power blackouts, brownouts, sags, surges, small utility power fluctuations and large disturbances. The UPS also provides battery backup power for connected equipment until utility power returns to acceptable levels or the batteries are completely discharged.

This user manual is available on the APC by Schneider Electric web site, [www.apc.com](http://www.apc.com).

# Package Contents

**Note:** The UPS is shipped with the battery disconnected.

- UPS
- UPS literature kit containing:
  - Product Documentation
  - Safety Information
  - Warranty Information
- **UPS literature kit additional contents:**
  - Serial cable
  - USB communication cable
  - Input power cord
  - Output power cord

# Installation

The UPS is heavy. Select a location sturdy enough to handle the weight.

## NOTICE

### RISK OF EQUIPMENT DAMAGE

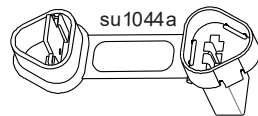
- UPS must be used indoors only.
- The installation location should be sturdy to withstand the weight of the UPS.
- Do not operate UPS where there is a excessive dust or where the temperature or humidity are outside specified limits.

**Failure to follow these instructions can result in equipment damage.**

# Connect Battery

The battery connector is located on the rear panel.

For battery connection, push the tethered jumper plug into the corresponding port.



# Start Up

## Connect equipment and power to the UPS



### CAUTION

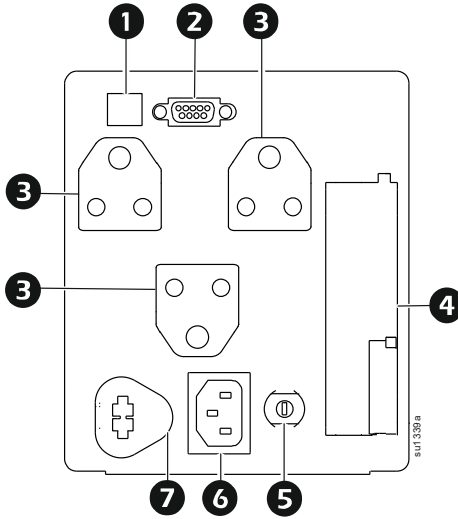
#### HAZARD OF ELECTRIC SHOCK

- All electrical work must be performed by a qualified electrician.
- Turn off all power to this equipment before working on the equipment.
- Practice lockout/tagout procedures.
- Do not wear jewelry when working with electrical equipment.

**Failure to follow these instructions can result in personal injury and equipment damage.**

1. Connect equipment to the UPS.  
**Note:** A laser printer draws significantly more power than other types of equipment and may overload the UPS.
2. Add accessories to the SmartSlot (optional).
3. Connect ground leads to the TVSS screw (optional). To make the connection, loosen the screw and connect the surge suppression device ground lead. Tighten the screw to secure the lead.
4. Plug the UPS into a two-pole, three-wire, grounded receptacle only.  
Do not use extension cords.  
The power cord is supplied in the UPS literature kit.
5. Turn on all connected equipment. To use the UPS as a master on/off switch, be sure all connected equipment is on.
6. Press the POWER ON / SELF TEST button on the front panel to power the UPS.  
**Note:** The battery charges to 90% capacity during the first four hours of normal operation. Do not expect full battery run capability during this initial charge period.
7. For optimal computer system security, install PowerChute Smart-UPS monitoring software.

# Rear Panel Features



1	USB	The USB port is used to connect either a server for native operating system communications, or for software to communicate with the UPS.
2	Serial Port	The Serial Com port is used to communicate with the UPS. <b>Use only interface kits supplied or approved by APC by Schneider Electric. Any other serial interface cable will be incompatible with the UPS connector.</b>
3	Battery Backup Outlets	These outlets help to provide battery backup power to the connected equipment for a limited period of time during power outages and voltage fluctuations. These outlets provide battery power to connected equipment only when the Smart-UPS is turned on.
4	SmartSlot	The SmartSlot can be used to connect optional management accessories.
5	Input Circuit Breaker	Press to reset in case the unit trips due to any overload condition.
6	AC Inlet	Connect the UPS to utility power supply.
7	Battery Connector	To connect /disconnect the internal battery without opening the unit.

**Note:** Use only the supplied cable to connect to the Serial Port. A standard serial interface cable is incompatible with the UPS. Serial and USB Ports cannot be used simultaneously.

# Basic Connectors

- Use only interface kits approved by APC.
- The UPS features a ground screw for connecting the ground lead on surge suppression devices such as telephone and network line protectors. When connecting grounding cable, disconnect the unit from the utility power outlet.

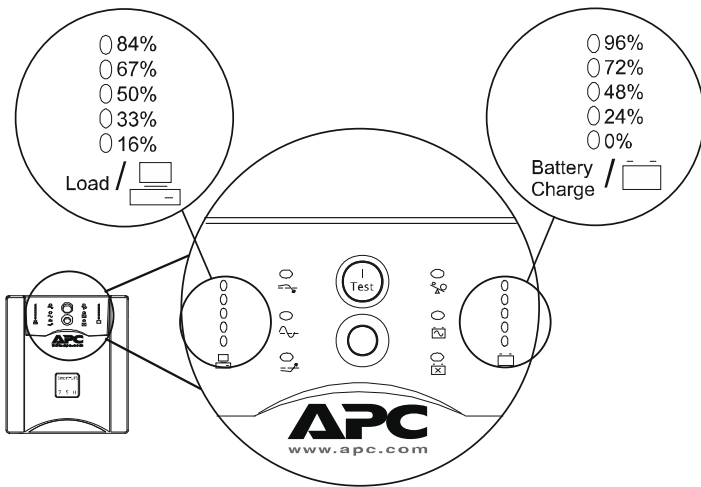
# PowerChute™ Personal Edition Software







To install PCPE, connect the supplied USB cable between the data port on the UPS and to a computer with access to the Web.





On the computer, go to [www.apc.com/tools/download](http://www.apc.com/tools/download). Select Software Upgrades - PowerChute.


# Operation

## Front display panel



Indicator LED	Indicator	Description
	On Line	The UPS is supplying utility power to the connected equipment.
	AVR Trim	The UPS is compensating for a high utility voltage.
	AVR Boost	The UPS is compensating for a low utility voltage.
	On Battery	The UPS is supplying battery power to the connected equipment.
	Overload	The connected loads are drawing more than the UPS power rating.
	Replace Battery/ Battery Disconnected	The battery is disconnected or must be replaced.

Indicator	Feature	Function
	POWER ON / SELF TEST	Press this button to turn on the UPS. (Read on for additional capabilities.)
	POWER OFF	Press this button to turn off the UPS.
	Self test	<b>Automatic:</b> The UPS performs a self-test automatically when turned on, and every two weeks thereafter (by default). During the self-test, the UPS briefly operates the connected equipment on battery. <b>Manual:</b> Press and hold the POWER ON / SELF TEST button for a few seconds to initiate the self-test.
	Cold Start	Supply battery power to the UPS and connected equipment in the absence of utility voltage (see “Troubleshooting” on page 13). Press the POWER ON / SELF TEST button for one second and release. The UPS will beep briefly and go quiet. Press and hold the button again, but for approximately three seconds. The unit will emit a sustained beep. Release the button during this beep.

Indicator	Feature	Function
230V 0 266 0 248 0 229 0 210 0 191 	Diagnostic Utility Voltage	<p>The UPS has a diagnostic feature that displays the utility voltage. The UPS starts a self-test as part of this procedure. The self-test does not affect the voltage display.</p> <p>Press and hold the POWER ON / SELF TEST button to view the utility voltage bar graph display. After a few seconds, this five-LED battery charge display on the right of the front panel will show the utility input voltage.</p> <p>Refer to the figure on left side for the voltage reading (values are not listed on the UPS).</p> <p>The display indicates the voltage is between the displayed value on the list and the next higher value (see “Troubleshooting” on page 13).</p>

## Battery operation

The UPS switches to battery operation automatically if the utility power is not available. While running on battery, an audible alarm beeps four times every 30 seconds.

Press the POWER ON / SELF TEST button to mute this audible alarm. If the utility power does not return, the UPS continues to supply power to the connected equipment until the battery is fully discharged.

If PowerChute is not being used, files must be manually saved and the computer must be turned off before the UPS fully discharges the battery.

Refer to APC by Schneider Electric web site, [www.apc.com](http://www.apc.com) for on battery runtime.

## User Configurable Items

Function	Factory Default	User Selectable Choices	Description
Automatic Self-Test	Every 14 days (336 hours)	Every 7 days (168 hours), On Startup Only, No Self-Test	Set the interval at which the UPS will execute a self-test.
UPS ID	UPS_IDEN	Up to eight characters (alphanumeric)	Uniquely identify the UPS, (i.e. server name or location) for network management purposes.
Date of Last Battery Replacement	Manufacture Date	mm/dd/yy	Reset this date when you replace the battery module.

Function	Factory Default	User Selectable Choices	Description
Minimum Capacity Before Return from Shutdown	0 percent	0, 15, 30, 45, 50, 60, 75, 90 percent	Specify the percentage to which batteries will be charged following a low-battery shutdown before powering connected equipment.
Voltage Sensitivity  The UPS detects and reacts to line voltage distortions by transferring to battery operation to protect connected equipment.	High	High sensitivity, Medium sensitivity, Low sensitivity	<b>Note:</b> In situations of poor power quality, the UPS may frequently transfer to battery operation. If the connected equipment can operate normally under such conditions, reduce the sensitivity setting to conserve battery capacity and service life.
Alarm Delay Control	Enable	Enable, Mute, Disable	Mute ongoing audible alarms or disable all audible alarms permanently.
Shutdown Delay	90 seconds	0, 90, 180, 270, 360, 450, 540, 630 seconds	Set the interval between the time when the UPS receives a shutdown command and the actual shutdown.
Low Battery Alert	2 minutes PowerChute software provides automatic, unattended shutdown when approximately 2 minutes of battery operated runtime remains.	2, 5, 8, 11, 14, 17, 20, 23 minutes (Times are approximate.)	The UPS will beep when 2 minutes of battery runtime remains. Change the low battery alert interval setting to the time that the operating system or system software requires to shut down.
Synchronized Turn-on Delay	0 seconds	0, 60, 120, 180, 240, 300, 360, 420 seconds	Specify the time the UPS will wait after the return of utility power before turn-on (to avoid branch circuit overload).

Function	Factory Default	User Selectable Choices	Description
High Transfer Point	253 Vac	253, 257, 261, 265 Vac	Set the high transfer point higher to avoid unnecessary battery usage when the utility voltage is usually high and the connected equipment is specified to operate with input voltages this high.
Low Transfer Point	208 Vac	196, 200, 204, 208 Vac	Set the low transfer point lower when the utility voltage is usually low and the connected equipment is specified to operate with input voltages this low.
Output Voltage	230 Vac	220, 230, 240 Vac	Select the output voltage.

**Note:** Settings are adjusted through PowerChute software or optional SmartSlot accessory cards.

## Storage, Maintenance, and Shipping

### Storage

Store the UPS in a cool, dry location, with the battery fully charged.

At -15 to +30 °C (+5 to +86 °F), charge the UPS battery every six months.

At +30 to +45 °C (+86 to +113 °F), charge the UPS battery every three months.

### Battery module maintenance

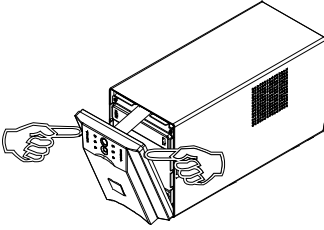
The UPS battery life differs based on usage and environment. Consider replacing the battery every five years.

This UPS has an easy to replace, swappable battery. See your dealer or contact APC by Schneider Electric web site, [www.apc.com](http://www.apc.com) for information on replacement batteries.

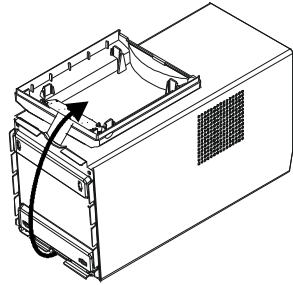
**Note:** Upon battery disconnection, equipment is not protected from power outages.

# Removing the Front Bezel and Battery Module

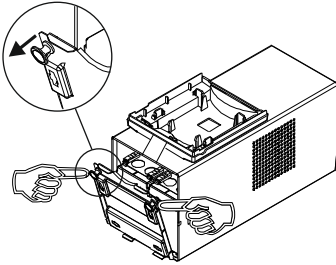
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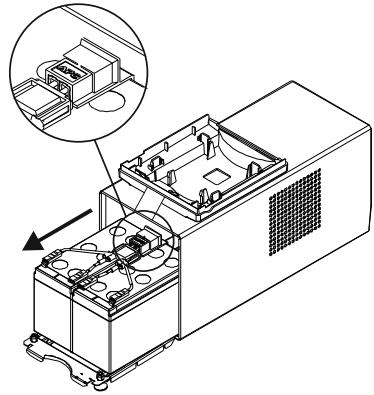
2



3



4



# Replacing the Battery Module

## CAUTION

### 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 condition, 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.**

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

Reverse the instructions for removing the front bezel and battery module.

**Note:** To close the battery door, ensure the plungers are in the extended position, push the door shut, and push the plungers into the locked position.



Be sure to deliver the spent battery to a recycling facility or ship it to APC in the replacement battery packing material.

# Shipping

1. Shut down and disconnect any equipment attached to the UPS.
2. Shut down the UPS, and disconnect the UPS from the utility power outlet.
3. Unplug the battery connector, located on the rear panel.  
For further shipping instructions and to obtain appropriate packing materials, contact APC by Schneider Electric web site, [www.apc.com](http://www.apc.com).

# Troubleshooting

Use the chart below to solve minor UPS installation and operation problems. Refer to Schneider Electric web site, [www.apc.com](http://www.apc.com) for complex UPS problems.

Problem and/or Possible Cause	Solution
<b>UPS will not turn on</b>	
UPS not connected to utility power supply.	Check that the power cord from the UPS to the utility power supply is securely connected at both ends.
Battery not connected properly.	Check that battery connector on the rear panel is fully snapped into position.
Very low or no utility voltage.	Check the utility power supply to the UPS by plugging in a table lamp. If the light is very dim, have the utility voltage checked.
<b>UPS will not turn off</b>	
UPS has detected an internal fault.	Do not attempt to use the UPS. Unplug the UPS, unplug the battery connector on the rear panel, and have it serviced immediately.
<b>UPS beeps occasionally</b>	
Normal operating UPS beeps when running on battery.	None. The UPS is protecting the connected equipment from occasional utility power irregularities.
<b>UPS is not providing expected backup time</b>	
The UPS battery is weak due to a recent outage or is near the end of the service life.	Charge the battery. Batteries require recharging after extended outages, and wear faster when frequently put into service or when operated at elevated temperatures. If the battery is near the end of the service life, consider replacing even if the <b>replace battery</b> LED is not illuminated.

Problem and/or Possible Cause	Solution
<b>Left half, right half, or center section of front panel LEDs are flashing</b>	
UPS has detected an internal fault. The UPS has shut down.	Do not attempt to use the UPS. Turn off the UPS, unplug the battery connector on the rear panel, and have it serviced immediately.
<b>Front panel LEDs flash sequentially</b>	
The UPS has been shut down remotely through software or an optional accessory card.	None. The UPS will restart automatically when utility power returns.
<b>All LEDs are off and the UPS is plugged into a wall outlet</b>	
The UPS is shut down or the battery is discharged from an extended outage.	None. The UPS will return to normal operation when the power is restored and the battery has a sufficient charge.
<b>The input circuit breaker has tripped</b>	
The UPS is overloaded. The plunger on the circuit breaker has popped out.	Reduce the load on the UPS by unplugging equipment. Press in the plunger on the circuit breaker.
<b>The AVR boost or AVR trim LEDs are illuminated</b>	
The system is experiencing voltage out of the acceptable range.	Seek qualified service personnel to check your facility for electrical problems. If the problem continues, contact the utility company for further assistance.
<b>The overload LED is illuminated and the UPS emits a sustained audible alarm tone</b>	
The UPS is overloaded. The connected equipment is drawing more VA than the UPS can sustain.	<p>The connected equipment exceeds the specified “maximum load”.</p> <p>The audible alarm remains on until the overload is removed. Disconnect nonessential equipment from the UPS to eliminate the overload.</p> <p>The UPS continues to supply power as long as it is online and the circuit breaker does not trip; the UPS will not provide power from batteries in the event of a utility voltage interruption. If a continuous overload occurs while the UPS is on battery, the unit turns off output in order to help to protect the UPS from possible damage.</p>

Problem and/or Possible Cause	Solution
<b>The replace battery/battery disconnected LED is illuminated</b>	
This LED flashes and a short beep is emitted every two seconds to indicate the battery is disconnected.	Check that the battery connector on the rear panel is fully engaged.
Weak battery.	Allow the battery to recharge for 24 hours. Then, perform a self-test. If the problem persists after recharging, replace the battery.
Battery self-test has not passed.	The UPS emits short beeps for one minute and the <b>replace battery</b> LED illuminates. The UPS repeats the audible alarm every five hours. Perform the self-test procedure after the battery has charged for 24 hours to confirm the replace battery condition. The audible alarm stops and the LED clears if the battery passes the self-test.
<b>UPS operates on battery although utility voltage exists</b>	
The UPS input circuit breaker has tripped.	To reduce the load on the UPS, unplug equipment and press in the plunger on the circuit breaker.
The line voltage is very high, low or distorted.	Move the UPS to a different outlet on a different circuit, as inexpensive fuel powered generators may distort the voltage. Test the input voltage with the utility voltage display (see “Operation” on page 6). If acceptable to the connected equipment, reduce the UPS sensitivity (see “User Configurable Items” on page 8).
<b>Battery charge and load LED bar graphs flash simultaneously</b>	
The UPS has shutdown. The internal temperature of the UPS has exceeded the allowable threshold for operation.	Check that the room temperature is within the specified limits for operation. Check that the UPS is properly installed, allowing for adequate ventilation (see “Safety and General Information” on page 2). Allow the UPS to cool down. Restart the UPS. If the problem continues, contact APC by Schneider Electric web site, <a href="http://www.apc.com">www.apc.com</a> .
<b>Diagnostic Utility Voltage</b>	
All five LEDs are illuminated.	The line voltage is extremely high and should be checked by an electrician.
There is no LED illumination.	If the UPS is plugged into a properly functioning utility power outlet, the line voltage is extremely low.

Problem and/or Possible Cause	Solution
<b>Online LED</b>	
There is no illumination.	The UPS is running on battery, or it must be turned on.
The LED is blinking.	The UPS is running an internal self-test.

## Service

If the unit requires service, do not return it to the dealer. Follow these steps:

1. Review the Troubleshooting section of the manual to eliminate common problems.
2. If the problem persists, contact APC by Schneider Electric Customer Support.
  - a. Note the model number and serial number and the date of purchase. The model and serial numbers are located on the rear panel of the unit and are available through the LCD display on select models.
  - b. Call APC by Schneider Electric Customer Support and a technician will attempt to solve the problem over the phone. If this is not possible, the technician will issue a Service Request Number.
  - c. If the unit is under warranty, the repairs are free.

An Authorized Service Representative will visit your location and try to resolve the issue.

## Limited Factory Warranty

Schneider Electric IT Business India Private Ltd. (SEITBIPL), warrants its products to be free from defects in materials and workmanship for a period of two (2) years from the date of purchase. The SEITBIPL obligation under this warranty is limited to repairing or replacing, at its own sole option, any such defective products or parts thereof. Repair or replacement of a defective product or part thereof does not extend the original warranty period.

This warranty applies only to the original purchaser who must have properly registered the product within 10 days of purchase. Products may be registered online at [warranty.apc.com](http://warranty.apc.com) or by mailing in the completed warranty registration card that is included with the documentation.

SEITBIPL shall not be liable under the warranty if its testing and examination disclose that the alleged defect in the product does not exist or was caused by end user's or any third person's misuse, negligence, improper installation, testing, operation or use of the product contrary to SEITBIPL's recommendations or specifications. Further, SEITBIPL shall not be liable for defects resulting from: 1) unauthorized attempts to repair or modify the product, 2) incorrect or inadequate electrical voltage or connection, 3) inappropriate on site operation conditions, 4) Acts of God, 5) exposure to the elements, 6) theft. In no event shall SEITBIPL have any liability under this warranty for any product where the serial number has been altered, defaced, or removed, 7) normal wear resulting from frequent use.

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To obtain service under warranty you must call customer support. Customers with warranty claims issues may access the SEITBIPL worldwide customer support network through the SEITBIPL Web site: [support.apc.com](http://support.apc.com). Select your country from the country selection drop down menu. Open the Support tab at the top of the web page to obtain information for customer support in your region. Refer to the product user manual for more information on how to contact customer support.



# APC by Schneider Electric Customer Support India

<b>Internet</b>	<a href="http://www.apc.com/support">http://www.apc.com/support</a>
<b>Toll Free</b>	18001030011/18004194272
<b>E-mail</b>	<a href="mailto:indiainfo@schneider-electric.com">indiainfo@schneider-electric.com</a>