User Manual Easy UPS On-Line
SRVL Series Rack/Tower Convertible
Extended Runtime 1000VA, 2000VA, 3000VA

Important Safety Instructions

SAVE THESE INSTRUCTIONS - This manual contains important instructions that should be followed during installation and maintenance of the UPS.

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 document 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

For Professional Business Applications – Not For Consumer Use

Safety and General Information

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

- This UPS is intended for indoor use only.
- Do not operate this UPS in direct sunlight, in contact with fluids, or where there is excessive dust or 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.

Electrical Safety

- When grounding cannot be verified, disconnect the equipment from the utility power outlet before installing or connecting to other equipment. Reconnect the power cord only after all connections are made.
- Connection to the branch circuit (mains) must be performed by a qualified electrician.
- 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 be green and with or without a yellow stripe.
- The grounding conductor is to be grounded to earth at the service equipment, or if supplied by a separately derived system, at the supply transformer or motor generator set.
- The length of the output cable should not exceed 10m.

Battery Safety

⚠ WARNING

RISK OF CHEMICAL HAZARD AND EXCESSIVE HEAT

- Replace the battery module at least every 10 years or at the end of its service life, whichever is earlier.
- Replace the battery module immediately when the UPS indicates battery replacement is necessary.
- Replace battery module with the same type of batteries as originally installed in the equipment.
- *Replace all External Battery Packs which are older than one year, when installing additional battery packs.

Failure to follow these instructions can result in death or serious injury.

* Contact APC by Schneider Electric Worldwide Customer Support to determine the age of the installed battery packs.

Note: Servicing of battery modules should be performed or supervised by personnel knowledgeable about batteries and required precautions.

- The battery typically lasts for eight to ten years. Environmental factors impact battery life. Elevated ambient temperatures, poor quality utility power, and frequent short duration discharges will shorten battery life.
- For longest battery performance, the ambient temperature should be maintained between 68 and 77 °F (20 and 25 °C).
- APC by Schneider Electric uses Maintenance-free Lithium-Ion batteries. Under normal use and handling, there is no contact with the internal components of the battery.
- Do not drive nails into the battery pack.
- Do not strike the battery pack with a hammer.
- Do not stand on the battery pack.
- Do not short circuit battery pack.
- Do not place or use the battery pack near heat or fire.
- Do not use a dropped, damaged or deformed battery pack.
- Do not use the battery pack to power other equipment.
- CAUTION: A battery can present a risk of electrical shock and high short-circuit current. Contact with any part of a grounded battery can result in electrical shock. 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 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.
- CAUTION: Before installing or replacing the batteries, remove jewelry such as wristwatches and rings. High short circuit current through conductive materials could cause severe burns.
- CAUTION: Do not dispose of batteries in a fire. The batteries may explode.
- CAUTION: Do not open or tamper with the battery enclosure. Doing so will expose the cell terminals which poses an energy hazard.
- 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: Turn off UPS before replacing battery.

Radio Frequency Warning

This is a category C2 UPS product. In a residential environment, this product may cause radio interference, in which case the user may be required to take additional measures to correct the interference.

Product Description

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

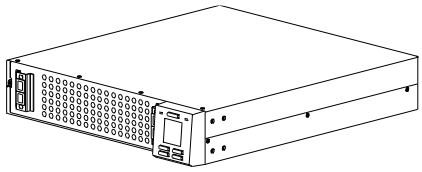
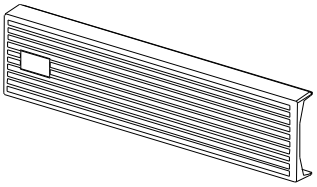
This user manual is available in the package and on the APC by Schneider Electric website, www.apc.com.

Package Contents

Read the Safety Guide before installing the UPS.

The packaging is recyclable; save it for reuse or dispose of it properly.

Note: The model and serial numbers in a small label located on product label.

<table>
<tr><td>Easy UPS
  </td><td>Front bezel
  </td></tr>
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 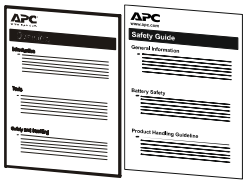 </td><td>PowerChute management software
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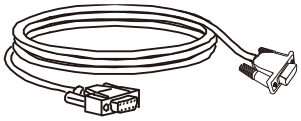
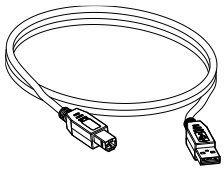
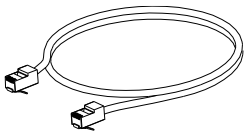
<tr><td>RS232 cable
  </td><td>USB cable
  </td><td>RJ45 cable
  </td></tr>
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 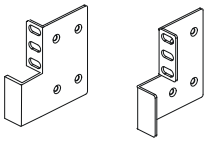
Flat head screws x 8
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 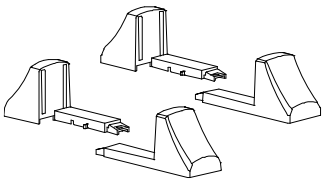
Pan head screws x 4
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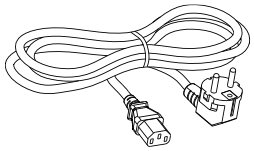
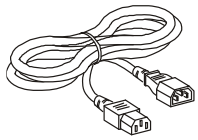
<tr><td>Utility power cable (Schuko to IEC)
  </td><td>Output cable (IEC320 C13 to IEC320 C14)
  </td></tr>
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Optional Accessories

For optional accessories, refer to the APC by Schneider Electric Website at www.apc.com.

Specifications

Environment Specifications

NOTICE

RISK OF EQUIPMENT DAMAGE

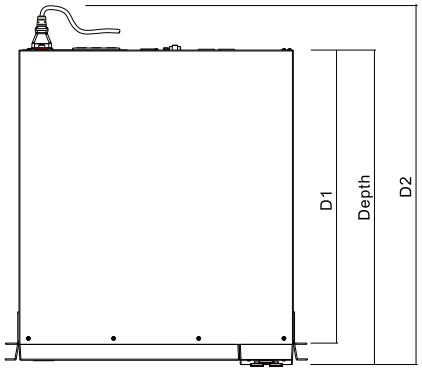
- UPS must be used indoors only.
- The installation location should be sturdy to withstand the weight of the UPS.
- Do not operate UPS where there is excessive dust or where the temperature or humidity are outside specified limits.

Failure to follow these instructions can result in equipment damage.

		SRVLPM1KRIL	SRVLPM2KRIL	SRVLPM3KRIL
Temperature	**Operating**	0 to 40 °C at rated load. 40 to 50 °C derated to 80% of maximum load capacity.		
	Storage	-20 to 50 °C		
Elevation	**Operating**	0 - 2,000 m: normal operation 2,000 m – 3,000 m: The load capacity reduces @1% for every 100 m increase in elevation. > 3,000 m: UPS will not work		
	Storage	0 - 15,000 m		
Humidity		0 to 95% relative humidity, non-condensing		
International Protection Code		IP20		

Physical Specifications

	SRVLPM1KRIL	SRVLPM2KRIL	SRVLPM3KRIL
Dimensions with Package **Height x Width x Depth**	240 x 550 x 580 mm (9.45 x 21.65 x 22.83 in)	240 x 580 x 650 mm (9.45 x 22.83 x 25.59 in)	
Dimensions without Package **Height x Width x Depth**	86 x 438 x 452 mm (3.39 x 17.24 x 17.79 in) *D1=418mm, D2=512mm	86 x 438 x 502 mm (3.39 x 17.24 x 19.76 in) *D1=468mm, D2=562mm	
Weight with Package	11.7 kg (25.79 lb)	13.0 kg (28.66 lb)	13.5 kg (29.27 lb)
Weight without Package	8.0 kg (17.64 lb)	8.8 kg (19.40 lb)	10.0 kg (22.05 lb)



Input Specifications

	SRVLPM1KRIL	SRVLPM2KRIL	SRVLPM3KRIL
Nominal Input Voltage	230 Vac		
Input Frequency	40 – 70 Hz		
Input Voltage Range (100% load)	160 Vac – 300 Vac		
Input Voltage Range (60% Load)	110 Vac – 300 Vac		
Input Power Factor (100% Resistive Load)	≥ 0.95		
Input Connection	IEC320 C14	IEC320 C20	IEC320 C20
Input Protection	Input circuit breaker		

Output Specifications

	SRVLPM1KRIL	SRVLPM2KRIL	SRVLPM3KRIL
Capacity	1000 VA / 900W	2000 VA / 1800W	3000 VA / 2700W
Topology	Double conversion online		
Power Factor	0.9		
Nominal Output Voltage	230 Vac		
Other Programmable Voltage	220 Vac, 240 Vac		
Efficiency at Rated Load in Online Mode*	90%	90%	90%
Efficiency at Rated Load in ECO Mode*	95%	96%	96%
Output Voltage Regulation	± 1% static		
Overload – Online Mode	100%~105%: alarm only, 105%~125%: transfer to bypass after 2 min, 125%~140%: transfer to bypass after 30 secs, >140% : shut down immediately		
Overload – Battery Mode	100%~105%: alarm only, 105%~120%: alert and shut down after 1min, >120%: shut down immediately		
Charger Voltage	52.5 V		
Charge Current	5.3 A	10 A	**10 A
Typical Recharge Time, Recover to 90% (x1 SRVL48RMBP2U)	8.5 hrs	4.8 hrs	4.8 hrs
Output Voltage Distortion – Online Mode & Battery Mode	• 3% max. for full linear load, • 6% max. for full RCD load (100% VA, 0.9 PF)		
Frequency – Online Mode	50 ± 3 Hz or 60 ± 3 Hz		
Frequency – Battery Mode	50 ± 0.1 Hz or 60 ±0.1Hz		
Crest Factor	3:1		
Transfer Time (Online Mode ↔ Battery Mode)	0 ms		
Waveform	Sine wave		
Output Connection	(6)IEC320 C13	(6)IEC320 C13	(6)IEC320 C13+ (1)IEC320 C19
Surge Energy Rating	945J	945J	945J
Noise Level***	< 50dBA @ 1 Meter		
Bypass	Internal bypass		
Runtime 100% Load (x1 SRVL48RMBP2U)******	135 min	60 min	40 min
Runtime 50% Load (x1 SRVL48RMBP2U)******	260 min	136 min	85 min
Communication Port	USB port, RS232 serial port, Intelligent card slot		
Management	Windows family and Linux		

*Efficiency is the maximum.

**If load >95%, charging current will be derated to 6 A.

***100% load with battery fully charged at 25 °C.

****Run time only as reference data at temperature of 25 °C.

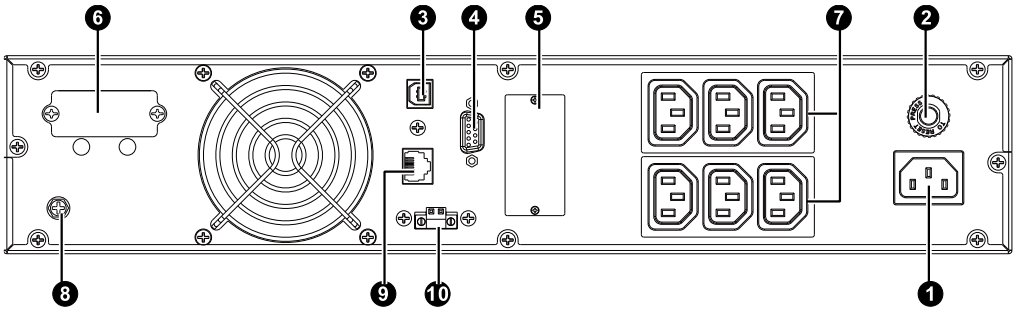
Battery Support

UPS Model	SRVL1KRIL	SRVL2KRIL	SRVL3KRIL
Power Module	SRVLPM1KRIL	SRVLPM2KRIL	SRVLPM3KRIL
Battery Pack Model	SRVL48RMBP2U		
Configuration	External battery		
Type	Lithium Ion		
Typical Capacity	2400 Wh		
Nominal Voltage	48 V		
Recommended Charge Voltage	52.5 V		
Maximum Battery Pack Support	3		
Communication Port	RS485 (RJ45) for connecting Easy UPS and Battery Pack CAN bus (RJ11) for connecting multiple Battery Packs		

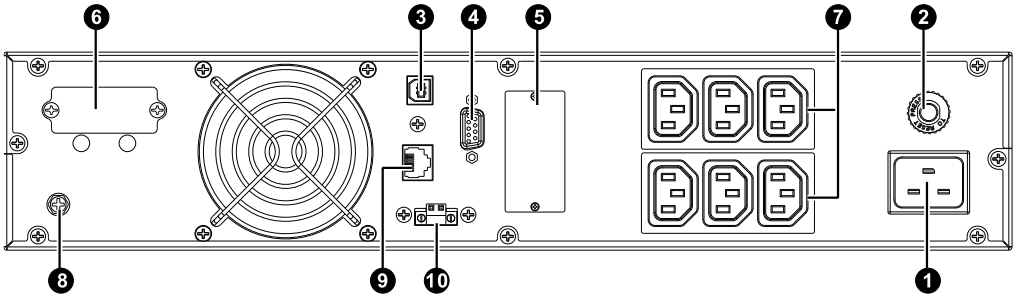
* Turn off UPS before replacing battery.

Rear Panel Features

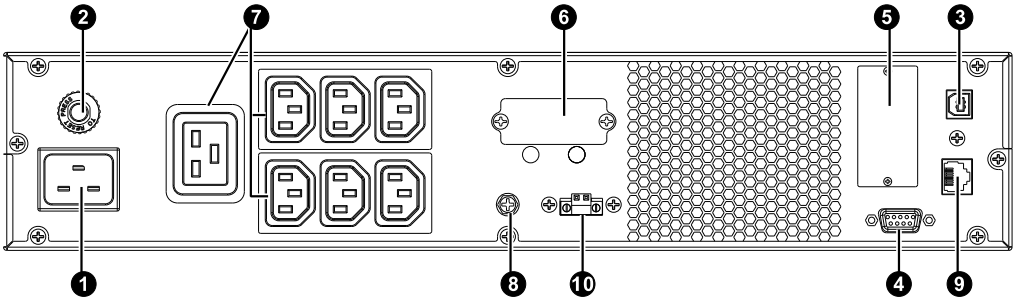
SRVLPM1KRIL



SRVLPM2KRIL



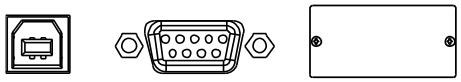
SRVLPM3KRIL



❶	AC input	❻	Battery connector
❷	Input circuit breaker	❼	Outlets
❸	USB port	❽	Ground screw
❹	RS232 serial port	❾	RS485 COM port (RJ45)
❺	Intelligent card slot	❿	EPO port (Emergency power off connector)

Actual UPS may differ in appearance from illustration.

Basic Connectors

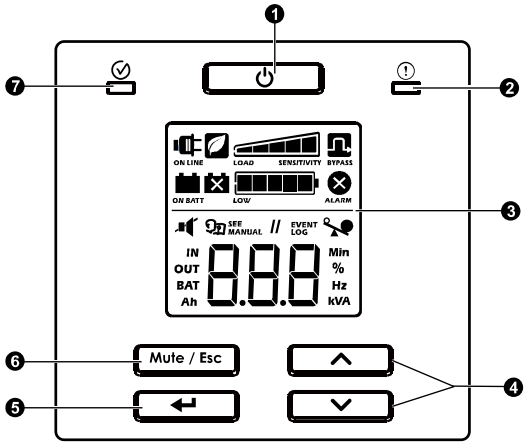


USB **Serial port** **Intelligent card slot**

Power management software and interface kits can be used with the UPS. **Use only interface kits supplied or approved by Schneider Electric.**

Front Panel Display Features

These Easy UPS models are equipped with an intuitive and configurable LCD display. This display complements the software interface as both convey similar information and either may be used to configure the Easy UPS settings.



❶	POWER ON/OFF button ⏻	• Press this button to turn on the UPS. • Press and hold this button until a beep is heard to turn off the UPS. • Press this button to reset alarms.
❷	Alarm LED ⓘ	This Alarm **LED** illuminates red when the UPS detects an internal error and blinks red for UPS notifications. See "Alarms and System Events" on page 20 in this manual.
❸	LCD Display	The display interface options are visible on this LCD screen. Press the ^ or v button to activate LCD, if the display is not illuminated.
❹	UP / DOWN button ^ v	Press these two buttons to scroll through the main menu options and display screens.
❺	ENTER button ↵	Press this button to enter the menu or to select a menu item/ value during navigation.
❻	MUTE/ESC button Mute / Esc	• To acknowledge audible alarms and suppress them temporarily. If alarm is not mute, check "Audible Alarm" on page 20 for the details in this manual. • To exit a sub menu and return to the main menu.
❼	Status LED ✓	The **Status LED** illuminates green when the power is on. This LED indicates two different states of output power: • **Output off**: LED blinks. Press POWER ON/OFF button to turn the output power on. • **Output on**: LED illuminates green continuously.

LCD display icons

	**On Line:** The UPS is drawing utility power and performing double conversion to supply power to the connected equipment.
	**On Battery:** The UPS is supplying battery backup power to the connected equipment.
	**Replace Battery:** The battery is not connected securely or the battery is nearing the end of its service life and should be replaced.
	**Bypass**: The UPS is in bypass mode, sending utility power directly to connected equipment. Bypass mode operation is the result of an internal UPS event or an overload condition. Battery operation is not available while the UPS is in bypass mode. See “Alarms and System Events” on page 20 in this manual.
	**Green Mode**: This icon in combination with Bypass icon, indicates that the UPS is working in Green mode. The connected equipment is receiving the utility input directly as long as the input voltage and frequency are within the configured limits.
	**System Alarms:** An internal error is detected. See “Alarms and System Events” on page 20 in this manual.
	**Overload:** The equipment connected to the UPS is drawing more power than rated.
	**Battery Charge:** The battery charge level is indicated by the number of bar sections illuminated. When all five blocks are illuminated, the battery is fully charged. Each bar represents approximately 20% of the battery charge capacity.
	**Load Level:** The load percentage is indicated by the number of load bar sections illuminated. Each bar represents approximately 20% of the maximum load capacity.
	**Mute:** An illuminated line through the icon indicates that the audible alarm is disabled.
	**Alarm or notification:** The UPS has detected an internal error or the UPS is in configuration mode. See “Alarms and System Events” on page 20 in this manual.
	**Event:** The icon is illuminated when the user is viewing the event log.

Tower Installation

⚠ CAUTION

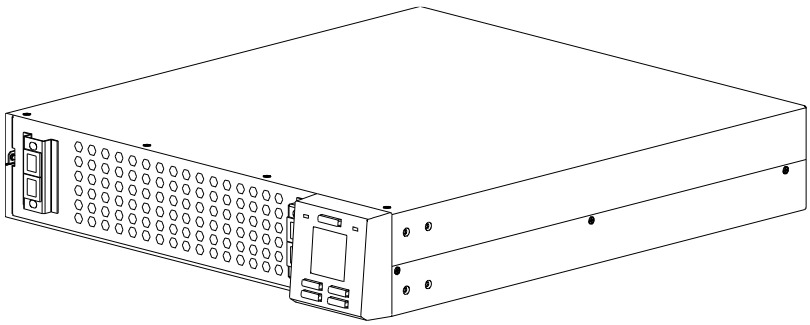
RISK OF FALLING EQUIPMENT

- The Easy UPS is heavy.
- Always practice safe lifting techniques adequate for the weight of the equipment.
- Do not lift the Easy UPS by holding the front panel display.
- Be sure that the stabilizer brackets are installed along with the Easy UPS in tower orientation.

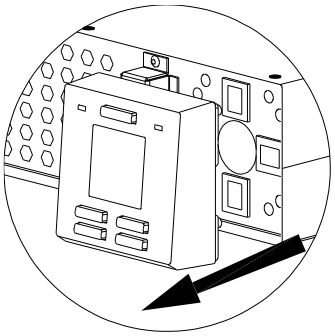
Failure to follow these instructions could result in equipment damage and minor or moderate injury.

Front panel display rotation

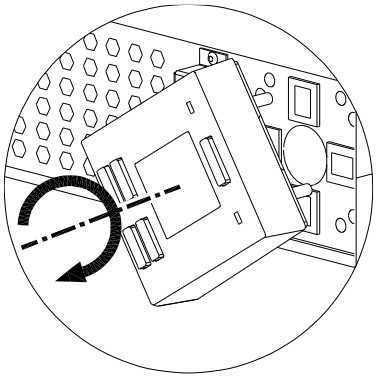
❶



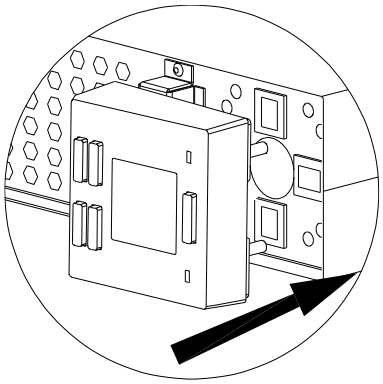
❷ Pull out the LCD display on the UPS.



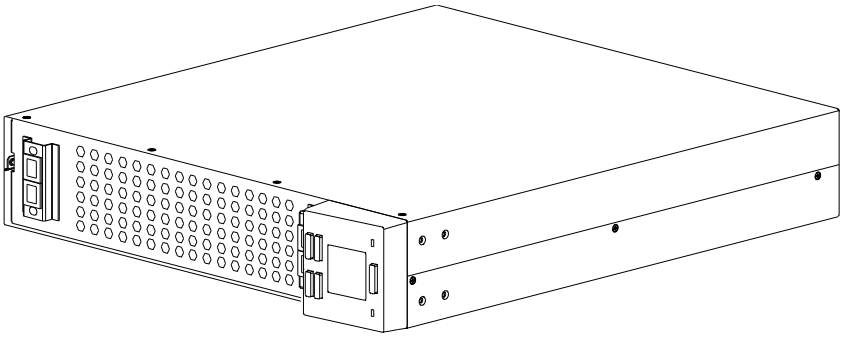
❸ Rotate 90 degrees to the right.



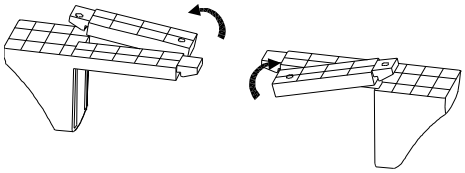
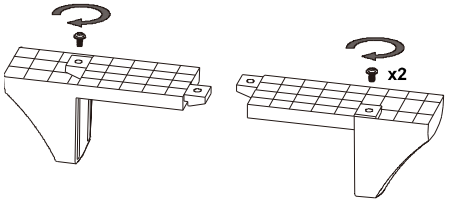
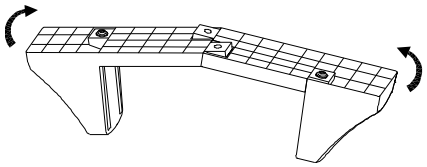
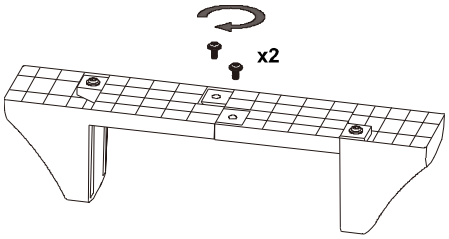
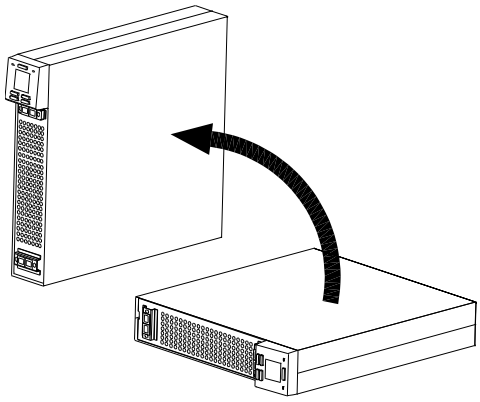
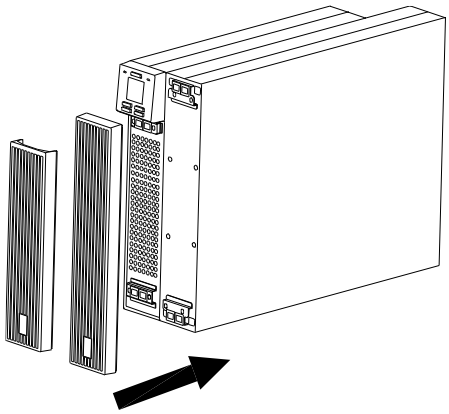
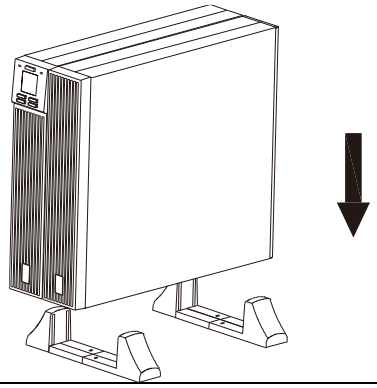
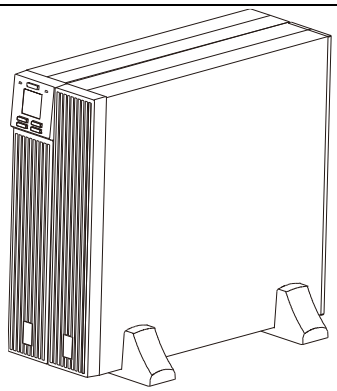
❹ Plug back in the LCD disaplay on the UPS.



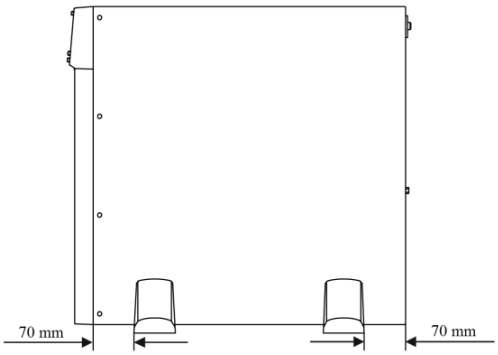
❺



Installing stabilizer brackets

❶	NOTE: The extension kits of the schematic is from 2U XBP accessories. 	❷	**NOTE:** Use Pan head screws for assembling Stabilizer brackets and Extension kits. 
❸		❹	
❺		❻	Install the front bezels of UPS and XBP. 
❼		❽	

NOTE: Maintain approximately 70 mm distance from the edge of the unit, when installing the stabilizer brackets to the Easy UPS.



Rack-Mount Installation

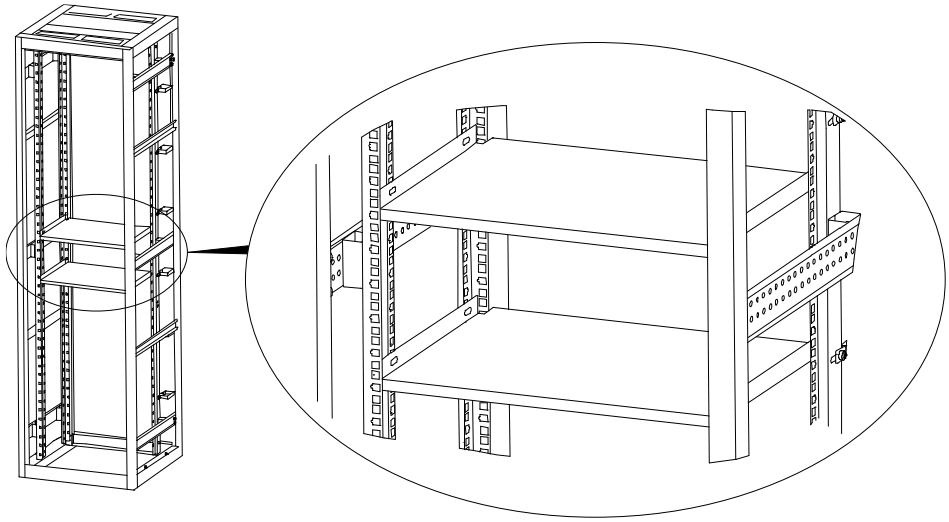
⚠ CAUTION

RISK OF FALLING EQUIPMENT

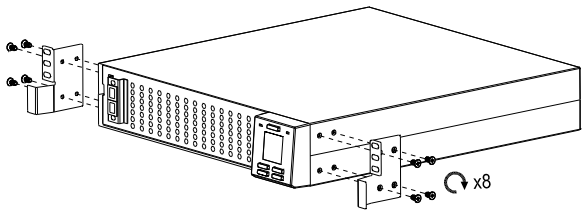
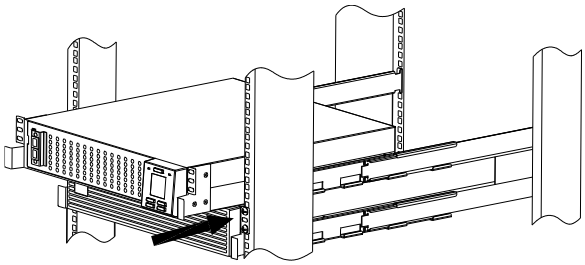
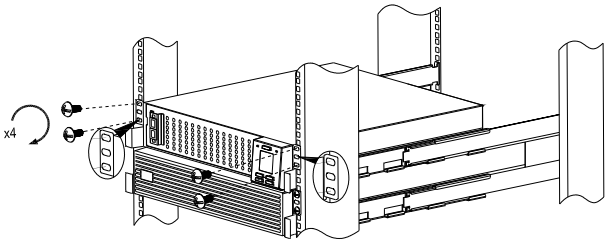
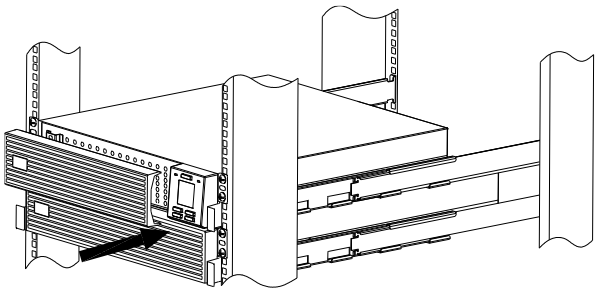
- The equipment is heavy.
- Always practice safe lifting techniques adequate for the weight of the equipment.
- Always use the recommended number of screws to secure brackets to the UPS.
- Always use the recommended number of screws to secure the UPS to the rack.
- Always install the UPS at the bottom of the rack.
- Always install the External Battery Pack below the UPS in the rack.

Failure to follow these instructions could result in equipment damage and minor or moderate injury.

- Before installing the battery pack into the 19 inch rack enclosure, be sure that the rack is already equipped with a shelf.
- Be sure that the installed shelf can withstand the weight of the UPS and/or battery pack. Otherwise, install an optional rail kit accessory (SRVRK1) which can be purchased separately.



Follow the instructions below to secure and position battery pack into the 19 inch rack enclosure.

❶	Install the rack-mount brackets with Flat head screws. 	❷	Lift the Easy UPS module and slide into rack enclosure. 
❸	Secure the Easy UPS module to the rack with screws, nuts and washers (not supplied in the package). 	❹	Install the front bezel. 

Connect Battery Pack to Easy UPS

⚠ CAUTION

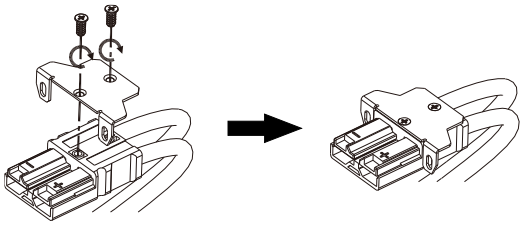
RISK OF ELECTRIC SHOCK

- Adhere to all national and local electric codes.
- All electrical work must be performed by a qualified electrician.
- Be sure grounding is connected firmly.
- Do not short the battery terminals.
- Do not wear jewelry when working with electrical equipment.

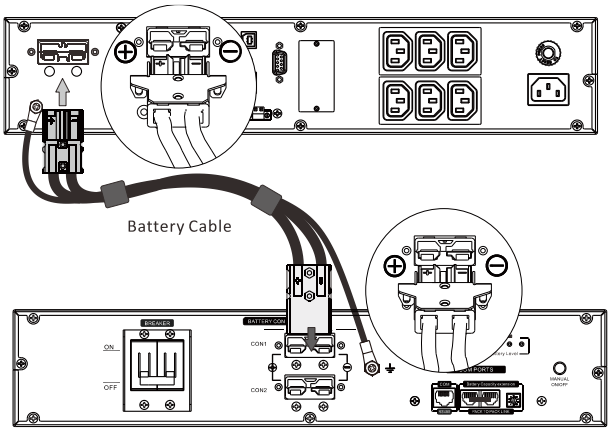
Failure to follow these instructions can result in moderate injury.

Connect battery pack (SRVL48RMBP2U) to the UPS

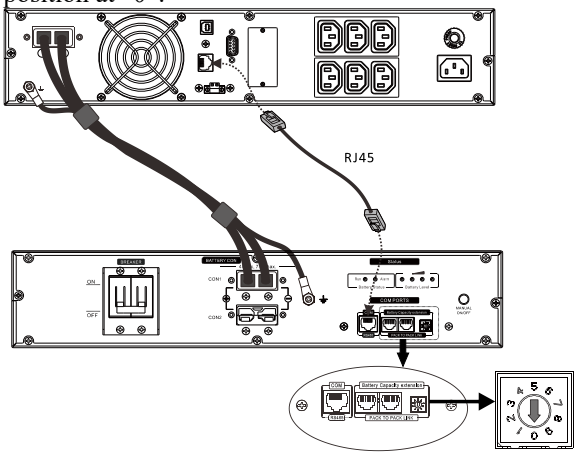
❶ Install the battery connector clamps to the battery connector using the screws supplied.



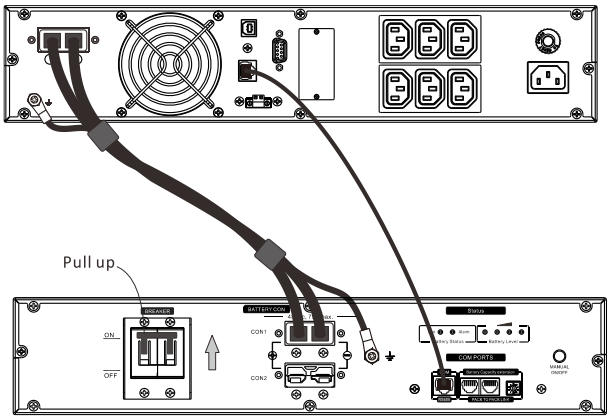
❷ Connect Easy UPS to Battery Pack (SRVL48RMBP2U) using the battery cable supplied with the battery pack. Use the supplied screws to secure the battery connector clamp to the UPS and the battery pack.
Be sure that the ground screw is tightened fully (tightening torque: 12 kgf.cm).

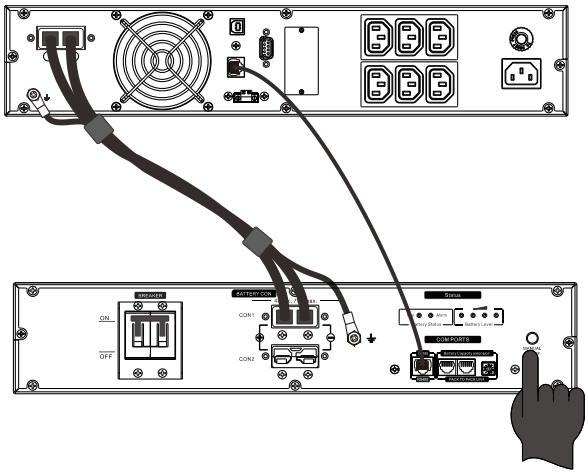
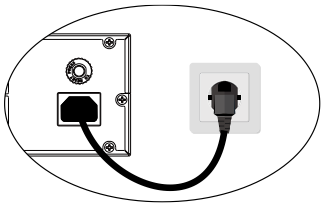
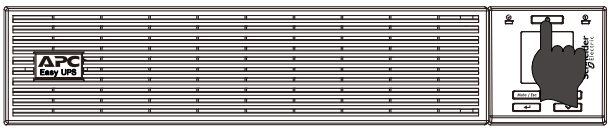
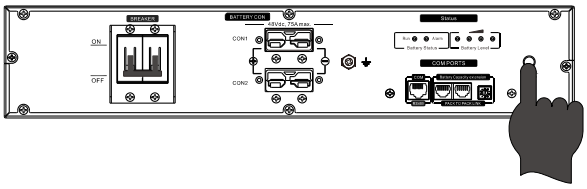
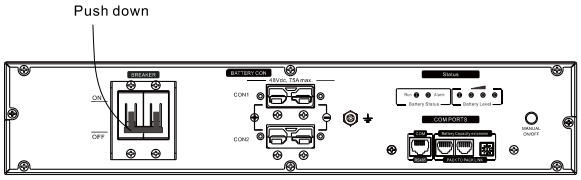


❸ Insert the COM cable (RJ45 cable supplied in the UPS package) into the BMS COM port on the battery pack. The other end connects to BMS communication port of the UPS. Set the ID switch position at “0”.



❹ Switch ON the circuit breaker.



❺	Press and hold the ON/OFF button on the battery pack for 5 seconds to turn on the battery pack. 	❻	Connect input utility power to the UPS. 
		❼	Press ON/OFF button for one second. Release the ON/OFF button immediately after a single beep is heard. Then, the UPS will start up. 
❽	Press and hold ON/OFF button on the battery pack for 5 seconds to turn off the battery pack. 	❾	Switch OFF the circuit breaker. 

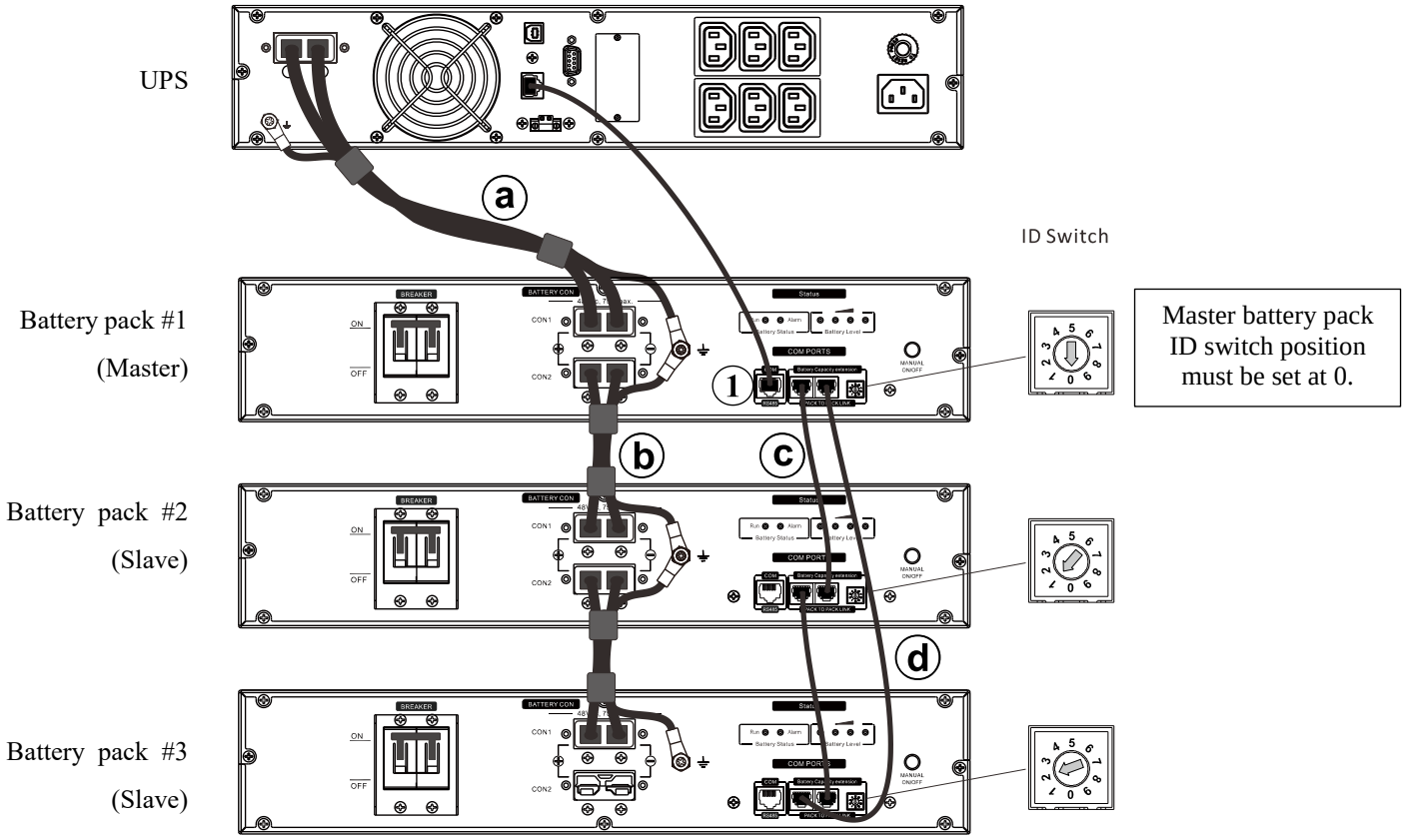
NOTE 1: The above illustrations are shown for 1000 VA UPS. The same procedures are applicable for both 2000 VA and 3000 VA UPS.

NOTE 2: Except for SRVL48RMBP2U, do NOT connect other brand or type of battery pack to the Easy UPS.

NOTE 3: If the UPS will not be used for a period of time, shut down and disconnect the breaker of the external battery pack.

Connect Multiple Battery Packs

To extend the runtime, connect additional battery packs.



1. Connect one end of battery cable ⓐ to the battery connector receptacle on the UPS and the other end to the CON 1 receptacle on the battery pack. Be sure to connect the ground terminal securely.
2. Connect one end of the COM cable (RJ45 cable supplied with the UPS) to the COM port ① in Battery pack #1. Connect the other end to BMS communication port on the UPS. Battery pack #1 is also called “master” and directly communicates with the UPS. The remaining battery packs are called “slave” and communicate with the UPS through Battery pack #1.
3. Connect one end of battery cable ⓑ to CON 2 receptacle on Battery pack #1 and the other end to CON 1 receptacle on Battery pack #2. Be sure to connect the ground terminal securely.
4. Connect one end of the RJ11 cable ⓒ (supplied with the battery pack) to the Battery capacity extension port in Battery pack #1 and the other end to Battery capacity extension port in Battery pack #2.
5. Repeat steps 3 and 4 for connecting Battery pack #2 and Battery pack #3.
6. Connect one end of RJ11 cable ⓓ (supplied with Battery pack #3) to Battery capacity extension port in Battery pack #3 and the other end to the Battery capacity extension port in Battery pack #1.
7. Set up the ID code for battery packs by rotating the disc on the ID switch. The ID switch in master battery pack must be set to “0”. Use random numbers from 1 to 9 for setting up the ID of the slave battery packs. It's required to assign a unique ID to each battery pack for paralleling the battery packs.

NOTE 1: Based on the Easy UPS charging capability, a maximum of 3 external battery packs can be connected to the UPS.
NOTE 2: ⓐ and ⓑ are battery cables supplied in the battery package with same specification.
ⓒ and ⓓ are RJ11 cables supplied in the battery package with same specification.
NOTE 3: When a new battery pack is connected in parallel to the master battery pack, the new battery pack will get automatically paralleled when the State of Charge (SOC) of both the master battery pack and the new battery pack is 100%. Until the SOC of both the battery packs reach 100% SOC, the new battery pack will only get charged and will not share the load if the UPS goes into on-battery mode during this period. The paralleling status of the battery packs can be checked through the monitoring software.

Start up

⚠ CAUTION

RISK 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 minor or moderate injury.

1. Connect equipment to the Easy UPS. Avoid using extension cords.
2. Connect input utility power to the Easy UPS.
3. Switch on the input utility power. Then, the Easy UPS display panel will illuminate when utility power is available.

Start the UPS

Press ON/OFF button for one second. Release the button when a beep is heard. Then, the UPS will start up.

- For 1000VA model, the battery charges to 90% capacity during the first nine hours of operation. For 2000/3000 VA models, the battery charges to 90% capacity during the first five hours of normal operation.
- ***Do not*** expect full battery runtime during this initial charge period.

Cold start the UPS

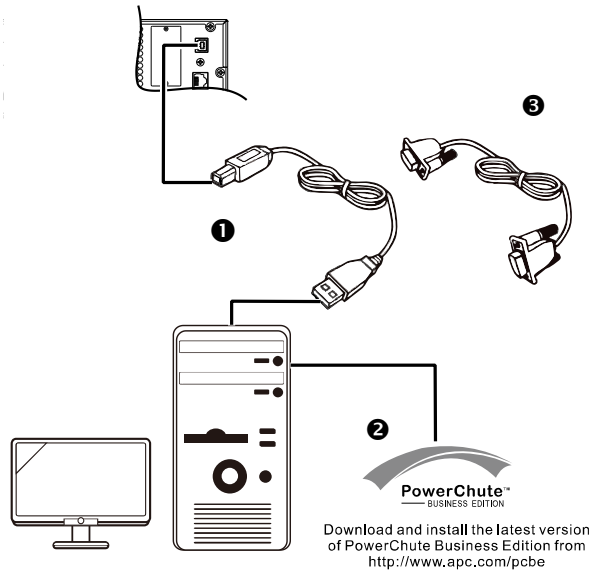
Use cold start feature to supply power to connected equipment from the UPS batteries.
Press ON/OFF button. Then, the display panel will illuminate. Press ON/OFF button again to supply battery power to the connected equipment.

Turn off the UPS

Press ON/OFF button for one second. Release the button when a beep is heard. Then, the UPS will power off and LCD display will be turned off in 2 minutes. Make sure that the LCD display is completely off before restarting the UPS.

Connect and install management software

Easy UPS On-Line is provided with PowerChute management software for unattended operating system shutdown, UPS monitoring, UPS control and energy reporting. The following diagram is a representation of a typical server installation.



1. Connect the USB cable from the rear of the UPS to the protected device such as a server.
   Note: A USB driver is required to communicate with PowerChute over USB. For more information, please refer to Knowledge Base article FAQ000223363 on the APC website (https://www.apc.com/us/en/faqs/home).

2. For a server or other device with an operating system, download and install latest version of the PowerChute Business Edition from www.apc.com/pcbe. PowerChute provides for graceful shutdown in the event of an extended power outage and is a powerful management interface on the local network.
   Note: PowerChute is a 64-bit only application and cannot be installed on a 32-bit operating system

3. A built-in serial port is also available for additional communication options with serial cable.
   Note: RS232 and USB cannot be used at the same time

4. Even more communication options are available via the built-in intelligent card slot. Refer to www.apc.com for more information.

Operation

UPS Display Parameters

Navigate using the ^ or v button of display, so you can see data show on LCD display given in the table.

Parameter	Units	Indicator Icons
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
State of battery charge	%	BAT, %
Load level in percentage (maximum of Watts or VA)	%	OUT, %
Load level in kVA	kVA	OUT, kVA
Total Ah capacity of connected battery	Ah	BAT, Ah
Remaining on battery runtime	Minutes	BAT, Min
SOH(state of battery health)	%	BAT, Ah, %

Configure UPS parameters

Follow the steps to configure parameters in the UPS:

1. Press the ↵ button. Press the ^ or v button to navigate to “Set”.
2. Press the ↵ button. Navigate through the parameters using the ^ or v button.
3. Press the ↵ button to edit a parameter. Icons start flashing to indicate the editing.
   Press the ^ or v button to navigate between the options available for the selected parameter.
4. Press the ↵ button to select the option or Mute / Esc button to abort the editing of current parameter.
   Flashing of icons stops after this. Press the ^ or v button to navigate between parameters.
5. Press the Mute / Esc button to exit menu navigation.

UPS settings

Configure UPS settings using the display interface. See “Configure UPS parameters” section to edit the parameters.

Function	Factory Default	User Selectable Options	Description
Output voltage	230 Vac	220, 230, 240 Vac	Allows the user to select output voltage while the UPS is operating online.
Audible alarm	Enable	Enable, disable	When audible alarm occur, select disable to mute the UPS. Then, enable setting again after detected fault/problem is solved to restart audible alarm notification.
Low battery state indication setting	2 min	2 min, 5 min, 7min, 10min	The UPS will emit audible alarm when the actual run time reaches the limit set by the end user. The audible alarm will emit only when the UPS is working in battery mode.
Bypass voltage low setting	184 V	220 V Output: 187 V, 176 V, 165 V, 154 V 230 V Output: 196 V, 184 V, 173 V, 161 V 240V Output: 204 V, 192 V, 180 V, 168 V	The lower voltage value at which the UPS changes over from Bypass mode to On-line mode.
Bypass voltage high setting	276 V	220 V Output: 231 V, 242 V, 253 V, 264 V 230V Output: 242 V, 253 V, 265 V, 276 V 240V Output: 252 V, 264 V, 276 V, 288 V	The upper voltage limit at which the UPS changes over from Bypass mode to On-line mode.
Green mode/ high efficiency mode	Disabled	Enable/Disable	When this mode is enabled, connected equipment receives utility input power through the bypass relay as long as input voltage is within the range of ±5% of configured output voltage and ± 3 Hz of configured output frequency. Inverter is turned off during this mode. If utility power input goes out of range, inverter is turned on. The load is transferred to online mode or battery mode. The power to the connected equipment may be interrupted up to 10 milliseconds.
Charge current setting	1000 VA: 5 A 2000/3000 VA: 10A	1000 VA: 2 A, 3 A, 4 A, 5 A 2000/3000 VA: 2 A, 3 A, 4 A, 5 A, 6 A, 8 A, 10 A	Set the charging current.
Minimum battery capacity to restart setting	0%	0%, 15%, 50%, 90%	UPS output will not be turned on until the battery is charged to a level such that it can provide the runtime configured by this setting. If configured to 0%, UPS output is turned on immediately after utility power returns.
EOL alert setting	Unblock	CLO (Block)/NUL (Unblock)	The UPS will block EOL alerting for one week when it is set to “Block”. If the battery is still not replaced in one week, the alert will sound again.

Advance display navigation

There are five options in main menu and two sub-menu options in UPS display. Press the ↵ button from the Home Screen to access these menu options. Use the ^ or v button to navigate between the menu options.

Menu Option	Description
	**Show Event Log** Use this menu option to see the UPS event log. The UPS records the last 10 events and displays the codes in this log. Press the ↵ button to see the log. Use the ^ or v button to see the logged events. The v button navigates towards old events and the ^ button navigates to new events. Every log entry has a numeric and textual event code. At the end of the log, the word "End" will be displayed. Press the Mute / Esc button to return to the Home Screen.
	**Configure the UPS** Use this menu option to configure the UPS parameters. Press the ↵ button to see the configuration options. See "Configure UPS parameters" on page 17 for details. Press the Mute / Esc button to return to the Home Screen.
	**Show UPS information** Use this menu option to see the UPS information. Press the ↵ button to see the rating of the UPS. Press the ^ button to see the UPS firmware version. Press the Mute / Esc button to return to the Home Screen.
	**User Command to bypass** Use this menu option to switch the UPS to bypass mode or bring the UPS to online mode from bypass mode. Press ↵ button:  **Put:** Use to switch the UPS to bypass mode of operation. **Note:** Power to the connected equipment will drop, if the mains voltage is not within the threshold limits.  **Out:** Bring the UPS out of bypass and restore clean power to the connected equipment.
	**Execute Battery Self-Test** Use this menu option to conduct a self-test and determine the battery status. Press the ↵ button to initiate the test. If the test command is accepted, the UPS will initiate a self-test and will start a count down on the display. Display messages are shown at the end of the test.  Test refused. The output is off or battery is not charged.  Test not passed  Test passed  Test is aborted due to internal reasons Press the Mute / Esc button to return to the Home Screen

Alarms and System Events

Audible Alarm

Continuous beeps, every half second	**Low Battery State** - The battery is nearing its complete discharge state. The UPS is about to shut down.
	Overload condition - The equipment connected to the UPS is drawing more power than rated.
4 beeps every 30 sec	**On Battery State** - The UPS is supplying battery backup power to the connected equipment.
Short beep every 2 min	**On Bypass State** – The mains power is sent directly to the connected equipment.
Beeper continuously on	**Event Alarm** - UPS has detected an event. See “Alarms and System Events” in this manual.
Short beep every 2.5 sec	Battery disconnected.
Continuous short beeps for every half second for 1 minute, repeats every 5 hours.	Bad battery (replace).
2 short beeps every 5 sec	**Event Bypass State** - UPS has detected an internal event. Connected equipment receives utility input power through the bypass relay.

Display code	Description	Solution
	UPS has experienced a short circuit at the output. Unit will try to auto-recover from this condition.	Check if there is any short circuit at the UPS output. Remove the short circuit and wait for the unit auto-recover or Press ⏻ button to start the UPS.
	UPS is experiencing an overload condition.	Disconnect nonessential equipment from the UPS to eliminate the overload condition.
	The UPS has detected a DC voltage error. Unit will try to auto-recover from this condition.	If the UPS does not recover automatically, contact APC by Schneider Electric customer support.
	Temperature of the unit is rising above the set limits.	Disconnect nonessential equipment from the UPS to reduce the UPS load. Be sure that ambient temperature is within limits. Be sure that adequate clearance around the UPS is maintained.
	UPS has detected a charger error.	Be sure that there is no short circuit at the battery terminals. Press ⏻ button to start the UPS.
	Battery is not connected.	See “Connect Battery Pack to Easy UPS ” on page 13 for details. Then, proactively "execute battery self-test" on page 19 for details.
	The battery is nearing its complete life.	When SOH is less than 65%, UPS will alert with “EOL”. When SOH is less than 60%, the battery pack will enter no charging status. Replace the battery pack.
	The internal temperature of the battery is too high.	BMS in battery pack will automatically stop battery discharge.
	Communication lost between battery pack and UPS.	Be sure that the communication cable is properly secured at both the UPS and the battery pack.

Display code	Description	Solution
EPO	EPO alerting occurred.	Be sure that the EPO terminal is connected securely.
dCF	A low DC voltage error is detected. The UPS will try to auto-recover from this condition.	If the UPS does not recover automatically, contact APC by Schneider Electric customer support.
InF	Inverter soft start error is detected.	If the UPS does not recover automatically, contact APC by Schneider Electric customer support.
OuF	Inverter voltage is too high or too low.	If the UPS does not recover automatically, contact APC by Schneider Electric customer support.

Contact APC by Schneider Electric for all other alarm codes.

Emergency Power Off

NOTICE

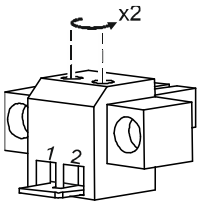
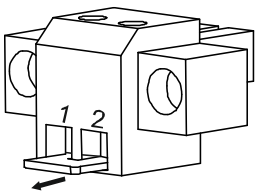
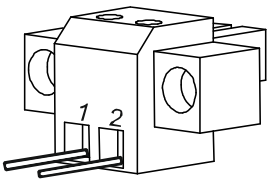
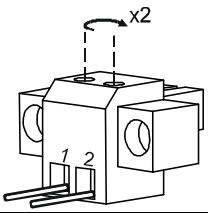
RISK OF EQUIPMENT DAMAGE

- Adhere to all national and local electric codes.
- All electrical work must be performed by a qualified electrician.
- Do not connect the EPO interface to any circuit other than an unused circuit.

Failure to follow these instructions can result in equipment damage.

The Emergency Power Off (EPO) function is a feature that will immediately remove power to all connected equipment.
Adhere to all national and local electrical codes. Wiring must be performed by a qualified electrician.
The EPO switch is internally powered by the UPS for use with non-powered switches or potential free contacts.

Normally closed (N/C) contacts

❶	Loosen the screws of terminals 1 and 2 in the EPO connector. 	❷	Remove the metal link between pins 1 and 2. 
❸	Connect N/C relay contacts between pins 1 and 2 of the EPO terminal block. Use 0.5 to 1 mm^2 wire. 	❹	Secure the terminal screws in the EPO connector (Torque: 3 kgf.cm) 

NOTE: If the N/C is open, the UPS will turn off and the connected load will not receive power from the UPS.

Use Class 2 cable (CL2) to connect the Easy UPS to the EPO switch.

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

Troubleshooting

Use the table below to solve minor installation and operation problems. Refer to the APC by Schneider Electric website, www.apc.com for assistance with complex UPS problems.

Problem and/or Possible Cause	Solution
UPS is not turning on.	
POWER ON/OFF button not pressed properly.	Press the POWER ON/OFF button for one second. Release the button when the UPS emits a single beep. Then, the UPS will start up.
The UPS is 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.
Input thermal circuit breaker on the UPS is tripped.	Press the input thermal circuit breaker reset button in the rear panel.
UPS is not turning off.	
POWER OFF button not pressed properly	Press POWER ON/OFF button for one second. Release the button immediately when the UPS emits a single beep. Then, the UPS will power off and LCD display will be turned off in 2 minutes. Be sure that the LCD display is complete off before restart the UPS.
Utility input power is available.	UPS logic power can not be turned off if utility input power is available. To turn off the UPS, turn off utility input power and press ⏻ button. Release when a beep is heard.
The UPS is operating on battery, while connected to the input utility power.	
There is high, low, or distorted input voltage or frequency.	Connect the UPS to a different outlet on a different circuit. Test the utility input power to be sure the unit is receiving input power. If display is on, navigate and check the input voltage and frequency.

Problem and/or Possible Cause	Solution
UPS is not supplying power to the connected equipment when connected to battery.	
The UPS is not turned on.	If the UPS has shutdown (the display is not on), follow the procedure “Cold start the UPS” on page 16.
The battery is not connected.	Refer to “Connect Battery Pack to Easy UPS ” on page 13 for details. Run Battery self test. Refer to "Execute Battery Self Test" on page 19 for details.
Low battery cut off.	UPS may have discharged the battery due to utility power outage and turned the output off due to low battery condition. Wait for the utility power to return and charge the battery.
No audible sounds from UPS even when the Alert LED is illuminated.	
Audible alarm is disabled.	Change the UPS configuration to enable audible alarms.
UPS is not providing expected backup time.	
The UPS battery is discharged due to a recent power outage.	The batteries require recharging after extended outages. Batteries can wear faster when put into service without being fully charged or when operated at elevated temperatures.
The battery is near the end of its service life.	If the battery is near the end of its service life, consider replacing the battery, even if the replace battery indicator is not illuminated. Refer “Start up” on page 16 for details.
UPS is in Bypass mode and the LED is not illuminated red.	
UPS is in green mode.	Disable green mode if not desired.
UPS is configured to stay in the bypass mode.	Change the configuration to exit bypass mode.
UPS is in bypass mode even after over temperature alarm is cleared.	Reduce the connected load to <90% to bring the UPS to online mode.
The UPS has experienced an overload condition and transferred to bypass.	Connected equipment exceeds the “maximum load” as defined in specifications on the APC by Schneider Electric Website, www.apc.com. The UPS continues to supply power as long as it is in bypass mode and the circuit breaker does not trip. Disconnect nonessential equipment from the UPS to eliminate the overload condition.
UPS has detected an internal error and transferred to bypass.	Refer “Alarms and System Events” on page 20 for details.
UPS emits an audible beeping sound at long intervals.	
The UPS is operating normally when running on battery.	UPS has detected an internal error. Refer “Alarms and System Events” on page 20 for details.
Alarm LED is illuminated. The UPS displays an alarm message and emits a constant beeping sound.	
The UPS has detected an internal error.	Refer “Alarms and System Events” on page 20 for details.

Transport

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

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 through the APC by Schneider Electric website, **www.apc.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.
   b. Call Customer Support. 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. For country specific instructions refer to the APC by Schneider Electric website, **www.apc.com**.
3. Pack the unit properly to avoid damage in transit. Never use foam beads for packaging.
   Damage sustained in transit is not covered under warranty.
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.

Limited Factory Warranty

Schneider Electric IT Corporation (SEIT), warrants its products to be free from defects in materials and workmanship for a period of three (3) 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 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.

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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NOTHING IN THIS LIMITED WARRANTY SHALL SEEK TO EXCLUDE OR LIMIT SEIT LIABILITY FOR DEATH OR PERSONAL INJURY RESULTING FROM ITS NEGLIGENCE OR ITS FRAUDULENT MISREPRESENTATION OF TO THE EXTENT THAT IT CANNOT BE EXCLUDED OR LIMITED BY APPLICABLE LAW.

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 APC by Schneider Electric website: **www.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. 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 by Schneider Electric Worldwide Customer Support

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

- Visit the APC by Schneider Electric website to access documents in the APC by Schneider Electric Knowledge Base and to submit customer support requests.
  - **www.apc.com** (Corporate Headquarters)
    Connect to localized APC by Schneider Electric websites for specific countries, each of which provides customer support information.
  - **www.apc.com/support/**
    Global support searching APC by Schneider Electric Knowledge Base and using e-support.
- Contact the APC by Schneider Electric Customer Support Center by telephone or e-mail.
  - Local, country specific centers: go to **www.apc.com/support/contact** for contact information.

For information on how to obtain local customer support, contact the APC by Schneider Electric representative or other distributor from whom you purchased your APC by Schneider Electric product.

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