



by Schneider Electric

User Manual Back-UPS™ BV400XU

Important Safety Instructions

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

Read the 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” 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, **could result in death or serious injury**.

CAUTION

CAUTION indicates a hazardous situation which, if not avoided, **could result in minor or moderate injury**.

NOTICE

NOTICE is used to address practices not related to physical injury.

Product Handling Guidelines



<18 kg
<40 lb



18-32 kg
40-70 lb



32-55 kg
70-120 lb



>55 kg
>120 lb



Safety and General Information

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

- This UPS is for indoor use only.
- Do not operate this UPS in direct sunlight, in contact with fluids, or where there is excessive dust or high humidity.
- Do not operate the UPS near open windows or doors.
- Be sure the air vents on the UPS are not blocked. Allow adequate space for proper ventilation.

Note: Allow a minimum of 20 cm clearance on all four sides of the UPS.

- Environmental factors impact battery life. Elevated ambient temperatures, poor quality utility power, and frequent discharges will shorten battery life. Follow the battery manufacturer recommendations.
- Connect the UPS power cable directly to a wall outlet. Do not use surge protectors or extension cords.
- The socket-outlet shall be installed near the equipment and shall be easily accessible.

Battery Safety

- Servicing of batteries should be performed or supervised by personnel knowledgeable about batteries and required precautions.
- APC by Schneider Electric uses Maintenance-Free sealed Lead Acid batteries. Under normal use and handling, there is no contact with the internal components of the batteries. 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.
- Use tool 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 conductive jewelry such as chains, wrist watches, and rings. High energy 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 mutilate batteries. Released material is harmful to the skin and eyes and may be toxic.
- **CAUTION:** A battery can present a risk of electric shock and burns by high short-circuit current.
- **CAUTION:** Failed batteries can reach temperatures that exceed the burn thresholds for touchable surfaces.

FCC Radio Frequency Class B Warning

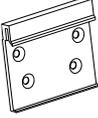
NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

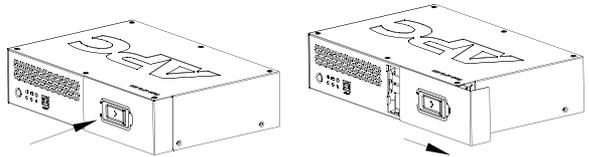
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Inventory

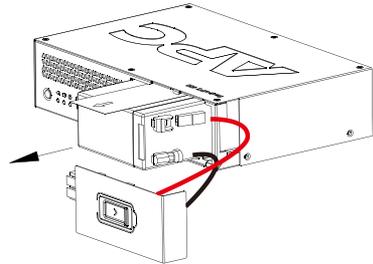
Back-UPS (x1) 	User Manual (x1) 	USB cable (1.2m) 	NEMA 5-15P Plug to IEC C13 Plug (1.5m) 
M3*6 screws (x7) 	M4*6 screws (x4) 	M4*6 screws (x4) 	M4*10 screws (x4) 
VESA bracket 	DIN Rail kit (x1) 		

Connect the Battery

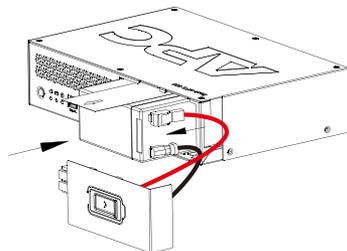
- 1 Press the battery icon and slide to right to open the battery compartment.



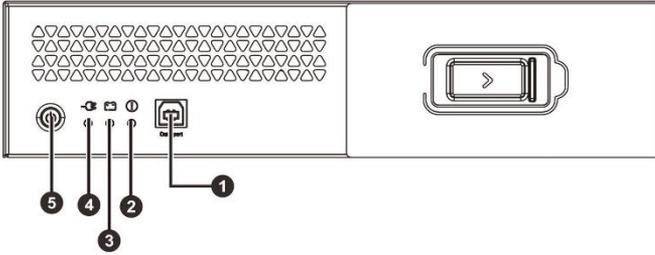
- 2 Hold the tab and gently pull out the battery to expose the terminals and wires.



- 3 Connect the battery cables securely to the battery terminals. Push the battery back into the compartment and re-install the battery compartment cover.

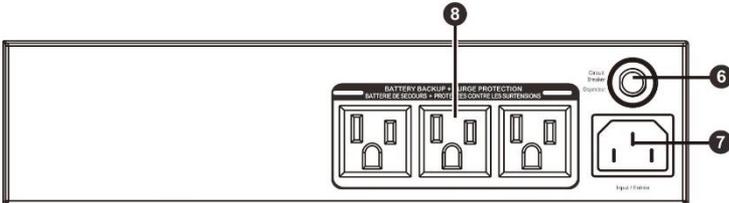


Front Panel Features



1	Data Port	Connect the USB cable to connect the Back-UPS to a computer for installing SchneiderUPS software. Refer to www.apc.com for more information.
2	Alert LED	Refer to the section “Status Indicators” on page 8 for details.
3	On-Battery LED	
4	On-Line LED	
5	POWER ON-OFF button	Use to switch the Back-UPS on or off.

Rear Panel Features



6	Circuit Breaker	Use to reset the system after an overload condition has occurred causing the circuit breaker to trip.
7	AC Power Input	Use the power cable to connect the unit to utility power.
8	Battery Backup outlets with Surge Protection outlets	These outlets help provide battery backup power to the connected equipment for a limited period of time during power outages and voltage fluctuations. The Battery Backup outlets provide battery power to connected equipment only when the Back-UPS is turned on. Connect equipment such as desktop computer, modem or other data sensitive devices to these outlets.

Note: The recommended power cord information is as follows: IEC (C13) to NEMA plug with the cord cable, the cross-section area of 18AWG and the length does not exceed 3m.

Specifications

Model		BV400XU
Input	Voltage	120 Vac
	Frequency	50/60 Hz
	Brownout Transfer	92 Vac Typical
	Over-voltage Transfer	139 Vac Typical
Output	UPS Capacity	400 VA / 220 W
	Battery Backup Outlets	3 Backup Outlets
	Voltage – On Battery	120 Vac \pm 10%
	Frequency – On Battery	50/60 Hz \pm 1Hz (auto sensing)
	Transfer Time	6ms typical, 10ms max.
Protection and Filtering	EMI/RFI Filter	Full time
	Utility Power Input	Resettable circuit breaker
Battery	Type	Sealed Maintenance Free Lead-acid, 12 V, 6.5AH Replacement battery cartridge APCRBC179
	Average Life	3 to 5 years, depending upon the number of discharge cycles and environmental temperature.
	Charging Time	8 hours
Physical	Net Weight	8.38lb (3.8kg)
	Dimensions, Width x Height x Depth	10.16 x 6.69 x 2.44 in 25.8 x 17 x 6.2 cm
	Shipping weight	12.12 lb (5.5kg)
	Shipping dimensions, Width x Height x Depth	12.48 x 10.24 x 4.72 in 31.7 x 26 x 12 cm
	Operating Temperature	32 to 122 °F (0 to 50 °C)
	Storage Temperature	5 to 122 °F (-15 to 50 °C)
	Operating Relative Humidity	0 to 95% non-condensing humidity
	Operating Elevation	0 to 9,842.52 ft (0 to 3,000 m)
International Protection Code		IP20

Turn On the Back-UPS

Press the POWER ON-OFF button located on the front panel of the Back-UPS. All three indicators will illuminate once at the same time and a single short beep will be heard indicating that the Back-UPS is on and providing protection for connected equipment.

The Back-UPS battery charges to capacity during the first 24 hours while it is connected to the utility power. The Back-UPS battery will charge while the Back-UPS is turned on or off and as long as it is connected to utility power. **Do not** expect the battery to run for its expected capacity during the initial charge period. The UPS will have full runtime capability after the initial 24hour charging period.

Turn Off the Back-UPS

Press the POWER ON/OFF button for at least 2 seconds to turn off the Back-UPS. At the first beep, release the button and the UPS will turn off.

Status Indicators

Status	LED	LED Status	Audible Alarm
On-line - The Back-UPS is supplying AC power to the connected equipment	On-Line	On	Off
On Line Overload - The power being used by the connected equipment has exceeded the capacity of the unit.	On-Line	On	Constant Tone
Replace Battery Detected - The battery needs to be charged, or is at end of life. Battery Disconnect Detected	On-Line	Flashing	Constant Tone
On-Battery - The Back-UPS is supplying battery power.	On-Battery	Flashing 4 times every 30 seconds	Beeping 4 times every 30 seconds
Low Battery - During On Battery operation the battery power was almost completely exhausted, and the Back-UPS is waiting for AC power to return to normal.	On-Battery	Flashing every 0.5 seconds	Rapid beeping (every 0.5 second)
On-Battery Overload - The Back-UPS is supplying battery power and the power being used by the connected equipment has exceeded the capacity of the unit.	On-Battery	On	Constant Tone
Over-temperature Detected - The Back-UPS has overheated and has shut down.	On-Battery	Flashing every 0.5 seconds	Constant beeping (every 0.5 second)
	Alert	On	
UPS Internal Fault Detected	Alert	On	Constant Tone
Low Battery Shutdown - During On Battery operation the battery power was almost completely exhausted, and the Easy UPS is waiting for AC power to return to normal.	All	Off	Short beep every 4 seconds

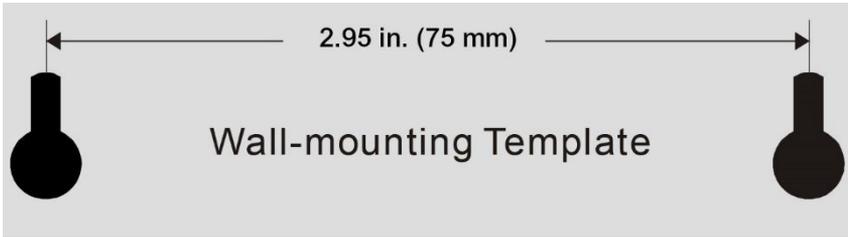
Troubleshooting

Problem and Possible Cause	Solution
The Back-UPS will not turn on.	
The Back-UPS is not connected to AC power, there is no AC power available at the wall outlet, or the AC power is experiencing a brownout or over voltage condition.	Be sure the power cord is securely connected to the wall outlet, and AC power is available in the wall outlet. Where applicable, check that the wall outlet is switched on.
The utility power is normal, the On-Line LED flashes and the unit emits a constant tone.	
<ul style="list-style-type: none"> • The battery is disconnected. • The battery is near the end of useful life and should be replaced. 	<ul style="list-style-type: none"> • Disconnect UPS from AC power and refer to the section “<i>Connect the Battery</i>” on page 4. • Refer to the section “<i>Battery Replacement</i>” on page 11 for details.
Connected equipment loses power	
A Back-UPS overload condition has occurred.	Remove all nonessential equipment connected to the outlets. Reconnect the equipment one at a time to the Back-UPS. Charge the battery for 24 hours to make sure it is fully charged. If the overload condition still occurs, replace the battery.
The Back-UPS battery is completely discharged	Connect the Back-UPS to AC power and allow the battery to recharge for eight hours.
Connected equipment does not accept the step-approximated sine waveform from the Back-UPS.	The output waveform is intended for computers and peripheral devices. It is not intended for use with motor driven equipment.
The Back-UPS may require service.	Contact SEIT Technical Support for more solutions.
The Back-UPS is on, On-Battery LED flashes four times every 30 seconds, and the unit emits a constant tone.	
The Back-UPS is operating on battery power.	The Back-UPS is operating normally on battery power. At this point the user should save all open files, and shutdown the computer. When AC power is restored the battery will recharge.
During battery mode operation, On-Battery LED flashes every 0.5 second, and constant beeping every 0.5 second.	
The Back-UPS battery has approximately two minutes of remaining runtime.	The battery is near a total discharge state. The user should save all open files, and shutdown the computer. When AC power is restored the battery will recharge.
The Back-UPS has an inadequate battery runtime	
<ul style="list-style-type: none"> • The battery is not fully charged. • The battery is near the end of useful life and should be replaced. 	Leave the Back-UPS connected to AC power for eight hours while the battery charges to full capacity. As a battery ages, the runtime capability decreases. See <i>Battery Replacement</i> to order replacement batteries.
The alarm is on with a constant tone and outlets are normal.	
The UPS is on AC power but the power of the connected equipment exceeds the rated power of the UPS. If a power disruption occurs, the UPS may not be able to power the connected equipment. Power to the outlets will be uninterrupted as long as AC power is present.	Disconnect devices from the UPS until the load is less than the rated output of the UPS.
The alarm is beeping (every 0.5 second), On-Battery LED flashes every 0.5 second and Alert LED is on.	
The UPS have over temperature on battery mode.	Save all open files, and shut down the computer. When AC power is restored, the battery will recharge.
The alarm is on with a constant tone and the UPS is off.	
The UPS was on battery and the connected load exceeded the rated load of the UPS.	Turn off the UPS. Disconnect all devices. Turn on the UPS and reconnect the device one at a time. If the problem persists, contact SEIT Technical Support for more solutions.

Mounting Installation

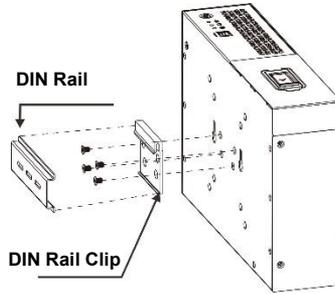
Wall Mounting

- Horizontal installation, use 2 screws 2.95" (75 mm) apart.
- Allow 5/16" (8 mm), of the screw to protrude from the wall.



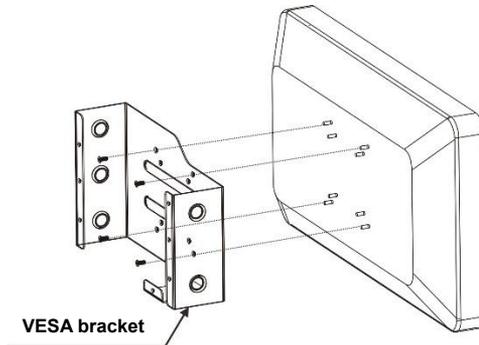
DIN Rail Installation

- Install DIN Rail clip to the Back-UPS with 4 pieces of M4 screws.
- Clip the assembled UPS onto the DIN Rail.

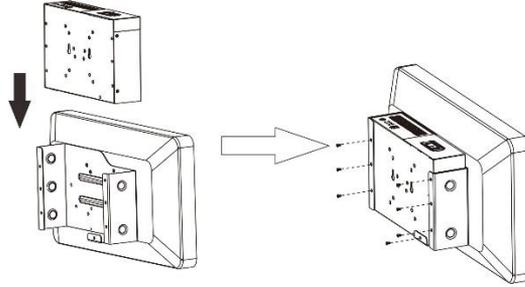


VESA Installation

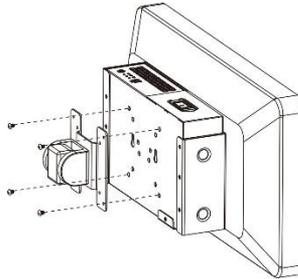
- Install VESA bracket to mounting monitor with 4 pieces of M4 screws.



- Rest the Back-UPS onto the VESA bracket and fix it with 7 pieces of M3 screws.



- Fix desk or wall swivel arm to the Back-UPS with 4 pieces of M4 screws.



Battery Replacement

⚠ CAUTION

RISK OF HYDROGEN SULPHIDE GAS OR EXCESSIVE SMOKE

- 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, or when there is evidence of electrolyte leakage. Power off the UPS, unplug it from the AC input, and disconnect the batteries. Do not operate the UPS until the batteries have been replaced.

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

For the recycling battery information, please go to apc.com/recycle.

Replace Battery



Deliver the used battery to a recycling facility. Replace the used battery with an APC by Schneider Electric approved battery. Replacement batteries can be ordered through the APC by Schneider Electric Web site, www.apc.com. Battery replacement part for Back-UPS BV400XU is **APCRBC179**.

Warranty

Register your product on-line. <http://warranty.apc.com>

The standard warranty is three (3) years from the date of purchase. Schneider Electric IT (SEIT) standard procedure is to replace the original unit with a factory reconditioned unit. Customers who must have the original unit back due to the assignment of asset tags and set depreciation schedules must declare such a need at first contact with an SEIT Technical Support representative. SEIT will ship the replacement unit once the defective unit has been received by the repair department, or cross ship upon the receipt of a valid credit card number. The customer pays for shipping the unit to SEIT. SEIT pays ground freight transportation costs to ship the replacement unit to the customer.

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 IT (SEIT) Customer Support through the APC by Schneider Electric Web site, **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 and are available through the LCD display on select models.
 - b. Call SEIT 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 APC by 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.
4. **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.
5. Write the RMA# provided by Customer Support on the outside of the package.
6. Return the unit by insured, pre-paid carrier to the address provided by Customer Support.

APC by Schneider Electric IT Customer Support Worldwide

For country specific customer support, go to the APC by Schneider Electric Web site, www.apc.com.



Select models are compliant with California (CEC) Battery Charger regulations.

For more information on your specific model visit APC by Schneider Electric Web site, www.apc.com.