SPM1K/SPM2K/SPM3K

Online UPS

Installation and User Manual

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Content

Important Safety Information

Meaning of UPS Safety Signs

Read these instructions carefully to investigate and become familiar with the equipment before installing, operating, servicing or maintaining the device.

The following safety messages may be used throughout this manual or printed on the device to warn of potential hazards or to hint information for clarifying or simplifying operations.

For any “Danger" or "Warning" safety message that comes with this sign, it indicates that there is an electrical hazard here, and failure to comply the message may result in personal injury.

This is a safety alert symbol to alert you the potential personal hazards here. Please observe all safety information coming with this symbol to eliminate any risk of personal injury or death.

⚠ DANGER

DANGER indicates a hazardous situation which, if not avoided, **will result in** death or serious injury.

Failure to follow the instructions hearof may result in serious consequences such as personal injury or death.

⚠WARNING

WARNING indicates a hazardous situation which, if not avoided, **could result in** death or serious injury.
Failure to follow the instructions hearof may result in serious consequences such as personal injury or death.

⚠CAUTION

CAUTION indicates a hazardous situation which, if not avoided, **could result in** minor or moderate injury.
Failure to follow the instructions hearof may result in serious consequences such as personal injury or death.

NOTICE

NOTICE is used to address practices not related to physical injury. Such safety messages should be offered wit hout any safety warning symbol.

Failure to follow directions may result in equipment damage and other serious consequences

Please note: Only qualified personnel shall be allowed to perform the installation, operation, and maintenance of electrical equipments. Schneider Electric assumes no responsibility for any consequences of non-compliance with this manual.
The qualified personnel mentioned herein are those who have the skills and knowledge of the construction, installation, and operation of electrical equipment, have received safety training, and are able to identify and avoid the associated risks.

Safety and General Information

SAVE THESE INSTRUCTIONS

This manual contains important instructions that should be followed during installation and maintenance of the UPS and batteries.

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

- 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 a minimum of 20 cm clearance on all four sides of the UPS.
- Environmental factors impact battery life. Elevated ambient temperatures, poor quality utility power, and frequent discharges will shorten battery life. Follow the battery manufacturer recommendations.
- Connect the UPS power cable directly to a wall outlet. Do not use surge protectors or extension cords.

Safety Precautions

⚠ DANGER

BE AWARE OF ELECTRIC SHOCKS, EXPLOSIONS OR ARCS.

All safety instructions in this document must be carefully read, thoroughly understood, and strictly observed.

Failure to follow the instructions may result in serious consequences such as personal injury or deat

⚠ DANGER

BE AWARE OF ELECTRIC SHOCKS, EXPLOSIONS OR ARCS.

Please read all instructions mentioned in the installation manual before installing or using the UPS system.

Failure to follow the instructions may result in serious consequences such as personal injury or death.

⚠ DANGER

BE AWARE OF ELECTRIC SHOCKS, EXPLOSIONS OR ARCS.

- The specifications and requirements established by Schneider Electric must be observed when installing this product. Special attention should be paid to internal and external protection (upstream circuit breakers, battery circuit breakers, cab les, etc.) and environmental requirements. Schneider Electric assumes no responsibility for the consequence of non-compliance with the requirements mentioned hereof.
- Once the UPS system is connected to the power cable, do not turn on the system. Start-up operations must be performed bySchneider Electric engineers.

Failure to follow the instructions may result in serious consequences such as personal injury or death.

⚠DANGER

BE AWARE OF ELECTRIC SHOCKS, EXPLOSIONS OR ARCS.

- Install the UPS system in a temperature-controlled, conductive-debris-free, and ventilated environment.
- Install UPS systems on a surfaces that are non-flammable, horizontal, and strong (such as concrete) enough to withstand the weight of the system.

Failure to follow the instructions may result in serious consequencesuch as personal injury or death.

⚠DANGER

BE AWARE OF ELECTRIC SHOCKS, EXPLOSIONS OR ARCS.

UPS is not suitable for and therefore shall not be installed in the following abnormal operating environments:

- Full of hazardous smoke.
- Full of moisture, dust, floating particles, steam or extremely humid air.
- Prone to mold, insects, parasites.
- Full of salty air or cooling water, or impurities like fumes, acids, etc.
- Whose pollution level is above Level 2, according to IEC 60664-1.
- Subject to abnormal vibrations, shocks, rocking or earthquakes
- Exposed to direct sunlight, heat or strong electromagnetic

Failure to follow the instructions may result in serious consequences such as personal injury or death.

⚠DANGER

BE AWARE OF ELECTRIC SHOCKS, EXPLOSIONS OR ARCS.

- Do not drill or cut the sealed plates that have cables or conduit installed on them. Do not perform any drilling or cutting ope ration in the surrounding of the UPS.

Failure to follow the instructions may result in serious consequences such as personal injury or death.

⚠WARNING

BE AWARE OF ELECTRIC ARCS.

- Do not mechanically modify this product (including removing cabinet components or drilling/cutting on it) unless so require d in the Installation Manual.

Failure to follow the instructions may result in serious consequences such as personal injury or death.

⚠WARNING

BE AWARE OF OVERHEAT.

- Observe the minimum clearance requirements regarding the UPS system allocation and do not cover the product vents wh ile the UPS is operating.

Failure to follow the instructions may result in serious consequences such as personal injury or death.

Electrical Safety

⚠ DANGER

BE AWARE OF ELECTRIC SHOCKS, EXPLOSIONS OR ARCS.

- Installation, operation, repair, and maintenance of electrical equipments must be performed by qualified personnel.
- Make sure above-mentioned qualified personnel wearing appropriate personal protective equipment and observing electrical safety practices when performing above-mentioned operations.
- When operating or maintaining the device, turn off all power connected to the UPS system.
- Before operating the UPS system, perform a check between all terminals (including protective grounding) for dangerous voltages.
- The UPS contains internal power. Even when disconnected from its utility power, there may still be hazardous voltages. So, before installing or repairing the UPS system, make sure that the equipment is OFF and disconnect the uti lity power and battery connections. And, wait five more minutes before opening the UPS to allow the capacitors to discharge.
- The UPS system must be isolated from its upstream power source using isolation devices (disconnectors, switches) that comply with local regulations. The isolation devices must be set at a conspicuous and easy to operate locations.
- The UPS must be properly grounded, and due to the large leakage current, the ground wire must be connected first.

Failure to follow the instructions may result in serious consequences such as personal injury or death.

⚠ DANGER

BE AWARE OF ELECTRIC SHOCKS, EXPLOSIONS OR ARCS.

If the system's standard design does not include backfeed protection, an automatic isolation device (backfeed protection) option or any other device that complies with IEC/EN 62040-1 or UL1778 Release 4 - depending on local applicable standards) is required in order to isolate the system from any possible hazardous voltage or energy on the input terminals. The isolation device must be able to response within 15 seconds after the failure of the upstream power supply and must match the specification requirements.

Failure to follow the instructions may result in serious consequences such as personal injury or death.

When the UPS input is connected through an external isolator – which isolates the neutral line when becoming opened- or when the provided automatic backfeed isolation appliance is an external one or is connected to an IT system, the UPS input terminals shall be labeled with following information (or equivalent in the language acceptable in the country or area where the UPS system is installed), while users must label by themselves all main power isolators that are installed away from the UPS area and all external access points between those isolators and the UPS accordingly. The following text appears on the label:

⚠ DANGER

BE AWARE OF ELECTRIC SHOCKS, EXPLOSIONS OR ARCS.

Risk of voltage feedback. Before handling this circuit, isolate the UPS and check all terminals and protective earth for hazardous voltages.

Failure to follow the instructions may result in serious consequences such as personal injury or death.

Battery Safety

⚠DANGER

BE AWARE OF ELECTRIC SHOCKS, EXPLOSIONS OR ARCS.

- The battery circuit breaker must be installed in accordance with Schneider Electric's specifications and requirements.
- The battery maintenance can only be performed by or under the supervision of qualified personnel familiar with the battery operations, and be preceded with cautions.
- Do not allow non-qualified personnel to operate the battery.
- Disconnect the charging power before connecting or disconnecting the battery terminals.
- Do not throw the batteries into a fire as they may explode.
- Do not disassemble, modify, or damage the batteries. The electrolyte flowing from the battery is harmful to your skin and eyes. The electrolyte may be toxic.

Failure to follow the instructions may result in serious consequences such as personal injury or death.

⚠DANGER

BE AWARE OF ELECTRIC SHOCKS, EXPLOSIONS OR ARCS.

Batteries may cause a risk of electric shock and high short-circuit currents. When operating the batteries, the following precautions must be strictly observed:

- Take off watches, rings, or other metal objects.
- Use tools with insulated handles.
- Wear safety glasses, gloves and rubber shoes.
- Do not rest tools or metal parts on top of the batteries.
- Disconnect the charging power before connecting or disconnecting the battery terminals.
- Make sure the batteries are not inadvertently grounded. If any battery is inadvertently grounded, remove the ground. Co ntact with any part of a grounded battery may cause a risk of electric shock. During installation and maintenance, removing grounded batteries can immediately reduce the risk of electric shock (which applicable to devices and remote batteries without a grounded supply circuit).

Failure to follow the instructions may result in serious consequences such as personal injury or death.

⚠DANGER

BE AWARE OF ELECTRIC SHOCKS, EXPLOSIONS OR ARCS.

When replacing batteries, use the same type and number of batteries or battery packs.

Failure to follow the instructions may result in serious consequences such as personal injury or death.

⚠CAUTION

BE AWARE OF EQUIPMENT DAMAGE.

- Install the battery only after the system is ready to be powered. It is recommended to power on the UPS in less than 72 ho urs after installing the battery to the UPS.
- According to the charging requirements, the battery storage time must not exceed 6 months. If the UPS system is off for a long time, it is recommended that you charge the UPS system's batteries at least once a month for 24 hours. This ch arging prevents irreversible damage.

Failure to follow the instructions may result in serious consequences such as personal injury or death.

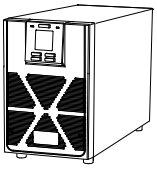
Product Description

This Schneider SPM1K/SPM2K/SPM3K product is a high-performance uninterruptible power supply (UPS) that can effectively protect electronic equipments and prevent them from being damaged due to mains power failure, voltage drop, voltage dip, surges, small mains power fluctuations and power disturbance. In addition, this product can also be used as a backup power source before the utility power returns to a safe level or the battery is fully discharged.

The user manual is included in the attached optical disk and is also available from our Schneider Electric website (www.apc.com).

Package Content

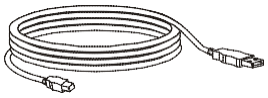
The packaging is recyclable; please keep it safe for reuse or disposal.



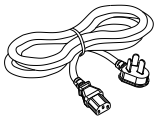
(1)
UPS

(1)
user manual

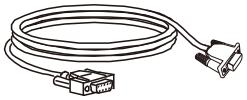
(1)
Software, User documentation CD



(1)
USB cable



(1)
Utility power cable



(1)
RS232 cable

Optional accessories

For optional accessories, please refer to the following table or visit the Schneider Electric website: www.apc.com.

Name	Model No.	Description
Environmental Interface card	VGL9601	The environment monitoring card needs to be used together with a SNMP card. The environment detection device (EMD) can remotely detect the temperature and humidity through the SNMP interface, and provide two dry contact signals to receive up to two compatible devices, such as security and Alarm system.
MODBUS card	VGL9701	It supports MODBUS RTU communication protocol, reads and writes data through registers, provides RS-485 interfaces, and provides surge protection.
SNMP card	VGL9801	It provides SNMP interfaces and management software for data exchange, enabling you to monitor and manage UPS through the management software.
Dry contact card	VGL9901	It expands the UPS dry contact feature by providing 7 extra dry contacts.

Specification

Environmental specifications

Notice

Risk of equipment damage

- The UPS must be used indoors.
- The installation location should be strong enough to support the weight of the UPS.
- Do not use the UPS in an environment where there is full of excessive dust or where the temperature or humidity is out of specification.

Otherwise, the equipment may be damaged.

Temperature	**Working**	For 0°C -40°C, rated load For 40°C -50°C, output capacity is derated linearly to 80% of the maximum load capacity as temperature increasing.	The UPS must be used indoors. The installation location should be strong enough to support the weight of the UPS. Do not use the UPS in an environment where there is full of excessive dust or where the temperature or humidity is out of specification. **Note: Charge the battery module once every six months during storage.**
	Storage	-20°C -50°C	
Altitude	**Working**	0 - 1000 m: Normal operation 1000 - 3000 m: Derate power by 1% per 100m increased > 3000 m: Unsuitable for operation	
	Storage	0 - 15000 m	
Humidity		0 ~ 95%, non-condensing	

Physical specification

UPS model	**SPM1K**	**SPM2K**	**SPM3K**
Size with package **W x H x D**	235 mm (9.25 inch.) x 330 mm (12.99 inch.) x 365 mm (14.37 inch.)	235 mm (9.25 inch.) x 355 mm (13.98 inch.) x 525 mm (20.67 inch.)	325 mm (12.8 inch.) x 465 mm (18.31 inch.) x 565 mm (22.24 inch.)
Size with no package **W x H x D**	145 mm (5.7 inch.) x 223 mm (8.78 inch.) x 288 mm (11.34 inch.)	145 mm (5.7 inch.) x 238mm (9.37 inch.) x 400 mm (15.75 inch.)	190 mm (7.5 inch.) x 336 mm (13.2 inch.) x 425 mm (16.7 inch.)
Weight with package	10.9 kg	18.9 kg	28 kg
Weight with no package	9.6 kg	17 kg	25.8 kg
Lifting guide	< 18 kg (< 40 lb) 	18 - 32 kg (40 - 70 lb) 	18 - 32 kg (40 - 70 lb) 

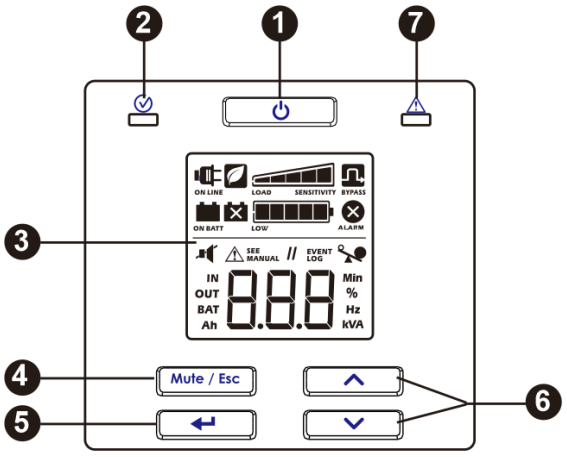
Input/Output

UPS model		SPM1K	SPM2K	SPM3K
Input	Voltage	220 Vac rated		
	Frequency	40 – 70 Hz		
	Input voltage range (at 100% load)	160 Vac – 280 Vac		
	Input voltage range (at 50% load)	110 Vac – 300Vac		
	Power factor (at 100% resistive load)	≥ 0.99 – Green mode ≥ 0.93 – Normal mode		
	Input protection	Input circuit breaker		
Output	UPS capacity	1000 VA / 800 W	2000 VA / 1600 W	3000 VA / 2400 W
	Rated output voltage	220 Vac		
	Other programmable voltage	230 Vac、240 Vac		
	Rated load efficiency	Max. 88%		
	Output voltage regulation	± 1% Static		
	Output voltage distortion	• Max. 3% when fully linear load • Max. 6%(100% VA, 0.8 PF) when fullly RCD load • 15% for last 60 seconds of backup operation (full load is only possible for internal battery)		
	Frequency - Battery Mode	50 Hz ± 0.5% or 60 Hz ± 0.5%		
	Frequency - AC mode	50 Hz ± 3 Hz or 60 Hz ± 3 Hz		
	Crest factor	3:1		
	Waveform	Sine wave		
	Output connection	Please refer to the rear panel description		
	Bypass	Internal bypass		

Battery

UPS model	SPM1K	SPM2K	SPM3K
Allocation	Internal		
Model Type	Sealed Maintenance Free (SMF) 12 V, 9 Ah		
Voltage	24 V	48 V	72 V

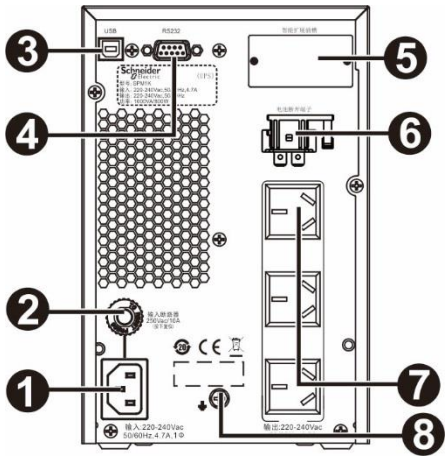
Front panel display



1. UPS power on/off button
2. Status LED
3. LCD display
4. Mute/Esc button
5. Input button
6. Up/down button
7. Alarm LED

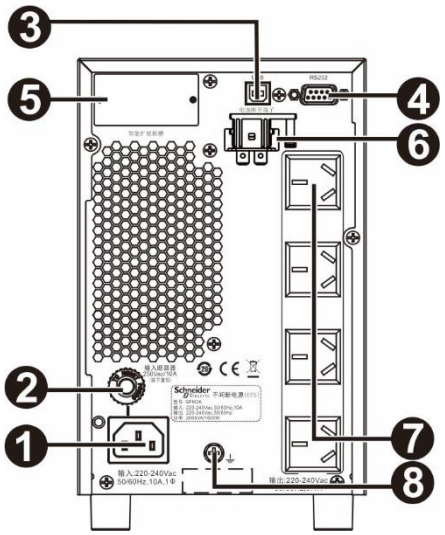
Rear panel

SPM1K



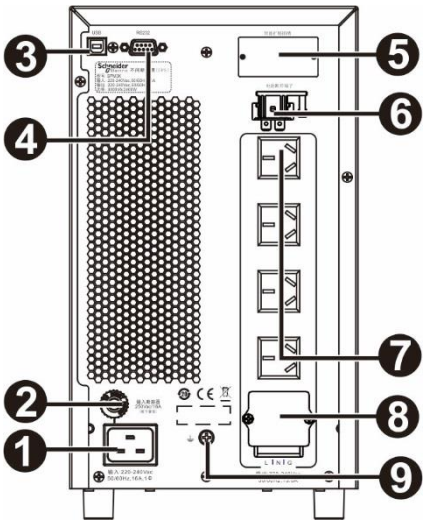
❶	AC input (IEC C14)	❺	Intelligent card slot
❷	Input circuit breaker	❻	Battery disconnector
❸	USB port	❼	Output sockets
❹	RS232 port	❽	Ground screw

SPM2K



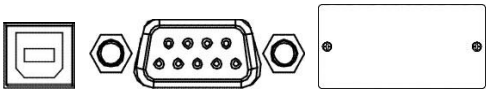
❶	AC input (IEC C14)	❺	Intelligent card slot
❷	Input circuit breaker	❻	Battery disconnector
❸	USB port	❼	Output sockets
❹	RS232 port	❽	Ground screw

SPM3K



1	AC input (IEC C20)	6	Battery disconnector
2	Input circuit breaker	7	Output sockets
3	USB port	8	Output terminal block
4	RS232 port	9	Ground screw
5	Intelligent card slot		

Basic connectors



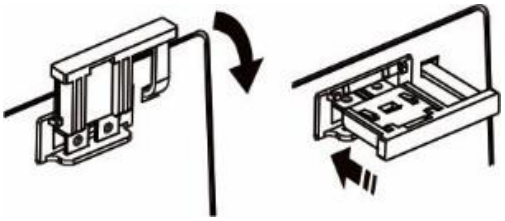
USB **Serial port** **Smart card slot**

There are power management software and interface kits available for the UPS.
Only use interface kits that are supplied or approved by Schneider Electric. See page 6 for available optional accessories.

Startup

Connect battery

To connect the battery, pull down the battery disconnector and push it into the body.



Connect equipments to UPS

⚠ Caution

Be aware of electric shock

- All electrical operations must be performed by qualified electricians.
- Turn off all power before working on the equipments. Implement any required lock/tagging procedure.
- Do not wear any accessory to work on electrical equipment.

Otherwise, it may result in minor or moderate injury.

1. Connect the equipment to the UPS. Do not use extension cords.
2. Connect the utility power to the UPS.
3. Turn on the input mains power. The UPS display panel lights up when the utility power is on.

Turn on UPS

Push the button can be found on the UPS front panel.

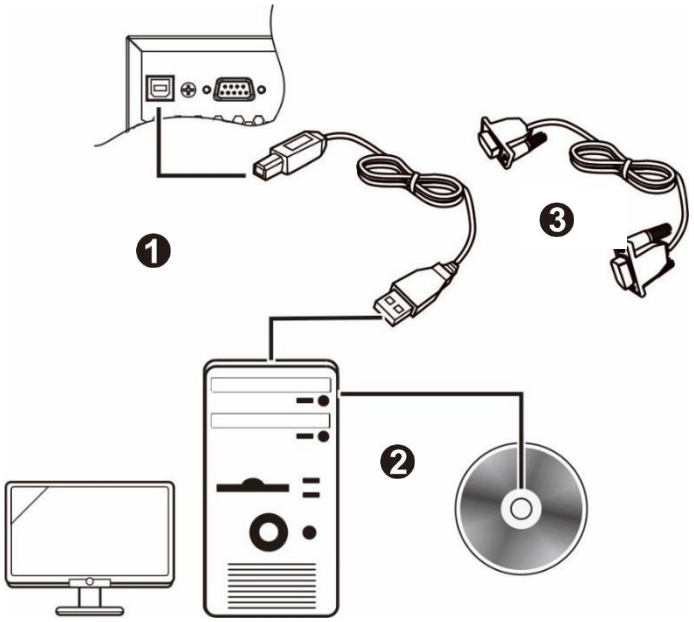
- Normally, the battery will be charged to 90% after five hours from your initial start.
- **Do not** expect the battery to perform its full capacity during this initial charge.

Cold start UPS

The cold start feature allows you to power the connected devices using the UPS battery.
Press button once. When the display panel lights up, press the button one more time. Then, the connected devices become powered by the UPS battery.

Connect and install management software

This SPM1K/SPM2K/SPM3K UPS comes with Schneider UPS management software for unattended operating system shutdown, UPS monitoring, UPS control and energy reporting. The following figure shows a typical server installation.

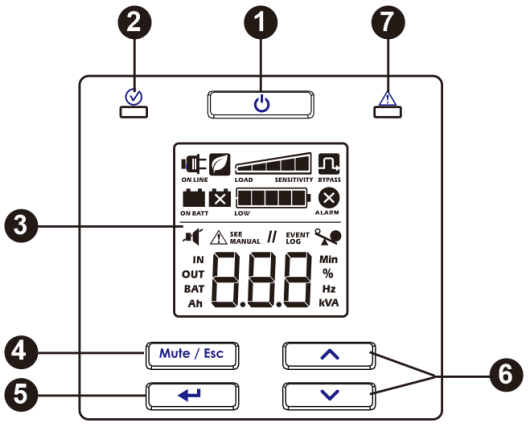


1. Connect the protected device, such as a server, to the on the back of the UPS using a USB cable.
2. Insert the Schneider UPS CD to the device (a server or other device running on an operating system). Follow the instructions displayed on the screen to finish the installation.
3. The built-in serial port can also be used for additional communication options via a serial cable.
4. Even more communication options are available through the built-in smart card slot. See www.apc.com for more information.
   (Note: The USB port and DB9 port (RS232) cannot be used together at the same time)

Operation

Display operation

The SPM1K/SPM2K/SPM3K UPS models come with an LCD display for intuitive configuration. Like a secondary software interface, the display can used to send software information and also to configure your UPS settings. The display contains following buttons and indicators:



❶	UPS power on/off button	• To power on the UPS, press down this button and immediately release it when a beep sound is heard. • To power off the UPS, press down this button and immediately release it when a beep sound is heard. • To rest an alarm, press this button.
❷	Status LED	When the power is on, this **status LED** lights in green. The LED can show two different output power states: • **Output off**: The LED blinks. To turn on the output, press the power on/off button. • **Output on**: The LED lights in solid green.
❸	LCD display	The LCD display shows the interface options. If the display does not turn on, press the or button to wake up the LCD.
❹	Mute/Esc button	• Temporarily confirm and mute the sound alarm. • Exit a submenu and return to the main menu.
❺	Enter button	Press this button to enter a menu or select a menu item/value during navigation.
❻	Up/down button	Press these two buttons to scroll through the main menu options and display screen.
❼	Alarm LED	When the UPS detects an error and makes a UPS notification by blinking in red, this alarm LED lights in red. See "Alerts and Notifications" on page 14 of this manual for more details.

Icons on LCD screen

ON LINE

Online mode: The UPS connects to utility power and performs a two-way conversion to power the connected devices.

	**Battery mode:** The UPS uses the battery to power the connected devices.
	**Replacing battery**: The battery is not firmly connected or the battery has reached the end of its useful life and shall be replaced.
	**Bypass**: The UPS is in the bypass mode and transfers the utility power directly to the connected devices. The bypass mode is triggered by a UPS internal events or overload conditions. The battery cannot be used when the UPS is in the bypass mode. See "Alerts and Notifications" on page 14 of this manual. When this icon and the green mode icon appear, it indicates that the UPS is operating in the green mode.
	**System alarm:** An internal failure is detected. See "Alerts and Notifications" on page 14 of this manual
	**Overload:** The total power consumption of the connected devices exceeds the rated range allowed.
	**Battery Charging:** Shows the battery charge amount. When there shows five blocks, the UPS is fully charged. Each block stands for about 20% of battery charge capacity.
	**Load Level:** Displays the load percentage. Each block stands for about 20% of the maximum load capacity.
	**Mute:** If there is a straight line across the speaker icon, it means that the sound alarm is disabled.
	**Green mode:** An energy saving mode. When the input voltage and frequency are within the configured range, the UPS operates in an energy-saving mode.
	**Alert or notification:** The UPS detects an error or the UPS is in configuration mode. See "Alerts and Notifications" on page 14 of this manual.
	**Event:** This icon lights up when the user views the event log.

Alarms and system errors

Status indicator

Continuously beep once every half second.	**Battery Low -** The battery is nearly fully discharged and the UPS is about to turn itself off.
	Overload - The total power consumed by the devices connected to the UPS exceeds the allowable rated range.
Beep 4 times every 30 seconds (Starts after four seconds from when the UPS entering the battery mode)	**Battery Power Status -** The UPS is using the battery backup power to power the connected devices.
The beeper rings continuously	**Alarm Status** – The UPS detected an error. See the section "Alerts and Notifications" of this manual.
One short beep every 2.5 seconds	The battery is disconnected.
Half-second beep continuous for 1 minute and repeat this every 5 hours.	The battery is damaged (and needs to be replaced).
Two short beeps every 5 seconds	**Event bypass status** – The UPS detected an error. The connected devises is now being powered by the utility power through the bypass relay.

Alarms

Code	Description	Solution
	The UPS detected a short circuit event on the output side. The device will try to recover itself automatically from this state.	Check if the UPS output is short-circuited. After resolving the short circuit, wait for the device to automatically recover itself, or pressing the  button to start the UPS. Note: When this alarm happens, the UPS stops powering all connected devices.
	The UPS is overloaded.	Disconnect unnecessary devices from the UPS to decrease the load.
	The UPS detected high DC voltage.	Please contact Schneider Electric.
	The UPS detected low DC voltage.	Please contact Schneider Electric.
	The inverter soft start failed.	Please contact Schneider Electric.
	The UPS detected the output voltage of the inverter is abnormal.	Please contact Schneider Electric.
	The battery voltage is too high.	Please contact Schneider Electric.
	EEPROM data error.	Please contact Schneider Electric.
	The temperature of the unit exceeds the limit.	Disconnect unnecessary devices from the UPS to decrease the load. Make sure that the ambient temperature is within the limit. Make sure enough clearance is around the unit.
	The UPS detected a charger error.	Check if the UPS's battery terminals are short circuited. Press  button to start the UPS.

Notification

Code	Description	Solution
	The battery is not connected.	Connect the battery to the UPS. Please refer to "Startup" section in page 11.

UPS parameters

The following table shows the operating data displayed in the display panel. Use the ^ or v button to navigate.

Parameter	Unit	Icon
Output voltage	Vac	OUT, V
Output frequency	Hz	OUT, Hz
Input voltage	Vac	IN, V
Input frequency	Hz	IN, Hz
Battery voltage	V DC	BAT, V
Ambient temperature	° C	NUMBER, C
Battery charging status	%	BAT, %
Load level percentage(Maximum wattage or VA)	%	OUT, %
Load level (kVA)	kVA	OUT, kVA
Total capacity in Ah of all connected batteries	Ah	BAT, Ah
Remaining battery runtime	Min	BAT, min

Configuration

Configure UPS parameters

1. Follow the steps below to configure the UPS parameters:
2. Press ↵ button.
3. Press ^ or v button to navigate to “Set”.
4. Press ↵ button.
5. Using ^ or v button to select the parameter you want to edit.
6. Press ↵ button to confirm your selection. When the icon starts blinking, it means the parameter is ready to be edited.
7. Press ^ or v button to browse the available options for the selected parameter.
8. Press ↵ button to confirm the option selection or press Mute / Esc button to quit the parameter editing. Then, the icon stops blinking.
9. Press ^ or v button to select your next parameter to be edited.
10. Press Mute / Esc button to exit from the menu screen.

UPS settings

Configure the UPS settings using the display interface. See the "Configuring UPS Parameters" section to edit parameters.

Function	Factory default	Available options	Description
Output voltage	220 Vac	220、230、240 VAC	Allows the user to select the output voltage while the UPS is operating in online mode.
Audio alarm	Enabled	Enabled, Disabled	When it is set to "**Disabled**" or when the mute button on the display panel is pressed, the UPS's audible alarm is muted.
Minimum bypass voltage	Output voltage value -15%	-15%, -20%, -25%, -30%	The minimum voltage that the UPS uses to power the connected devices when it is in bypass mode.
Maximum bypass voltage	Output voltage value +15%	+5%, +10%, +15%,+20%	The maximum voltage that the UPS uses to power the connected devices when it is in bypass mode. UPS
Green mode/ High-efficiency mode	Disabled	Enabled/Disabled	When this mode is enabled, the connected devices will be powered by utility input power through the bypass relay when the input voltage is within ± 5% of the configured output voltage and ± 3 Hz of the configured output frequency. The inverter is off in this mode. If the utility input power becomes out of range, the inverter is on. The load is transferred to online mode or battery mode. The power interruption to all connected devices is no more than 10 milliseconds.
Minimum battery capacity setting	0%	0%, 15%,50%,90%,	Once the UPS is turn off because of low battery capacity, No power will be sent to the connected device until the battery being charged to the level specified here.
Battery low battery alarm	2 Mins	2 Mins, 5 Mins, 7 Mins, 10 Mins	When the operating time of the battery becomes less than 2 minutes, the low battery alarm will be made continuously. If the working system needs to extend the shutdown alarm time, you can increase the alarm interval time setting.

Advanced display navigation

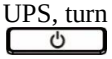
On the UPS display, there are five options and two sub-menu options in the main menu. In the home screen, a press on the ↵ button can open and access these menu options. Then, use the ^ or v button to navigate through the menu options

Menu option	Description
	**Configure UPS** Use this menu option to configure UPS parameters. Press the ↵ button to see the configuration options. See "Configuring UPS Parameters" on page 14 for more information. Press the Mute / Esc button to return to the home screen.
	**Event log** Use this menu option to view the UPS event log. UPS records the last 10 events with their event code. Press the ↵ button to view the log. Use the ^ or v button to view the recorded events. The v button navigates you to the old events and the button navigates you to the ^ latest event. Each log entry is numbered and includes its event codes. At the end of the log, a word "End" will be displayed. Press the Mute / Esc button to return to the home screen.
	**UPS information** Use this menu option to view the UPS information. Press the ↵ button to view the UPS level. Press the ^ button to see the UPS firmware version. Press the Mute / Esc button to return to the home screen.
	**Manual bypass command** Use this menu option to set the UPS operation into bypass mode or switch the UPS operation from bypass mode to online mode. Press ↵ button:  **Put**: Set the UPS operation into bypass mode. **Note:** If the utility power voltage is not within the threshold limits, the power supply for the connected devices will be cut off.  **Out:** Set UPS operation out of bypass mode, and restore the clean power supply to the connected devices.
	**Battery self test** Use this menu option to perform the self test to determine the battery status. Press the ↵ button to start the test. If the test command is accepted by the system, the UPS will start self-testing and start counting down on the display. The result Information will be displayed at the end of the test.  The test was rejected because the output is off or the battery is not charging.  Test failed  Test passed  Test was terminated because of internal problems Press Mute / Esc button to return to home screen.

Troubleshooting

Use the following table to troubleshoot minor glitches arising from installation and operation. For help on more complex UPS issues, please visit the Schneider Electric Information Technology website at www.apc.com.

Problems and/or possible causes	Solution
The utility power input is available, but the UPS does not turn on or there is no power output	
The UPS is not powered on.	Press ⏻ button to power on the UPS.
The UPS is not connected to the utility power.	Check if the security of the both ends of the power cables between the UPS and the utility power. See section "Startup" on page 11 of this manual.
The input thermal breaker on the UPS trips.	Press the input thermal breaker reset button which can be found on the rear panel.
When connected to the utility power, the UPS switches into battery mode.	
The input voltage or frequency is too high, too low, or unstable.	By connecting the UPS to other outlets of other circuits, test the utility power to ensure that the connected devices receive the input power. If the display is on, navigate and check the input voltage and frequency.
The UPS connected to the battery did not supply power to the connected devices.	
The UPS is not powered on.	If the UPS is off (the display is not on), follow the steps in “Cold Start the UPS” on page 11.
The UPS is not connected to the battery.	Connect the battery to the UPS. See "Startup" on page 11 of this manual.
Insufficient battery capacity. Maybe because of a power failure, the battery has been discharged or depleted and stopped outputting.	Wait for the utility power to recover and charge the battery. To turn on the power output after the utility power restores, press the ⏻ button.
UPS keeps beeping for a long time	
The UPS operates normally in battery mode.	The UPS detected an error. See "Alerts and Notifications" on page 14 of this manual.
Alarm LED lights up. The UPS displays an alarm message and beeps continuously.	
The UPS detected an error.	See "Alerts and Notifications" on page 14 of this manual.
The UPS does not make a sound even if the alarm LED is lit.	
The audio alarm feature has been disabled.	Change the UPS configuration to enable the feature.
The UPS cannot provide enough delay time.	
The UPS battery has been discharged due to a recent power failure.	The battery needs to be charged after a long power failure. If the battery is used frequently and not charged correctly, or it is often
The service life of the battery is about to end.	If the battery is near the end of its life, consider replacing the battery even if the replacement battery indicator is not yet lit. See "Startup" on page 11 of this manual.

Problems and/or possible causes	Solution
Cannot power off the UPS	
Did not press the shutdown button properly.	To turn off the UPS, hold down the  button and release it after you hear a beep.
The utility input power is available.	If the utility input power is available, the UPS logic power cannot be turned off. To turn off the UPS, turn off the utility input first and, then, press down the  button and release it after you hear a beep.
The UPS is in bypass mode and the LED is not lit red.	
The UPS is in Green mode.	You can choose to disable the green mode.
The UPS is configured to remain in bypass mode.	Change the configuration to exit bypass mode.
The UPS is still in bypass mode even after the overheat alarm is resolved.	Reduce the connected load to <90% to allow the UPS to switch to online mode.
The UPS switched to bypass mode because of overload.	The total load of the connected devices exceeds the "Maximum Load", which is defined in the Schneider Electric Information Technology website: www.apc.com. The alarm will persist until the overload is resolved. Disconnect unnecessary devices from the UPS to solve the overload problem. As long as operating in bypass mode and the circuit breaker does not trip, the UPS continues to supply power; if the utility power fails, the UPS will not provide power to the battery.
The UPS detected an error and switched to bypass mode.	See "Alerts and Notifications" on page 14 of this manual.

Transportation

1. Turn off and disconnect all connected devices.
2. Disconnect the UPS from the utility power.
3. Disconnect all internal and external batteries (if applicable).
4. Follow the shipping instructions listed in the service section of this manual.

After-sales service

Schneider Electric guarantees that its products will not suffer from material and process problems within two years from the date of purchase. Schneider Electric will repair or replace the faulty product to which this warranty applies. This warranty does not apply to damage caused by accident, negligence, or misuse, or in any way altered or modified. The repair or replacement of a defective product or part will not extend the original warranty period. Any parts provided under this warranty may be new or may be factory refurbished.

If UPS needs repair, follow these steps:

1. Frequently asked questions can be found in "Troubleshooting" section in this manual.
2. If the problem persists, consult the Schneider Electric UPS Knowledge Base on the Schneider Electric Information Technology website (www.apc.com) and submit a customer support request by contacting the Schneider Customer Support Center via (+86) 4008101315.
    a. Be sure to note the UPS model number, the serial number (which can be found on the UPS), and the purchase date. If you call the Schneider Customer Support Center, the technician will ask you to describe the problem and try to resolve it through phone. If the problem still persists, the technician will issue you a “Return Merchandise Authorization (RMA#)”.
    b. If the UPS is covered by the warranty, it can be repaired for free.

Limited warranty

Schneider Electric guarantees that its products will not have material and process problems within two years from the date of purchase. This warranty stipulates that Schneider Electric's liability is limited to the sole discretion of repairing or replacing such defective products based on specific circumstances. The repair or replacement of a defective product or part will not extend the original warranty period.

If Schneider Electric finds that the defect claimed by the buyer does not exist or is due to misuse, negligence, improper installation, test, handle of the end user or any third party, or is because that the product has not been used in accordance with Schneider Electric recommendations or specifications , no warranty service is available. In addition, Schneider Electric does not provide warranty service for defects caused by: 1) attempting to repair or modify the product without authorization, 2) insufficient voltage or incorrect connection, 3) unsuitable on-site operating conditions, 4) natural causes, 5) exposure to natural environment or 6) theft. In the event that the serial number is changed, smeared or erased during this warranty period, Schneider Electric will not provide warranty service.

Except as described above, the products sold, repaired or provided under this agreement and its related terms are not provided with any express or implied warranty to the extent permitted by law or relevant regulations. Schneider Electric does not provide any implied warranty of any kind with regard to the merchantability, satisfaction, and suitability of this product for any particular purpose.

Schneider Electric's express warranties shall not be extended, reduced or affected by the obligations and obligations. Schneider Electric only provides product-related technology or other advice or services.

The above guarantees and remedies are exclusive and replace all other guarantees and remedies. For any case involving any breach of warranty, the above warranty stipulates Schneider Electric's sole responsibility and the buyer’s full compensation. The warranty provided by Schneider Electric is only granted to the original purchaser of this product, and any third party may not enjoy the essential warranty service.

Schneider Electric and its officials, supervisors, subsidiaries or employees are not responsible for any indirect, special or punitive damages that may occur during the use, repair or installation of the product, regardless of whether such damages are caused by contract or tort, whether or not they are due to fault, negligence or strict liability, or whether Schneider Electric has been previously informed of the possibility of such damages. Especially, Schneider Electric assumes no responsibility for any costs, such as lost profits or revenue (whether directly or indirectly), equipment damage, inability to use equipment, software damage, lost data, costs of substitutes, third-party claims or otherwise cost.

This limited warranty does not exempt or limit the liability of SEIT as stipulated by relevant laws for casualties resulting from negligent or fraudulent statements.

To obtain warranty service, you must obtain a Return Merchandise Authorization (RMA) number from our customer support center. Customers with warranty claims can refer to the Schneider Electric Worldwide Customer Support Network, which can be found on the Schneider Electric website at www.apc.com. Please select your country or region from the options provided in the drop-down menu. Open the Support tab at the top of the page to get customer support information for your region. All freight on the returned product must be prepaid, and a brief description of the problem encountered and proof of the date and place of purchase shall be enclosed along with the return product.

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