**User Manual of Product 1:**

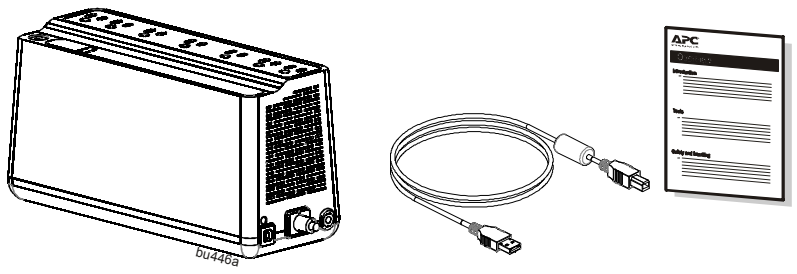
APC UPS Battery Backup and Surge Protector, 600VA Backup Battery Power Supply, BE600M1 Back-UPS with USB Charger Port

**User Manual of Product 2:**

APC UPS Battery Backup and Surge Protector, 850VA Backup Battery Power Supply, BE850G2 Back-UPS with (2) USB Charger Ports

# User Manual Back-UPS™ BE600M1/600M1-LM/670M1, BN650M1/650M1-CA/675M1

## Inventory




## Safety and General Information

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

**SAVE THESE INSTRUCTIONS** - This section contains important instructions that should be followed during installation and maintenance of the UPS and batteries. Failure to follow these instructions can result in equipment damage.

**⚠ DANGER**

**HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

- Connect the UPS power cable directly to a wall outlet.
- The UPS is intended for indoor use only.
- Do not operate the UPS in direct sunlight, in contact with fluids, or where there is excessive dust and humidity.
- Be sure the air vents on the UPS are not blocked. Allow adequate space for proper ventilation.

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

**⚠ CAUTION**

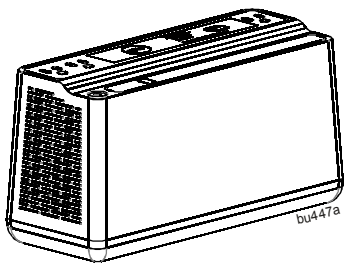
**RISK OF HYDROGEN SULPHIDE GAS AND EXCESSIVE SMOKE**

- Battery must be replaced when they reach end of service life.
- Batteries must be replaced when the unit indicates battery replacement is necessary.
- When replacing batteries, replace with the same number and type of batteries originally installed in the unit.

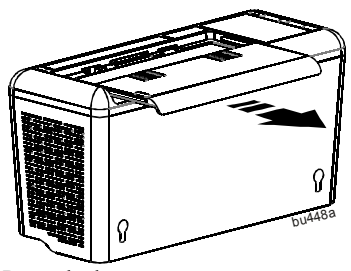
**Failure to follow these instructions could result in minor or moderate injury and equipment damage.**

## Connect the Battery

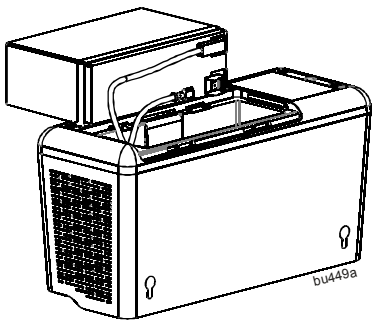
The Back-UPS is shipped with one battery cable disconnected.



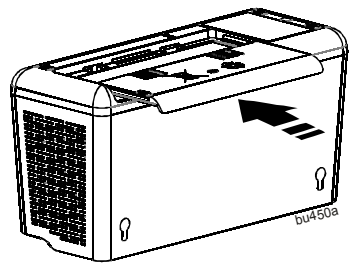

❶ Remove the *"Stop! Connect the Battery"* label that covers the outlets.




❷ Press the battery compartment cover release tabs located on the underside of the unit. Slide the battery cover off.

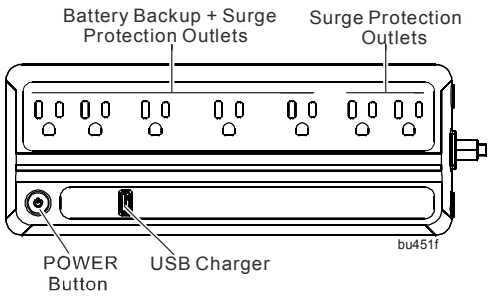


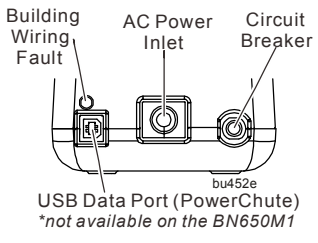

❸ Connect the battery cable securely to the battery terminal. It is normal for small sparks to be seen when the battery cable is connected to the battery terminal.




❹ Reinstall the battery compartment cover. Be sure that the release tabs lock into place.

## Connect Equipment




**Note:** USB Data port (PowerChute) are only available on the BE600M1, BE600M1-LM, BN650M1-CA,BE670M1, BN675M1

### Battery Backup + Surge Protection Outlets

Battery backup outlets provide protection to connected equipment when the Back-UPS is turned on and connected to AC power. Battery backup outlets receive power from the battery for a limited period of time when a power outage, or brownout condition occurs. Battery backup outlets provide protection from power surges or spikes. Connect a computer, monitor and other peripheral devices to these outlets.

### Surge Protection Outlets

Surge protection outlets provide protection to connected equipment when the Back-UPS is connected to AC power, and is switched on or off. Surge protection outlets provide protection from power surges or spikes. Connect peripheral devices (such as printer, scanner, etc.) that do not need to remain on during power outages or AC problems to the surge protection outlets.

### USB charging port

The USB port provides a maximum of 1.5A DC power. The USB port will provide power when the unit is on AC and on battery.

## Turn On the Back-UPS

Press the POWER button located on the top of the Back-UPS. The POWER button will illuminate green and a single short beep will indicate that the Back-UPS is on and providing protection for connected equipment.

The Back-UPS battery charges fully during the first 24 hours while connected to AC power. The Back-UPS battery will charge regardless of whether the Back-UPS is switched on or off as long as it is connected to AC power. The UPS will have full runtime capability after the initial 24 hour charging period.

If the red Building Wiring Fault indicator (located on the end near the power cord) is lit, your building wiring may present a shock hazard that should be corrected by a qualified electrician.

## Turn Off the Back-UPS

To turn off the Back-UPS, press the POWER button for at least 2 seconds. At the first beep, release the button and the UPS will turn off. A 2 second delay has been added to mitigate unintentional contact with the POWER button.

## Quick Mute

The Back-UPS is able to temporarily mute user correctable alarms such as: On Battery, Battery disconnected and Overload.

During such alarms, a short press (less than 2 seconds) of the POWER button will temporarily mute the alarm until the condition has been reset. A short double beep will confirm that Quick Mute has been activated. Pressing the POWER button for more than 2 seconds will turn off the UPS.

Other critical events such as Battery replacement and Charger notification can not be temporarily muted. The unit in these cases must be turned off.

## On Battery Indicator Modes

This Back-UPS has 3 On Battery Indicator modes provided that the UPS is turned on. To configure an On Battery Indicator mode, hold down the POWER button and wait for the third beep. At the third beep the POWER button will cycle red / green. Release the POWER button and its color will indicate the mode the UPS is in. Press the POWER button to cycle through each mode. See the table below for the mode selection colors. Once the mode has been selected, wait 5 seconds and the setting will be committed to the UPS.

| Mode | Visual Indicator | Audible Indicator | Mode Selection Color |
|---|---|---|---|
| Quiet Alarm (default) | The POWER button is solid green and flashes twice every 2 seconds until Low Battery notification where it will flash green in rapid succession. | No alarm until Low Battery notification where the alarm beeps twice every 30 seconds | Flashing green |
| No Alarm | | No alarm while the UPS is On Battery | Flashing red |
| Full Alarm | | Alarm sounds 4 beeps every 30 seconds until Low Battery notification where the alarm beeps every half second. As the UPS shuts down it sounds one beep every 4 seconds | Flashing amber |

## PowerChute™ Personal Edition Software

### Overview

Use PowerChute Personal Edition software to configure the UPS settings, protect your computer and other equipment during a utility power outage. During a power outage, PowerChute will save any open files on your computer and shut it down. When utility power is restored, it will restart the computer.

**Note**: PowerChute is only compatible with a Windows operating system. If you are using Mac OSX, use the native shutdown feature to protect your system. See the documentation provided with your computer.

### Installation

Use the USB cable to connect the Data port on the UPS to the USB port on your computer. Download PowerChute™ Personal Edition Software from **www.apc.com/pcpe**. Select the appropriate operating system and follow directions to download the software.

*not applicable to BN650M1

## Status Indicators

| Status | Power Button illumination | Audible Indicator On | Audible Indicator Terminates |
|---|---|---|---|
| **Power On**<br>The Back-UPS is supplying AC power to connected equipment. | Solid green | None | N/A |
| **On Battery**<br>Back-UPS supplying battery power to battery backup outlets. | Solid green and flashes twice every 2 seconds. | The audible alarm depends on the On Battery Indicator mode setting. See the *On Battery Indicator Modes* section for full details. | Beeping stops when AC power is restored or the Back-UPS is turned off. Applies only to modes where the on battery alarm is audible. |
| **Low Battery notification**<br>The Back-UPS is supplying battery power to the battery backup outlets and the battery is near a total discharge state. | Flashes green in rapid succession. | | |
| **Low Battery shutdown**<br>The battery has been completely discharged while the Back-UPS is on battery, the UPS will shut down. | None | | - AC power is restored<br>- AC is not restored within 32 seconds<br>- The Back-UPS is turned off. |
| **Sleep Mode**<br>The UPS has shut down and will "awaken" once AC power is restored | None | None | N/A |
| **Replace Battery**<br>• The battery is disconnected.<br>• The battery needs to be charged, or replaced. | • Flashes red only.<br>• Alternates green-red | • Constant tone<br>• Constant tone | Back-UPS is turned off |
| **Overload Shutdown**<br>An overload condition has occurred in one or more of the battery backup outlets while the Back-UPS is operating on battery power. | None | Constant tone | Back-UPS is turned off |
| **USB Detected Fault**<br>A short circuit has been detected or an error has occurred. | Alternates green-amber | None | N/A |

## Voltage Sensitivity Adjustment (optional)

The Back-UPS detects and reacts to line voltage distortions by transferring to battery backup power to protect connected equipment. In situations where either the Back-UPS or the connected equipment is too sensitive for the input voltage level it is necessary to adjust the transfer voltage.

1. Turn off the UPS while connected to a wall outlet.
2. Press and hold the **ON/OFF** button for 10 seconds. The POWER button will alternate green-red to indicate that the Back-UPS is in **Program** mode.
3. The POWER button will flash either green, amber, or red to indicate the current sensitivity level. Refer to the table for an explanation of the transfer voltage sensitivity levels.
4. To exit **Program** mode wait five seconds and all LED indicators will extinguish. **Program** mode is no longer active.

| LED Flashes | Sensitivity Setting | Input Voltage Range (AC Operation) | Recommended Use |
|---|---|---|---|
| Green | LOW | 88 Vac to 142 Vac | Use this setting with equipment that is less sensitive to fluctuations in voltage or waveform distortions. |
| Red | MEDIUM | 92 Vac to 139 Vac | Factory default setting. Use this setting under normal conditions. |
| Amber | HIGH | 96 Vac to 136 Vac | Use this setting when connected equipment is sensitive to voltage and waveform fluctuations. |

## Specifications

| Model | | BE600M1/ BE600M1-LM | BN650M1/ BN650M1-CA | BE670M1/ BN675M1 |
|---|---|---|---|---|
| **Input** | Voltage | 120 Vac Nominal | | |
| | Frequency | 50/60 Hz ± 3Hz auto-sensing | | |
| | Brownout Transfers | 92 Vac Typical | | |
| | Over-voltage Transfer | 139 Vac Typical | | |
| **Output** | UPS Capacity | 600 VA, 330 W | 650 VA, 360 W | 675 VA, 360 W |
| | Total Amperage (AC outlets) | 5.0A | 5.42A | 5.63A |
| | Voltage - On Battery | 115 Vac ± 8% | | |
| | Frequency - On Battery | 50/60 Hz ± 1 | | |
| | Transfer Time | 6 ms Typical, 10 ms maximum | | |
| **USB Port** | * Charging Current | 1.5A | | |
| | Charger compatibility | USB Battery Charging Specification 1.2 | | |
| | * Power output is dependent power drawn by the connected device. Check your device manufacturer to understand the maximum charging current for a given USB spec. | | | |
| **Protection and Filtering** | AC Surge Protection | Full time, 490 Joules | | |
| | EMI/RFI Filter | Full time | | |
| | AC Input | Resettable circuit breaker | | |
| **Battery** | Type | Sealed, maintenance-free, lead acid 12V | | |
| | Average Life | 3 - 5 years, the number of discharge cycles and environmental temperature | | |
| | Charging Time | 10 hours. Using the USB port while charging the battery will increase the amount of time required. | | |
| **Physical** | Net Weight | 7.7 lb (3.5 kg) | | |
| | Dimensions LxWxH | 10.8 in x 4.1 in x 5.5 in<br>27.4 cm x 10.5 cm x 13.9 cm | | |
| | Operating Temperature | 32º F to 104º F (0º C to 40º C) | | |
| | Storage Temperature | 5º F to 113º F (–15º C to 45º C) | | |
| | Operating Relative Humidity | 0 to 95% non-condensing humidity | | |
| | Operating Elevation | 0 to 10,000 ft (0 to 3000 m) | | |

## 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

## 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 BE600M1 / BE600M1-LM / BE670M1 / BN650M1 / BN650M1-CA / BN675M1 is **APCRBC154**.

## APC by Schneider Electric IT Customer Support Worldwide

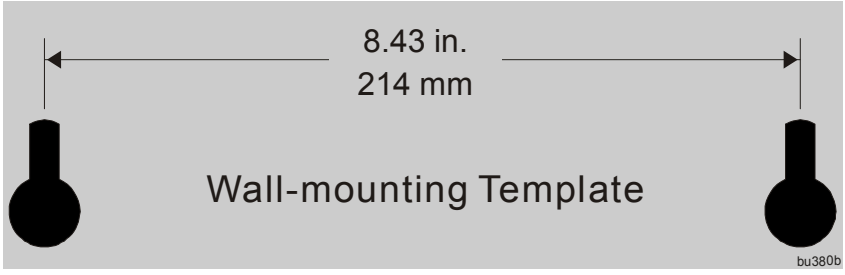
For country specific customer support, go to the APC by Schneider Electric Web site, www.apc.com.

## Troubleshooting

| Problem and Possible Cause | Solution |
|---|---|
| **The Back-UPS will not turn on** | |
| The Back-UPS has not been turned on. | Press the POWER button. |
| 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. | Make sure the power cord is securely connected to the wall outlet, and that there is AC power available at the wall outlet.Where applicable, check that the wall outlet is switched on. |
| **The Back-UPS is on, the POWER button flashes red and the unit emits a constant tone** | |
| The battery is disconnected. | Refer to the *Connect Equipment on page 1*. |
| **Connected equipment loses power** | |
| A Back-UPS overload condition has occurred. | Remove all nonessential equipment connected to the outlets. One at a time reconnect equipment to the Back-UPS.<br>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 ten hours. |
| PowerChute software has performed a shutdown due to a power outage. | This is normal Back-UPS operation. |
| 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 Schneider Electric Technical Support for more in depth troubleshooting. |
| **The POWER button is green and flashes twice every 2 seconds.** | |
| 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. |
| **The POWER button flashes green in rapid succession.** | |
| The Back-UPS battery has approximately two minutes of remaining runtime. | The Back-UPS battery is near a total discharge state. At this point the user should save all open files, and shutdown the computer. When AC power is restored the battery will recharge. |
| **The Building Wiring Fault LED is red** | |
| The building wiring presents a shock hazard that must be corrected by a qualified electrical. | Do not operate the Back-UPS. Call a qualified electrician to correct the building wiring fault. |
| **The Back-UPS has an inadequate battery runtime** | |
| The battery is not fully charged.<br>The battery is near the end of useful life and should be replaced. | Leave the Back-UPS connected to AC power for ten hours while the battery charges to full capacity.<br>As a battery ages, the runtime capability decreases. Contact APC by Schneider Electric at the Web site **www.apc.com**, to order replacement batteries. |
| **USB charging is slow** | |
| Charging a device using the UPS's USB charger is slower than the device's original USB charger | The amount of power a device draws depends on its compatibility with the USB Battery Charging Specification 1.2. Compatible devices can draw more power than devices that are less compatible. |
| **USB charging stops and the Power On LED alternately illuminates green-amber** | |
| The USB port has detected a short circuit or has detected a fault. | Disconnect cable and device from the USB port. USB charging will resume when the POWER button turns green. Contact SEIT Technical Support if the POWER button remains green-amber. |
| **The UPS and outlets are off but the UPS keeps beeping twice every 30 seconds (Quiet Alarm mode) or keeps beeping once every 4 seconds (Full Alarm mode)** | |
| In this situation the voltage is not low enough to shutdown the UPS but not high enough to start the UPS and power the outlets. There is however enough voltage to charge the UPS. | Use Quick Mute to mute the alarm. The UPS will return to normal operation once the AC input voltage has returned to a normal range |

## Wall Mount Installation

- Horizontal installation, use 2 screws 8.43” (214 mm) apart.
- Allow 5/16” (8 mm), of the screw to protrude from the wall.




## 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.

## EMC Compliance

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

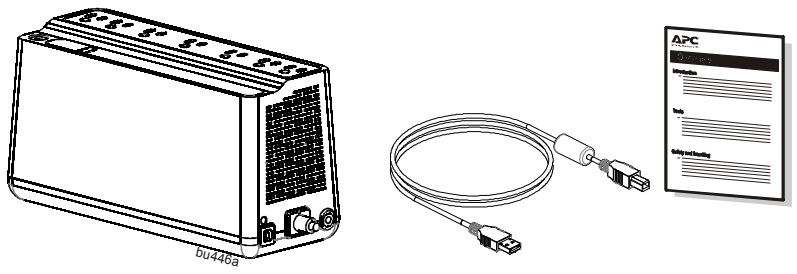
Some models are compliant with California (CEC) Battery Charger regulations. For more information, search for your model number on www.apc.com and review the Conformance Approvals section of the Technical Specifications.

© 2019 APC by Schneider Electric. APC, the APC logo, PowerChute and Back-UPS are owned by Schneider Electric Industries S.A.S., or their affiliated companies. All other trademarks are property of their respective owners.

**EN 990-5679E**
**11/2019**

# User Manual Back-UPS™ BE600M1/600M1-LM/670M1, BN650M1/650M1-CA/675M1

## Inventory




## Safety and General Information

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

**SAVE THESE INSTRUCTIONS** - This section contains important instructions that should be followed during installation and maintenance of the UPS and batteries. Failure to follow these instructions can result in equipment damage.

**⚠ DANGER**

**HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

- Connect the UPS power cable directly to a wall outlet.
- The UPS is intended for indoor use only.
- Do not operate the UPS in direct sunlight, in contact with fluids, or where there is excessive dust and humidity.
- Be sure the air vents on the UPS are not blocked. Allow adequate space for proper ventilation.

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

**⚠ CAUTION**

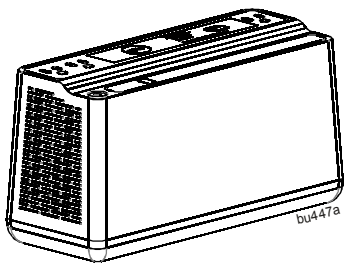
**RISK OF HYDROGEN SULPHIDE GAS AND EXCESSIVE SMOKE**

- Battery must be replaced when they reach end of service life.
- Batteries must be replaced when the unit indicates battery replacement is necessary.
- When replacing batteries, replace with the same number and type of batteries originally installed in the unit.

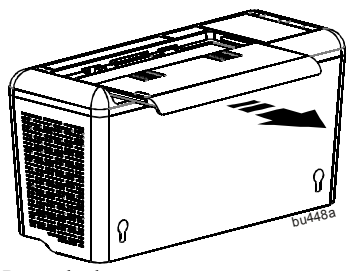
**Failure to follow these instructions could result in minor or moderate injury and equipment damage.**

## Connect the Battery

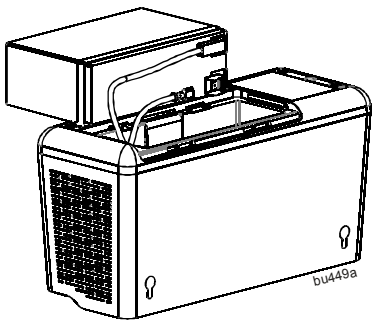
The Back-UPS is shipped with one battery cable disconnected.



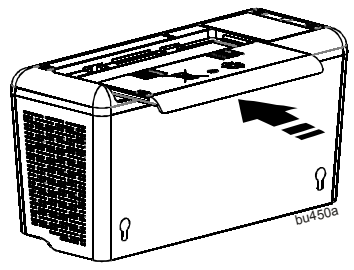

❶ Remove the *"Stop! Connect the Battery"* label that covers the outlets.




❷ Press the battery compartment cover release tabs located on the underside of the unit. Slide the battery cover off.

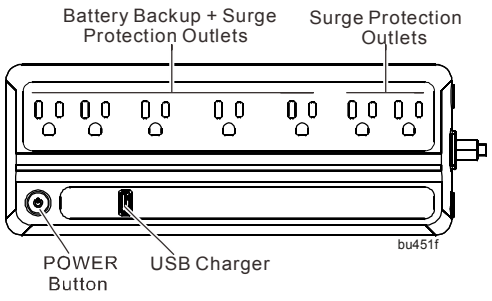


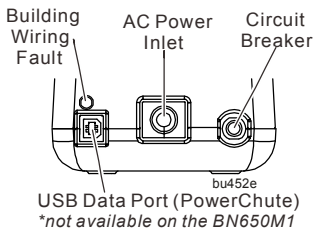

❸ Connect the battery cable securely to the battery terminal. It is normal for small sparks to be seen when the battery cable is connected to the battery terminal.




❹ Reinstall the battery compartment cover. Be sure that the release tabs lock into place.

## Connect Equipment




**Note:** USB Data port (PowerChute) are only available on the BE600M1, BE600M1-LM, BN650M1-CA,BE670M1, BN675M1

### Battery Backup + Surge Protection Outlets

Battery backup outlets provide protection to connected equipment when the Back-UPS is turned on and connected to AC power. Battery backup outlets receive power from the battery for a limited period of time when a power outage, or brownout condition occurs. Battery backup outlets provide protection from power surges or spikes. Connect a computer, monitor and other peripheral devices to these outlets.

### Surge Protection Outlets

Surge protection outlets provide protection to connected equipment when the Back-UPS is connected to AC power, and is switched on or off. Surge protection outlets provide protection from power surges or spikes. Connect peripheral devices (such as printer, scanner, etc.) that do not need to remain on during power outages or AC problems to the surge protection outlets.

### USB charging port

The USB port provides a maximum of 1.5A DC power. The USB port will provide power when the unit is on AC and on battery.

## Turn On the Back-UPS

Press the POWER button located on the top of the Back-UPS. The POWER button will illuminate green and a single short beep will indicate that the Back-UPS is on and providing protection for connected equipment.

The Back-UPS battery charges fully during the first 24 hours while connected to AC power. The Back-UPS battery will charge regardless of whether the Back-UPS is switched on or off as long as it is connected to AC power. The UPS will have full runtime capability after the initial 24 hour charging period.

If the red Building Wiring Fault indicator (located on the end near the power cord) is lit, your building wiring may present a shock hazard that should be corrected by a qualified electrician.

## Turn Off the Back-UPS

To turn off the Back-UPS, press the POWER button for at least 2 seconds. At the first beep, release the button and the UPS will turn off. A 2 second delay has been added to mitigate unintentional contact with the POWER button.

## Quick Mute

The Back-UPS is able to temporarily mute user correctable alarms such as: On Battery, Battery disconnected and Overload.

During such alarms, a short press (less than 2 seconds) of the POWER button will temporarily mute the alarm until the condition has been reset. A short double beep will confirm that Quick Mute has been activated. Pressing the POWER button for more than 2 seconds will turn off the UPS.

Other critical events such as Battery replacement and Charger notification can not be temporarily muted. The unit in these cases must be turned off.

## On Battery Indicator Modes

This Back-UPS has 3 On Battery Indicator modes provided that the UPS is turned on. To configure an On Battery Indicator mode, hold down the POWER button and wait for the third beep. At the third beep the POWER button will cycle red / green. Release the POWER button and its color will indicate the mode the UPS is in. Press the POWER button to cycle through each mode. See the table below for the mode selection colors. Once the mode has been selected, wait 5 seconds and the setting will be committed to the UPS.

| Mode | Visual Indicator | Audible Indicator | Mode Selection Color |
|---|---|---|---|
| Quiet Alarm (default) | The POWER button is solid green and flashes twice every 2 seconds until Low Battery notification where it will flash green in rapid succession. | No alarm until Low Battery notification where the alarm beeps twice every 30 seconds | Flashing green |
| No Alarm | | No alarm while the UPS is On Battery | Flashing red |
| Full Alarm | | Alarm sounds 4 beeps every 30 seconds until Low Battery notification where the alarm beeps every half second. As the UPS shuts down it sounds one beep every 4 seconds | Flashing amber |

## PowerChute™ Personal Edition Software

### Overview

Use PowerChute Personal Edition software to configure the UPS settings, protect your computer and other equipment during a utility power outage. During a power outage, PowerChute will save any open files on your computer and shut it down. When utility power is restored, it will restart the computer.

**Note**: PowerChute is only compatible with a Windows operating system. If you are using Mac OSX, use the native shutdown feature to protect your system. See the documentation provided with your computer.

### Installation

Use the USB cable to connect the Data port on the UPS to the USB port on your computer. Download PowerChute™ Personal Edition Software from **www.apc.com/pcpe**. Select the appropriate operating system and follow directions to download the software.

*not applicable to BN650M1

## Status Indicators

| Status | Power Button illumination | Audible Indicator On | Audible Indicator Terminates |
|---|---|---|---|
| **Power On**<br>The Back-UPS is supplying AC power to connected equipment. | Solid green | None | N/A |
| **On Battery**<br>Back-UPS supplying battery power to battery backup outlets. | Solid green and flashes twice every 2 seconds. | The audible alarm depends on the On Battery Indicator mode setting. See the *On Battery Indicator Modes* section for full details. | Beeping stops when AC power is restored or the Back-UPS is turned off. Applies only to modes where the on battery alarm is audible. |
| **Low Battery notification**<br>The Back-UPS is supplying battery power to the battery backup outlets and the battery is near a total discharge state. | Flashes green in rapid succession. | | |
| **Low Battery shutdown**<br>The battery has been completely discharged while the Back-UPS is on battery, the UPS will shut down. | None | | - AC power is restored<br>- AC is not restored within 32 seconds<br>- The Back-UPS is turned off. |
| **Sleep Mode**<br>The UPS has shut down and will "awaken" once AC power is restored | None | None | N/A |
| **Replace Battery**<br>• The battery is disconnected.<br>• The battery needs to be charged, or replaced. | • Flashes red only.<br>• Alternates green-red | • Constant tone<br>• Constant tone | Back-UPS is turned off |
| **Overload Shutdown**<br>An overload condition has occurred in one or more of the battery backup outlets while the Back-UPS is operating on battery power. | None | Constant tone | Back-UPS is turned off |
| **USB Detected Fault**<br>A short circuit has been detected or an error has occurred. | Alternates green-amber | None | N/A |

## Voltage Sensitivity Adjustment (optional)

The Back-UPS detects and reacts to line voltage distortions by transferring to battery backup power to protect connected equipment. In situations where either the Back-UPS or the connected equipment is too sensitive for the input voltage level it is necessary to adjust the transfer voltage.

1. Turn off the UPS while connected to a wall outlet.
2. Press and hold the **ON/OFF** button for 10 seconds. The POWER button will alternate green-red to indicate that the Back-UPS is in **Program** mode.
3. The POWER button will flash either green, amber, or red to indicate the current sensitivity level. Refer to the table for an explanation of the transfer voltage sensitivity levels.
4. To exit **Program** mode wait five seconds and all LED indicators will extinguish. **Program** mode is no longer active.

| LED Flashes | Sensitivity Setting | Input Voltage Range (AC Operation) | Recommended Use |
|---|---|---|---|
| Green | LOW | 88 Vac to 142 Vac | Use this setting with equipment that is less sensitive to fluctuations in voltage or waveform distortions. |
| Red | MEDIUM | 92 Vac to 139 Vac | Factory default setting. Use this setting under normal conditions. |
| Amber | HIGH | 96 Vac to 136 Vac | Use this setting when connected equipment is sensitive to voltage and waveform fluctuations. |

## Specifications

| Model | | BE600M1/ BE600M1-LM | BN650M1/ BN650M1-CA | BE670M1/ BN675M1 |
|---|---|---|---|---|
| **Input** | Voltage | 120 Vac Nominal | | |
| | Frequency | 50/60 Hz ± 3Hz auto-sensing | | |
| | Brownout Transfers | 92 Vac Typical | | |
| | Over-voltage Transfer | 139 Vac Typical | | |
| **Output** | UPS Capacity | 600 VA, 330 W | 650 VA, 360 W | 675 VA, 360 W |
| | Total Amperage (AC outlets) | 5.0A | 5.42A | 5.63A |
| | Voltage - On Battery | 115 Vac ± 8% | | |
| | Frequency - On Battery | 50/60 Hz ± 1 | | |
| | Transfer Time | 6 ms Typical, 10 ms maximum | | |
| **USB Port** | * Charging Current | 1.5A | | |
| | Charger compatibility | USB Battery Charging Specification 1.2 | | |
| | * Power output is dependent power drawn by the connected device. Check your device manufacturer to understand the maximum charging current for a given USB spec. | | | |
| **Protection and Filtering** | AC Surge Protection | Full time, 490 Joules | | |
| | EMI/RFI Filter | Full time | | |
| | AC Input | Resettable circuit breaker | | |
| **Battery** | Type | Sealed, maintenance-free, lead acid 12V | | |
| | Average Life | 3 - 5 years, the number of discharge cycles and environmental temperature | | |
| | Charging Time | 10 hours. Using the USB port while charging the battery will increase the amount of time required. | | |
| **Physical** | Net Weight | 7.7 lb (3.5 kg) | | |
| | Dimensions LxWxH | 10.8 in x 4.1 in x 5.5 in<br>27.4 cm x 10.5 cm x 13.9 cm | | |
| | Operating Temperature | 32º F to 104º F (0º C to 40º C) | | |
| | Storage Temperature | 5º F to 113º F (–15º C to 45º C) | | |
| | Operating Relative Humidity | 0 to 95% non-condensing humidity | | |
| | Operating Elevation | 0 to 10,000 ft (0 to 3000 m) | | |

## 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

## 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 BE600M1 / BE600M1-LM / BE670M1 / BN650M1 / BN650M1-CA / BN675M1 is **APCRBC154**.

## APC by Schneider Electric IT Customer Support Worldwide

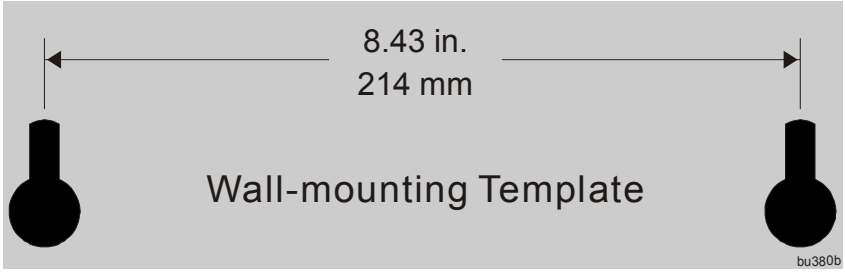
For country specific customer support, go to the APC by Schneider Electric Web site, www.apc.com.

## Troubleshooting

| Problem and Possible Cause | Solution |
|---|---|
| **The Back-UPS will not turn on** | |
| The Back-UPS has not been turned on. | Press the POWER button. |
| 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. | Make sure the power cord is securely connected to the wall outlet, and that there is AC power available at the wall outlet.Where applicable, check that the wall outlet is switched on. |
| **The Back-UPS is on, the POWER button flashes red and the unit emits a constant tone** | |
| The battery is disconnected. | Refer to the *Connect Equipment on page 1*. |
| **Connected equipment loses power** | |
| A Back-UPS overload condition has occurred. | Remove all nonessential equipment connected to the outlets. One at a time reconnect equipment to the Back-UPS.<br>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 ten hours. |
| PowerChute software has performed a shutdown due to a power outage. | This is normal Back-UPS operation. |
| 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 Schneider Electric Technical Support for more in depth troubleshooting. |
| **The POWER button is green and flashes twice every 2 seconds.** | |
| 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. |
| **The POWER button flashes green in rapid succession.** | |
| The Back-UPS battery has approximately two minutes of remaining runtime. | The Back-UPS battery is near a total discharge state. At this point the user should save all open files, and shutdown the computer. When AC power is restored the battery will recharge. |
| **The Building Wiring Fault LED is red** | |
| The building wiring presents a shock hazard that must be corrected by a qualified electrical. | Do not operate the Back-UPS. Call a qualified electrician to correct the building wiring fault. |
| **The Back-UPS has an inadequate battery runtime** | |
| The battery is not fully charged.<br>The battery is near the end of useful life and should be replaced. | Leave the Back-UPS connected to AC power for ten hours while the battery charges to full capacity.<br>As a battery ages, the runtime capability decreases. Contact APC by Schneider Electric at the Web site **www.apc.com**, to order replacement batteries. |
| **USB charging is slow** | |
| Charging a device using the UPS's USB charger is slower than the device's original USB charger | The amount of power a device draws depends on its compatibility with the USB Battery Charging Specification 1.2. Compatible devices can draw more power than devices that are less compatible. |
| **USB charging stops and the Power On LED alternately illuminates green-amber** | |
| The USB port has detected a short circuit or has detected a fault. | Disconnect cable and device from the USB port. USB charging will resume when the POWER button turns green. Contact SEIT Technical Support if the POWER button remains green-amber. |
| **The UPS and outlets are off but the UPS keeps beeping twice every 30 seconds (Quiet Alarm mode) or keeps beeping once every 4 seconds (Full Alarm mode)** | |
| In this situation the voltage is not low enough to shutdown the UPS but not high enough to start the UPS and power the outlets. There is however enough voltage to charge the UPS. | Use Quick Mute to mute the alarm. The UPS will return to normal operation once the AC input voltage has returned to a normal range |

## Wall Mount Installation

- Horizontal installation, use 2 screws 8.43” (214 mm) apart.
- Allow 5/16” (8 mm), of the screw to protrude from the wall.




## 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.

## EMC Compliance

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

Some models are compliant with California (CEC) Battery Charger regulations. For more information, search for your model number on www.apc.com and review the Conformance Approvals section of the Technical Specifications.

© 2019 APC by Schneider Electric. APC, the APC logo, PowerChute and Back-UPS are owned by Schneider Electric Industries S.A.S., or their affiliated companies. All other trademarks are property of their respective owners.

**EN 990-5679E**
**11/2019**