Smart-UPS™ Uninterruptible Power Supply

SMT1500RM1UC
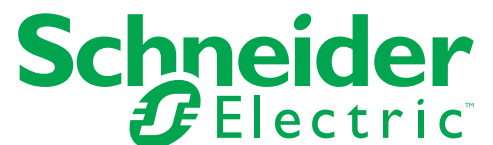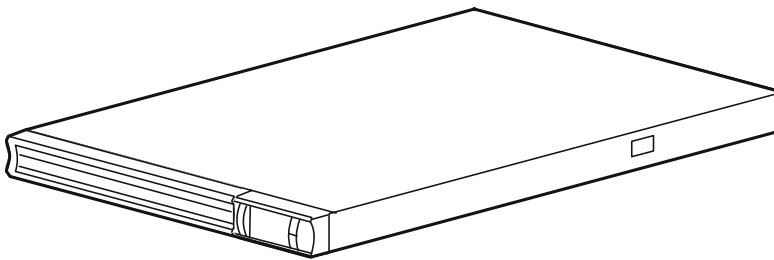
120 Vac

Rack-Mount 1U

User Manual

EN TME62252

04/2025

APC™

Schneider Electric™

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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 Smart-UPS and batteries.

This is the "Read user manual" symbol. Read the user documentation carefully and look at the UPS to become familiar with it before trying to install or operate it.

Read the Safety Guide supplied with the UPS to become familiar with the safety requirements before trying to install or operate the UPS.

Read the instructions in this manual carefully to become familiar with the UPS.

The following special messages may appear throughout this document or on the UPS 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" product 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, **can result in** death or serious injury.

⚠ CAUTION
CAUTION indicates a hazardous situation which, if not avoided, **can 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.

Additional safety information can be found in the Safety Guide supplied with this unit.

- Adhere to all local and national electrical codes.

- Do not work alone under hazardous conditions.

- All wiring must be performed by a qualified electrician.

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

- The UPS is intended for indoor use only.

- Always install peripheral equipment above the UPS in rack-mount configurations.

- The UPS is intended for IT environments. 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 are not blocked. Allow adequate space for proper ventilation.

- For a UPS with a factory installed power cord, connect the UPS power cable directly to a wall outlet. Do not use surge protectors or extension cords.

- The UPS is heavy. Always practice safe lifting techniques adequate for the weight of the UPS.

- The battery is heavy. Remove the battery before installing the UPS in a rack.

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 a 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.

- Batteries typically last for two to five years. Environmental factors impact battery life. Elevated ambient temperatures, poor quality utility power, causing frequent short duration discharges will shorten battery life. Batteries should be replaced before end of life.

- Schneider Electric uses Maintenance-Free sealed Lead Acid batteries. Under normal use and handling, there is no contact with the internal components of the battery. Over charging, over heating or other misuse of batteries can result in a discharge of battery electrolyte. Released electrolyte is toxic and may be harmful to the skin and eyes.

- Servicing of batteries should be performed or supervised by personnel knowledgeable about batteries and required precautions.

- CAUTION: Do not dispose of 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.

- CAUTION: Failed batteries can reach temperatures that exceed the burn thresholds for touchable surfaces.

- CAUTION: A battery can present a risk of electrical shock and high short circuit current. The following precautions should be observed when working on batteries:
  - Disconnect the charging source prior to connecting or disconnecting battery terminals.
  - Do not wear any metal objects including watches and rings.
  - Do not lay tools or metal parts on top of batteries.
  - Use tools with insulated handles.

◦ Wear rubber gloves and boots.

◦ 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 skilled person.

De-energizing safety

• The UPS contains internal battery modules and may present a shock hazard even when disconnected from the branch circuit (mains).

• Before installing the UPS or any accessory be sure that the:

◦ Input circuit breaker is in **OFF** position.

◦ Internal UPS battery modules are removed.

Electrical safety

• Do not handle any metallic connector before power has been disconnected.

• In order to comply with the EMC regulations, output cords and 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 leakage current for a pluggable, Type A UPS may exceed 3.5 mA when a separate ground terminal is used.

• 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.
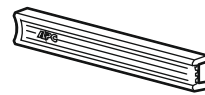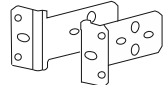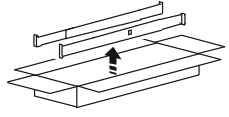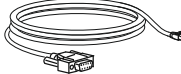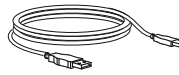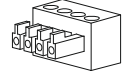
General information

• The model and serial numbers are located on a small, rear panel label. For some models, an additional label is located on the chassis under the front bezel.

• Recycle the packaging materials or save them for reuse.

FCC Class A Radio Frequency Warning

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the users will be required to correct the interference at their own expense.

Inventory

Quick Installation Guide	Bezel	Rack-Mount brackets	1U Rail Kit with rails, cleats, screws
Network Cable	Serial cable	Type A USB cable	EPO Connector
Screws for rack mounting (4x)	Screws for mounting UPS in rack (2x)		

Product Description

The APC Smart-UPS™ is a high performance uninterrupted power supply (UPS). The UPS helps to protect electronic equipment from utility power blackouts, brownouts, sags, and surges, small utility power fluctuations and large disturbances. The UPS also provides battery backup power for connected equipment until utility power returns to specified levels or the batteries are fully discharged.

This user manual is available on our web site, www.se.com.

Product Overview

Front panel features

❶	Battery
❷	Battery connector
❸	Display interface
❹	Bezel

Rear panel features

❶	Circuit breaker/ Overload protection
❷	UPS input
❸	Switched outlet group 1
❹	Switched outlet group 2
❺	**Serial port (RJ45):** Use this serial port to connect to a computer for monitoring or gracefully shutting down the operating system using PowerChute software. Refer to "Connect and Install Management Software" on page 16
❻	**USB port:** Use this USB port to connect to a computer for monitoring or gracefully shutting down the operating system using PowerChute software. Refer to "Connect and Install Management Software" on page 16 **NOTE**: Serial and USB communication can not be used simultaneously.
❼	SmartSlot for optional accessory card
❽	SmartConnect Ethernet port Availability of features varies by terms of use. Access the terms of use at https://smartconnect.apc.com. SmartConnect Ethernet port allows you to monitor the health and status of your UPS from any device connected to the Internet. Log onto www.smartconnect.apc.com or scan the QR code to launch the registration process. The website includes instructions to setup your online account, activate your warranty and begin monitoring your UPS remotely.
❾	EPO connector

Specifications

Physical and Environmental

For additional specifications, refer to Schneider Electric Web site www.se.com.

Weight Specifications	UPS + Battery Pack	24 kg (53 lb)
	Battery Pack	10.5 kg (23 lb)
Temperature	Operating	0 to 40 °C (32 to 104 °F)
	Storage*	-15 to 45 °C (5 to 113 °F)
Maximum Elevation	Operating	3,000 m (10,000 ft)
	Storage	15,000 m (50,000 ft)
Humidity		0% to 95% relative humidity, non-condensing

*Charge UPS battery every six months

Battery

Battery Type	Sealed, Maintenance-free, Valve Regulated Lead-Acid battery
Replacement battery module	APCRBC88
Number of battery modules	1 battery module
Battery Voltage for the UPS	36 V
Ah rating	9 Ah

Installation

Remove the Battery

⚠ **CAUTION**
DAMAGE TO EQUIPMENT OR PERSONNEL

• Always practice safe lifting techniques adequate for the weight of the equipment.
• The combined weight of the UPS and the battery pack is 24 kg (53 lb).
  The battery pack weighs 10.5 kg (23 lb). Remove the battery pack before
  installing the UPS in a rack.

Failure to follow these instructions can result in equipment damage and minor or moderate injury
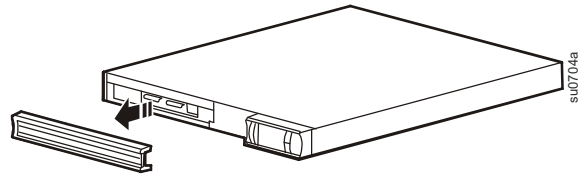
❶	Remove the bezel.
❷	Remove the screw that secures the battery compartment door.
❸	Open the battery compartment door.
❹	Slide the battery out of the UPS. Do not pull on the battery cable to remove the battery from the UPS.
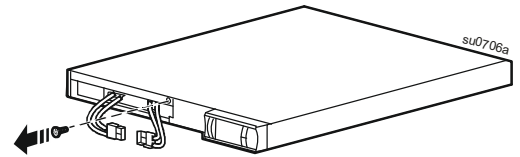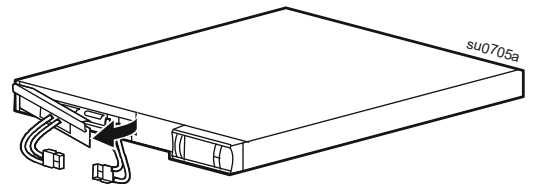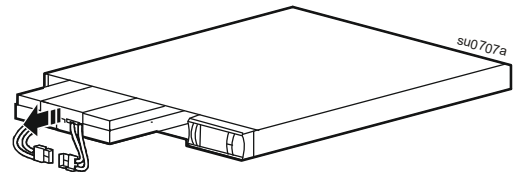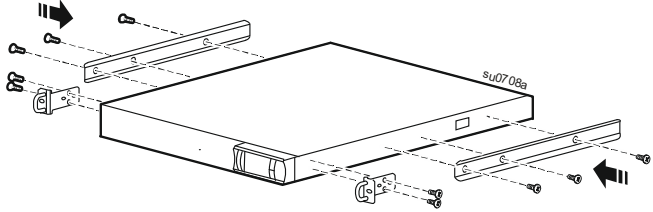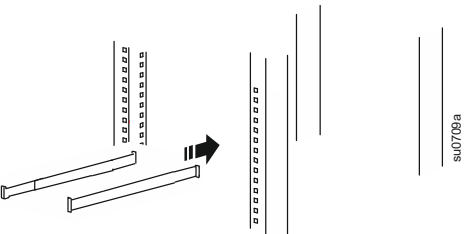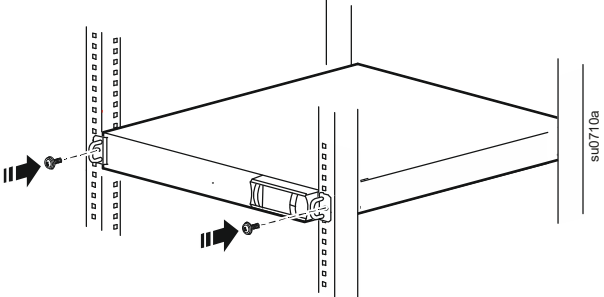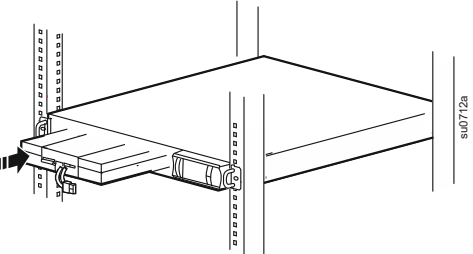
Rack Installation
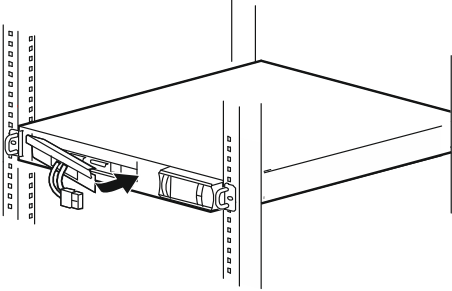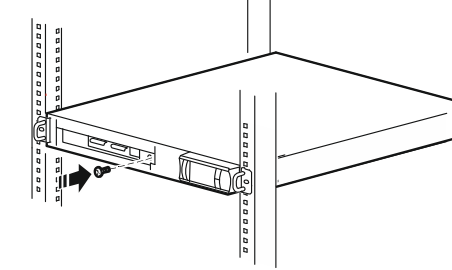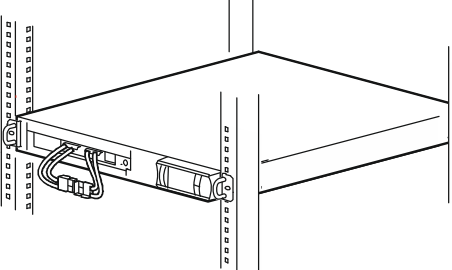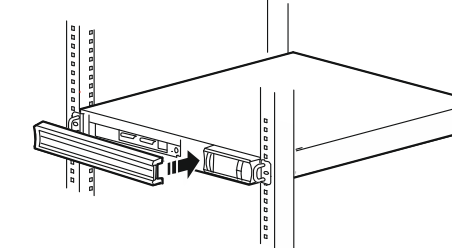
> ### ⚠ CAUTION
>
> **RISK OF FALLING EQUIPMENT**
>
> - Always practice safe lifting techniques adequate for the weight of the equipment.
> - Always use the recommended number of screws to secure brackets to the UPS.
> - Always use the recommended number of screws to secure the UPS to the rack.
> - Always install the UPS at the bottom of the rack.
> - Always install the external battery pack below the UPS in the rack.
> - Place the rack in the location where the equipment will be used.
> - Do not move the rack once the UPS is installed.
>
> **Failure to follow these instructions can result in minor or moderate injury and equipment damage.**

❶	Secure the rail cleats and brackets to the UPS. Use two screws for each rack-mount bracket and three screws for each rail cleat.
❷	Install the 1U Rail Kit included with the UPS. Refer to the installation instructions provided with the rail kit.
❸	Slide the UPS into the rack. Secure the brackets to the rack using the screws provided.
❹	Slide the battery into the UPS.

❺	Install the battery compartment door.
❻	Secure the door with the screw previously removed.
❼	Secure the two battery connectors as shown in the diagram below. Be sure the wires and connectors are neatly tucked in, and not pressed against the battery bracket or other metal edges nearby.
❽	Install the bezel on the front of the UPS.

Battery Replacement

Always recycle used batteries.
For information on recycling a used battery, refer to the Battery Disposal Information sheet included with the replacement battery.

Replace used batteries with Schneider Electric approved batteries. To order a replacement battery go to the Schneider Electric Web site, www.se.com.

Battery life is highly dependent on temperature and use. To identify when to replace batteries, Smart-UPS have a predictive battery replacement date indicator in the "About" menu and automatic (and configurable) self-tests.

Proactively replace batteries to maintain the highest availability. To ensure protection and high performance, use only genuine APC Replacement Battery Cartridges (RBC™). The APC RBC contains instructions for battery replacement and disposal. To order a replacement battery go to Schneider Electric Web site, www.se.com.

Operation

Connect Equipment

⚠ CAUTION
RISK OF ELECTRIC SHOCK
• Adhere to all local and national electrical codes.
• Wiring should be performed by qualified electrician.
• Always connect the UPS to a grounded outlet.
Failure to follow these instructions can result in minor or moderate injury.

NOTE: The UPS will charge to 90% capacity in the first three hours of normal operation. **Do not expect full battery runtime capability during this initial charge period.**

1. Connect the protected equipment to the outlets on the rear panel of the UPS.
2. Connect the UPS to the building utility power. **Connect the UPS to a two pole, three wire, grounded source only.**
3. To use the UPS as a Master On/Off switch, turn on the equipment that is connected to the UPS.
4. To turn on the UPS and all connected equipment, press the UPS ON/OFF button on the front panel of the UPS.
5. Refer to "Switched Outlet Groups" on page 21 for details on how to use the Switched Outlet Groups.
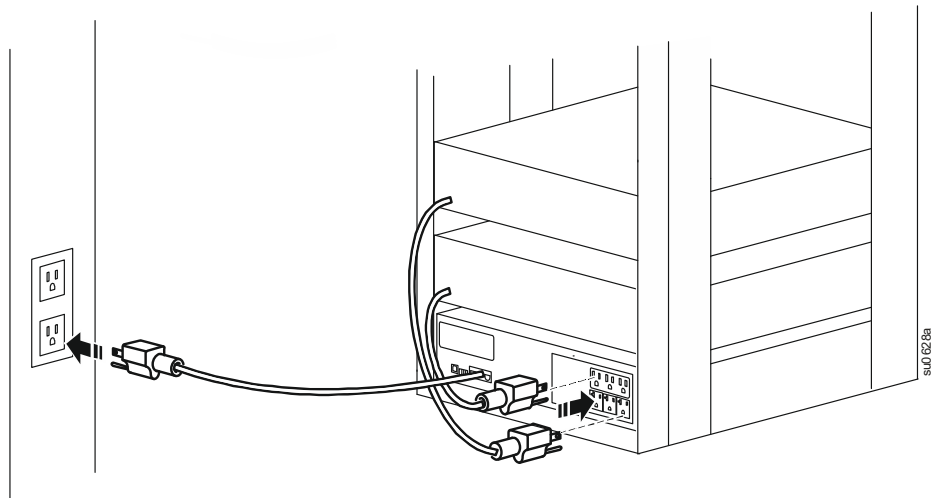
Display Interface

Overview

❶	**Online LED**
❷	**On Battery LED**
❸	**Alert LED**
❹	**Replace Battery LED**
❺	UP/DOWN **arrow buttons**
❻	**Multi-lingual display screen**
❼	ENTER **button**
❽	UPS ON/OFF **button**
❾	ESCAPE **button**
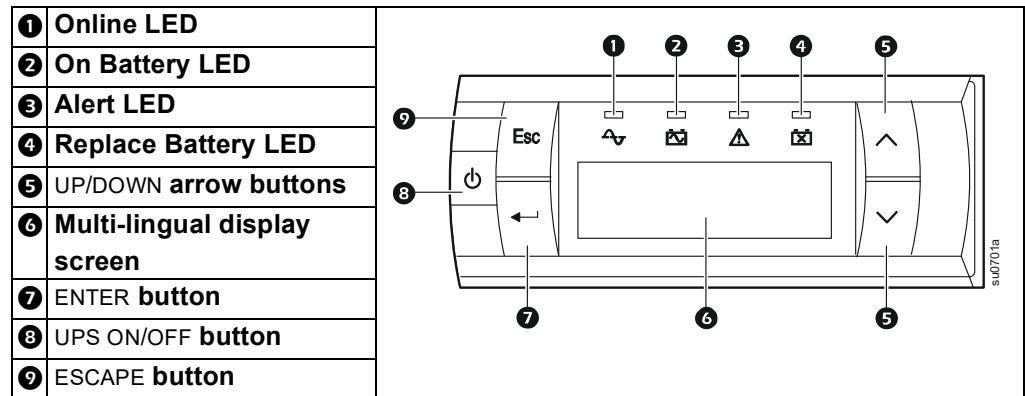
Display interface operation

Use the UP/DOWN arrow buttons to scroll through the main menu options.

Press ENTER to view the sub menus under each main menu option.

Press ESCAPE to exit a sub menu and return to a main menu.

Menu overview

The display interface has Standard and Advanced menu screens. The preference for Standard or Advanced menu options is made during initial installation and can be changed at any time using the Configuration menu.

Standard menus are the most commonly used menus. The default screen shows Load and Battery Capacity bar graphs.

The Advanced menus include more status information and additional sub menus. The default screen shows scrolling status information.

NOTE: Actual menu screens may differ by firmware revision.
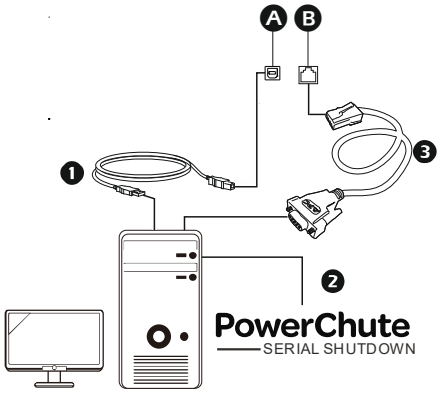
Main Menu	Display Description	Standard Menu	Advanced Menu
Status *	Operating mode *	X	X
	Efficiency	X	X
	Load power (W) *	X	X
	Load power (VA) *	X	X
	Load current		X
	Load energy meter		X
	Battery charge state%	X	X
	Battery runtime *	X	X
	Battery voltage	X	X
	Battery temperature		X
	Input voltage and frequency *	X	X
	Output voltage and frequency *	X	X
	Outlet group status *		X
	SmartConnect		X
Control	UPS control		X
	Outlet Group control		X

Main Menu	Display Description	Standard Menu	Advanced Menu
Configuration	Language	X	X
	Output voltage setting (if applicable)		X
	Power quality	X	X
	Menu type	X	X
	Audible alarms	X	X
	Display mode	X	X
	Sensitivity		X
	Low voltage transfer points		X
	High voltage transfer points		X
	Low battery alert threshold		X
	Automatic self test interval		X
	Battery install date	X	X
	Reset energy meter		X
	Enter set-up wizard		X
	Perform firmware update (UPS output must be off)		X
	Reset to factory defaults	X	X
	Outlet group configuration		X
	Green mode	X	X
	NMC configuration (if applicable)		X
	NMC IP Address setting (feature available only when NMC is installed)		X
	UPS IP Address setting		X
	ModBus settings		X
	SmartConnect	X	X
	Site wiring fault		X
Test & Diagnostics	UPS self test	X	X
	UPS alarms test	X	X
	UPS calibration test	X	X
Logs	Event Logs		X
About	UPS model	X	X
	UPS part number	X	X
	UPS serial number	X	X
	UPS manufacture date	X	X
	Battery install date	X	X
	Replacement battery part number	X	X
	Replace battery date	X	X
	XBP Battery (if installed)	X	X
	Running UPS firmware	X	X
	Available UPS FW (if available)	X	X
	UPS MAC Address	X	X
	UPS IP address	X	X
	UPS product key	X	X
	SmartSlot card (if installed)	X	X

* Advanced menu Status items displayed as scrolling information

Connect and Install Management Software

Install PowerChute™ Serial Shutdown software on all servers connected to your Smart-UPS, for graceful operating system shutdown, control and monitoring the Smart-UPS. Visit https://www.se.com/pcss for more information and downloading the software.The following diagram is a representation of a typical server installation.

Ⓐ	USB Port
Ⓑ	Serial Port

NOTE: For location of the port, refer to "Rear panel features" on page 8.

❶	Connect the USB cable from the rear of the UPS to the protected device such as a server.
❷	For a server or other device with an operating system, download and install latest version of the PowerChute Serial Shutdown from https://www.se.com/pcss. PowerChute Serial Shutdown supports graceful shutdown in the event of an extended power outage. **NOTE:** PowerChute is a 64-bit only application and cannot be installed on a 32-bit operating system.
❸	A built-in Serial port (RJ45) is also available for additional communication options with serial cable. **NOTE:** Serial port and USB port cannot be used at the same time.

Configuration

UPS Settings

Start up settings

At initial start up use the Setup Wizard to configure the following settings.

NOTE: During start up, use the display interface to configure these settings.If nothing is selected, the unit will use the default settings.

Function	Factory Default	Options	Description
Language	English	• English • French • German • Spanish • Italian • Portuguese • Japanese	The language for the display interface.
Connect Ethernet Cable			This menu is for reminding users to connect the ethernet cable. This menu will be displayed only if the UPS has SmartConnect Ethernet port. The user can continue the configuration process by pressing the ENTER button even if the ethernet cable is not connected.
Output Voltage	120 Vac	• 110 Vac • 120 Vac	UPS output must be off to configure this setting.
Local Power Quality	Good	• Good • Fair • Poor	Select the desired utility input power quality. • Good: The UPS will go on battery power more often to provide clean power to connected equipment. • Fair: The UPS will tolerate some voltage fluctuations before switching to battery power. • Poor: The UPS will tolerate more voltage fluctuations and will go on battery power less often. The **Power Quality** setting will automatically change the high and low transfer points and the transfer sensitivity setting.
Menu Type	Standard	• Standard • Advanced	The Advanced menus include all parameters. The Standard menus display a limited set of menus and options.
Date	UPS manufacture date + 90 days	mm-yyyy	At initial start up, enter the current date.

General Settings

Configuration settings may be changed at any time using the display interface or PowerChute software.

Function	Factory Default	Options	Description
High Transfer Point	127 Vac	127-136 Vac	To avoid unnecessary battery usage, the high and low transfer points can be adjusted.
Low Transfer Point	106 Vac	97-106 Vac	• Set the transfer point higher if the AC voltage is chronically high. • Set the transfer point lower if the AC voltage is chronically low. When the **Power Quality** setting is changed the high and low transfer points will automatically be adjusted. The transfer point options will change based on the output voltage setting.
Transfer Sensitivity	Normal	• Normal • Reduced • Low	Set the sensitivity to a level that is appropriate for the connected equipment. • Normal: The UPS will go on battery power more often to provide clean power to the connected equipment. • Reduced: The UPS will tolerate some voltage fluctuations before switching to battery power. • Low: The UPS will tolerate more voltage fluctuations and will go on battery power less often. When the **Power Quality** setting is changed the transfer sensitivity will automatically be adjusted.
Low Runtime Alert	120 sec	Value set in seconds	The UPS will emit an audible alarm when the remaining runtime has reached this level.
Date of Last Battery Replacement	Date set at factory	Reset this date when the battery module is replaced.	
Audible Alarm	On	• On • Off	The UPS will mute all audible alarms if this is set to Off or when any of the display buttons are pressed.
Display Mode	Auto Dim	• Always On • Auto Dim / Auto Off	• The display interface remains continuously illuminated. • The display interface dims for a few seconds after being inactive for two minutes before turning off.
Auto Self-Test Interval	On start up and 14 days after each self-test.	• Last test + 14 days • Last test + 7 days • Start up+ 14 days • Start up + 7 days • On start up only • Never	The interval at which the UPS will execute a self-test. The batteries must be charged to at least 70% capacity to perform a self-test. "Start up" on these menus refers to any time the UPS is turned on.
Reset to Factory Default	No	• Yes • No	Restore the UPS factory default settings.
Site Wiring Fault	Enable	• Enable • Disable • Can Ack	Sets the Site Wiring Fault detection to Enable, Disable or User Can Acknowledge

Function	Factory Default	Options	Description
SmartConnect Control	Enable-No control	• Enable – No control • Enable – with control • Disable	This setting will determine how the UPS will connect to SmartConnect. • Select Disable when the UPS should not be connected to SmartConnect. • Select Enable - No Control to monitor the basic UPS Status via SmartConnect. • Select Enable - with Control to allow supported UPS commands via SmartConnect.
Green Mode	Enable	• Enable • Disable	This will enable or disable the Green mode function. Green Mode conserves energy while the UPS is operating on line

Modbus settings

Setting	Factory Default	Option	Description
Slave ID	1	1 - 233	Sets the Modbus slave address of UPS
Ser+USB	Disable	• Enable • Disable	Enables or disables UPS Modbus protocol over serial and USB ports
TCP Settings			
TCP protocols	Disable	• Disable • Read-Only • Read-Write	Enables or disables UPS Modbus TCP/IP protocol provided by the embedded SmartConnect port. • Disable: Disables UPS Modbus TCP/IP protocol • Read-Only: Modbus master over TCP/IP protocol is only allowed to get UPS status. • Read-Write: Modbus master over TCP/IP protocol is allowed to get UPS status and control the UPS. The port number of UPS Modbus TCP/IP protocol is fixed at 502.
Master IP Addr	000.000.000.000	A valid IPv4 address	Specifies the IPv4 address of the Modbus master. The Master IP Address when set as 000.000.000.000 will allow connection of external Modbus master with any IP address. When not set as 000.000.000.000, only the Modbus master with the specified IP address is allowed to connect to the UPS. Example: Master IP Address is set to 192.168.0.10, only Modbus master with IP address 192.168.0.10 can connect to the UPS.

UPS IP Address settings

Setting	Factory Default	Option	Description
UPS IP Address Mode	DHCP	• DHCP • Manual	Selects the IP address configuration mode of the UPS embedded SmartConnect port: • DHCP: The UPS will automatically configure its IPv4 address via DHCP protocol. • Manual: Manually assigns a static IPv4 address to the UPS.
IP Address	000.000.000.000	A valid IPv4 address	This is the IPv4 address assigned to the embedded SmartConnect port. When DHCP IP address mode is selected, it will display the UPS IPv4 address assigned by DHCP server. When Manual IP address mode is selected, you need to manually specify a static IPv4 address.
Subnet Mask	000.000.000.000	A valid IPv4 address	Assigns the subnet mask of the network where the UPS IPv4 address belongs. When DHCP IP address mode is selected, it will display the subnet mask assigned by DHCP server. When Manual IP address mode is selected, you need to manually specify the subnet mask of the network where the specified static IPv4 address belongs.
Default Gateway	000.000.000.000	A valid IPv4 address	This is the IPv4 address of the host from where the UPS sends data to another network or Internet. When DHCP IP address mode is selected, it will display the default gateway assigned by DHCP server. When Manual IP address mode is selected, you need to manually specify the IPv4 address of default gateway.
DNS Server 1	000.000.000.000	A valid IPv4 address	The IPv4 address of first Domain Name Server (DNS) the UPS uses to resolve host names to IPv4 addresses. When DHCP IP address mode is selected, it will display the IPv4 address of the first DNS server assigned by DHCP server. When Manual IP address mode is selected, you need to manually specify the IPv4 address of the first DNS server.
DNS Server 2	000.000.000.000	A valid IPv4 address	The IPv4 address of second Domain Name Server (DNS) the UPS uses to resolve host names to IPv4 addresses (only when UPS is unable to resolve IP address through first domain name server). This setting is optional. When DHCP IP address mode is selected, it will display the IPv4 address of the second DNS server assigned by DHCP server. When Manual IP address mode is selected, you can manually specify the IPv4 address of the second DNS server or leave it as 000.000.000.000

Switched Outlet Groups

Overview

The UPS has two Switched Outlet Groups. Each can be configured to independently perform the following actions:

- Turn off: Disconnect power to connected equipment immediately and restore power to connected equipment only with a manual command.
- Turn on: Connect power to connected equipment immediately.
- Shutdown: Disconnect power, and automatically restore power when utility power becomes available.
- Reboot: Shut down and restart.
- Turn on or off in a specified sequence.
- Automatically turn off or shut down when various conditions occur.

NOTE: If the Switched Outlet Groups are not configured, all the outlets on the unit will provide battery backup power.

Configure the Switched Outlet Groups

1. Connect equipment to the Switched Outlet Groups.
   ◦ Nonessential equipment that should shut off quickly in the event of a power outage to conserve battery runtime can be added to a short power off delay.
   ◦ If equipment has dependent peripherals that must restart or shut down in a specific order, such as an ethernet switch that must restart before a connected server, connect the devices to separate groups.
   ◦ Equipment that needs to reboot independently from other equipment should be added to a separate group.
2. Use the Configuration menus to configure how the Switched Outlet Group will react in the event of a power outage.

Customize Switched Outlet Groups

Use the **Configuration** menu to change the Switched Outlet Group settings.

Function	Factory Default	Options	Description
Turn On Delay	0 sec	Set the value in seconds	The amount of time the Switched Outlet Group will wait between receiving the command to turn on and the actual startup.
Turn Off Delay	90 sec	Set the value in seconds	The amount of time that the Switched Outlet Group will wait between receiving the command to turn off and the actual shut down.
Reboot Duration	8 sec	Set the value in seconds	The amount of time that the UPS must remain off before it will restart.
Minimum Return Run Time	0 sec	Set the value in seconds	The amount of battery runtime that must be available before the UPS or Switched Outlet Group will turn on.

Function	Factory Default	Options	Description
Load Shed Time On Battery	Disabled	• Enable • Disable	When the unit switches to battery power, the UPS can disconnect power to the Switched Outlet Group to save runtime.
Load Shed Time On Battery	1800 sec	Set the value in seconds	The amount of time the Switched Outlet Group will continue function after the UPS begins operating on battery.
Load Shed Runtime Remain	Disabled	• Enable • Disable	When the battery runtime falls below the specified value, the Switched Outlet Group will turn off.
Load Shed Runtime Remain	120 sec	Set the value in seconds	Remaining runtime required for the outlets to stay on.
Load Shed on Overload	Disabled	• Enable • Disable	In the event of an overload (greater than 100% output), the Switched Outlet Group will immediately turn off to conserve power for critical loads. The Switched Outlet Group will only turn on again with a manual command.

EcoStruxure™ IT SmartConnect

SmartConnect Ethernet Port allows you to monitor the health and status of your UPS from any device connected to the Internet.

Availability of features varies by terms of use. Access the terms of use at https://www.smartconnect.apc.com.

The Web Portal allows you to remotely view the status of your UPS, receive automatic notifications about UPS events, and firmware updates. The features may vary with terms of use. Visit https://www.smartconnect.apc.com to learn more.

By connecting this product to the Internet using the SmartConnect Ethernet port, you are agreeing to the APC SmartConnect Terms of Use and Data Privacy Notice, as found at
https://www.smartconnect.apc.com/terms-and-privacy. The Schneider Electric Data Privacy Policy can also be found at https://www.smartconnect.apc.com/terms-and-privacy.

Log onto https://www.smartconnect.apc.com or scan the QR code to begin the registration process. The QR code is located on the rear panel of the UPS. Allow a few minutes for the Ethernet to be established before you can complete the registration process.

For instructions on how to register your SmartConnect-compatible UPS, visit https://www.smartconnect-support.apc.com.

Emergency Power Off

Overview

The Emergency Power Off (EPO) option is a feature that will immediately disconnect all connected equipment from mains power. The UPS will immediately shut down and will not switch to battery power.

Connect each UPS to the EPO switch. If multiple units are to be controlled with an EPO switch, each UPS must be connected separately to the EPO switch.

The UPS must be restarted for power to return to connected equipment. Press the ON/OFF button on the front panel of the UPS.

⚠ **CAUTION**
RISK OF ELECTRIC SHOCK
• Adhere to all local and national electrical codes. • Wiring must be performed by a qualified electrician. • Always connect the UPS to a grounded outlet.
Failure to follow these instructions can result in minor or moderate injury.

Normally open contacts

1. If the EPO switch or relay contacts are normally closed, insert the wires from the switch or contacts at pins 2 and 3 of the EPO terminal block. Use 16-28 AWG wire.

2. Insert a wire jumper between pins 1 and 2. Secure the wires by tightening the three screws at positions 1, 2, and 3.
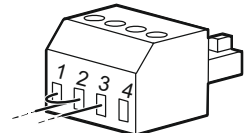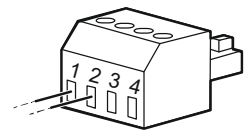
Normally closed contacts

1. If the EPO switch or relay contacts are normally closed, insert the wires from the switch or contacts at pins 2 and 3 of the EPO terminal block. Use16-28 AWG wire.

2. Insert a wire jumper between pins 1 and 2. Secure the wires by tightening the three screws at positions 1, 2, and 3.

If the contacts are opened, the UPS will turn OFF and power will be removed from the load.

NOTE: Pin 1 is the power source for the EPO circuit, it provides a few milliampere of 24 V power.

If the normally closed (NC) EPO configuration is used, the EPO switch or relay should be rated for dry circuit applications, the rating should be for low voltage and low current applications. This normally implies the contacts are gold-plated.

The EPO interface is a Safety Extra Low Voltage (SELV) circuit. Connect the EPO interface only to other SELV circuits. The EPO interface monitors circuits that have no determined voltage potential. SELV circuits are controlled by a switch or relay properly isolated from utility power. To avoid damage to the UPS, do not connect the EPO interface to any circuit other than a SELV circuit.

Use one of the following cable types to connect the UPS to the EPO switch.

- CL2: Class 2 cable for general use.
- CL2P: Plenum cable for use in ducts, plenums, and other spaces used for environmental air.
- CL2R: Riser cable for use in a vertical run in a floor-to-floor shaft.
- CLEX: Limited use cable for use in dwellings and for use in raceways.
- Installation in Canada: Use only CSA certified, type ELC, (extra low voltage control cable).
- Installation in countries other than Canada and the USA: Use standard low voltage cable in accordance with national and local regulations.

Troubleshooting

Problem and Possible Cause	Solution
The UPS will not turn on or there is no output	
The unit has not been turned on.	Press the UPS ON/OFF button once to turn on the UPS.
The UPS is not connected to utility power.	Be sure that the power cable is securely connected to the UPS and to the utility power supply.
The input circuit breaker has tripped.	Reduce the load on the UPS, disconnect nonessential equipment and reset the circuit breaker.
The UPS shows very low or no input utility voltage.	Check the utility power supply to the UPS by plugging in a table lamp. If the light is very dim, check the utility voltage.
UPS has detected an internal fault	Do not attempt to use the UPS. Unplug the UPS and have it serviced immediately.
The UPS is operating on battery, while connected to utility power	
The input circuit breaker has tripped.	Reduce the load on the UPS, disconnect nonessential equipment and reset the circuit breaker.
There is very high, very low, or distorted input line voltage.	Move the UPS to a different outlet on a different circuit. Test the input voltage with the utility voltage display. If acceptable to the connected equipment, reduce the UPS sensitivity.
UPS is beeping	
The UPS is in normal operation.	None. The UPS is helping to protect the connected equipment.
UPS does not provide expected backup time	
The UPS battery is weak due to a recent outage or is near the end of its service life.	Charge the battery. Batteries require recharging after extended outages and wear out faster when put into service often or when operated at elevated temperatures. If the battery is near the end of its service life, consider replacing the battery even if the replace battery indicator is not yet illuminated.
The UPS is experiencing an overload condition	Check the UPS load display. Unplug unnecessary equipment, such as printers.
Display interface LEDs flash sequentially	
The UPS has been shut down remotely through software or an optional accessory card.	None. The UPS will restart automatically when utility power is restored.
The Alert LED is illuminated, the UPS displays a message and emits a constant beep	
UPS has detected an internal fault.	Do not attempt to use the UPS. Turn the UPS off and have it serviced immediately.
The Replace Battery LED is illuminated	
The battery has a weak charge.	Allow the battery to recharge for at least four hours. Then, perform a self-test. If the detected problem persists after recharging, replace the battery.
The replacement battery is not properly connected.	Be sure that the battery connector is securely connected.

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 Schneider Electric Customer Support through the Web site,
www.se.com.
    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 display interface on select models.
    b. Call 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 Returned Material Authorization Number (RMA#).
    c. If the unit is under warranty, the repairs are free.
    d. Service procedures and returns may vary internationally. Refer to the Schneider Electric Web site for country specific instructions.
3. Pack the unit in the original packaging whenever possible to avoid damage in transit. Never use foam beads for packaging. Damage sustained in transit is not covered under warranty.
    a. **Always DISCONNECT THE UPS BATTERIES before shipping. The United States Department of Transportation (DOT), and the International Air Transport Association (IATA) regulations require that UPS batteries be disconnected before shipping.** The internal batteries may remain in the UPS but must be disconnected.
    b. For external battery packs, it is not necessary to disconnect the internal batteries for shipping. Not all units utilize an external battery pack.
4. Write the RMA# provided by Customer Support on the outside of the package.
5. Return the unit by insured, prepaid carrier to the address provided by Customer Support.

Transport the unit

1. Shut down and disconnect all connected equipment.
2. Disconnect the unit from utility power.
3. Disconnect all internal and external batteries (if applicable).
4. Follow the shipping instructions outlined in the *Service* section of this manual.

Limited Factory Warranty

Schneider Electric IT Corporation (SEIT), 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 SEIT obligation under this warranty is limited to repairing or replacing, at its own sole option, any such defective products. Repair or replacement of a defective product or parts 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.

SEIT 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 or any third person misuse, negligence, improper installation, testing, operation or use of the product contrary to SEIT recommendations of specifications. Further, SEIT 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, or 6) theft. In no event shall SEIT have any liability under this warranty for any product where the serial number has been altered, defaced, or removed.

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To obtain service under warranty you must obtain a Returned Material Authorization (RMA) number from customer support. Customers with warranty claims issues may access the SEIT worldwide customer support network through the Schneider Electric Web site: www.se.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. Products must be returned with transportation charges prepaid and must be accompanied by a brief description of the problem encountered and proof of date and place of purchase.

APC Worldwide Customer Support

Customer support for this or any other APC product is available at no charge in any of the following ways:

- Visit our Web site to access documents in the APC Knowledge Base and to submit customer support requests.
  - **www.se.com** (Corporate Headquarters)
- Connect to localized APC sites for specific countries, each of which provides customer support information.
  - **www.se.com/support/**
- Global support searching APC Knowledge Base and using e-support.
- Contact the APC Customer Support Center by telephone or e-mail.
  - Local, country-specific centers: go to **www.se.com/contact** for contact information.
  - For information on how to obtain local customer support, contact the Schneider Electric representative or the distributor from whom you purchased your APC product.

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