



Aplus, Reliable Power Brand Deserve Your Trust

# USER'S MANUAL



This manual provides safety, installation and operation instructions which will guide you to the best performance of your equipment. Please read and keep this manual.

APLUS® is a trademark of APLUS POWER CORP. and is manufactured under its authority. All designs and contents are subject to changes without prior notice. ©Copyright 2025 APLUS® all rights reserved.

## 1 INTRODUCTION

### ► System Description

The Product is line interactive UPS provides guaranteed battery backup power during outage and unsafe fluctuation, along with full protection from damaging surges and spikes. The UPS integrated with microprocessor controller, voltage stabilizer, LED or LCD indicators and battery easy replacement in a stand-alone unit, to provide the perfect protection to safeguard your critical devices and valued data.

### ► Features

- ◆ Equipped with 2-Steps Boost & 1-Step Buck AVR to provide stable utility voltage.
- ◆ Off mode charging enable UPS charge itself even power switch is OFF.
- ◆ Built-in CC/CV battery charger and battery over-drain protection.
- ◆ DC start function enable UPS started without AC power supplied.
- ◆ Provide lightning, surge, overload, and short circuit protection.
- ◆ Line interactive design with microprocessor controlled.
- ◆ 5VDC USB Charging Port (Optional).
- ◆ Battery easy replacement design.
- ◆ Auto restart upon AC recovery.

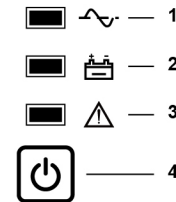
## 2 CAUTION

- The UPS contains electricity that is potentially hazardous. Qualified or certified technician should proceed all repairs, maintenance and installation.
- The UPS has its own internal energy source (battery). The output receptacles may be active even when the UPS is not connected to an AC supply.
- The UPS is suitable for computers and electronic equipment with linear loads, not suitable for electronic equipment with non-linear loads, such as motors & fluorescent lamps.
- Be sure to operate within the power rating of the UPS. Below 1/2 or 1/3 of the rated power is recommended for longer backup time.
- The UPS must be installed in a protected environment away from heating appliances such as a radiator or heater. **DO NOT** place the UPS near excessive humidity, under sunshine, or close to heating sources.
- If the UPS is out of order, disconnecting the power cord and contact with your dealer right away.
- The unit should be supplied by a grounded source. **DO NOT** operate the unit without a ground source.
- The UPS should be installed near to wall socket and equipment and be easily accessible.
- **DO NOT** plug the UPS's power cord into UPS's output socket. That will result in a safety hazard.
- **DO NOT** connect a laser printer or plotter to the UPS. A laser printer or plotter periodically draw significantly more power than its idle status, and may overload the UPS.

## 3 OVERVIEW

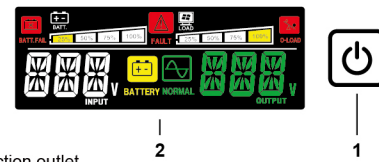
### ► LED Model Front Panel

1. Power Switch: ON/OFF or Silence button
2. On-line LED
3. Back-up LED
4. Cut-off LED



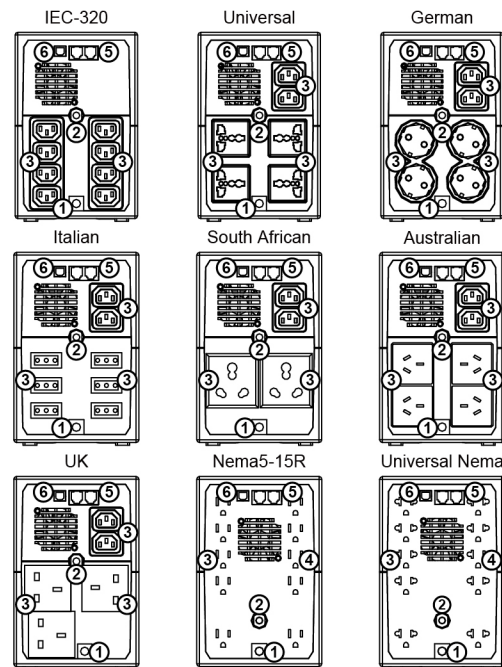
### ► LCD Model Front Panel

1. Power Switch: ON/OFF or Silence button
2. LCD screen



### ► Rear Panel

1. AC input line cord
2. AC circuit breaker
3. Backup/AVR/surge protection outlet
4. Surge protection outlet
5. Tel/Line/Modem surge protection RJ-45 or RJ-11 port (Optional)
6. Smart USB communication port (Optional)



## 4 OPERATION

### ► Turn On/Off the Unit

Turn on the UPS unit on AC mode by pressing the power switch for 1 second. Turn off the UPS unit on AC mode by pressing the power switch for 4 seconds.

### ► Connect to Utility and Charging

When UPS is connected to AC power and power switch is on, UPS will charge battery automatically.

The UPS is designed with the function of OFF-Mode Charging, so UPS will charge battery continuously when power switch is off and AC power is supplied. To power off UPS completely on OFF mode, please remove the input of AC power.

### ► DC Start

Turn on the UPS unit on Battery mode by pressing the power switch for 1 second. Turn off the UPS unit on Battery mode by pressing the power switch for 4 seconds, and UPS will be completely turned off in 10 seconds. Wait another 10 seconds to press power switch for 1 second if you want to turn on the UPS again.

### ► Buzzer

Buzzer will beep when UPS is on Battery mode or having fault situations. Mute the buzzer by pressing power switch once. Restart the Buzzer by pressing power switch once again.

## 5 BATTERY CHARGING AND STORAGE

The UPS is shipping from Factory with internal full-charged battery, but battery power might be lost during the transportation. So please plug in the AC input line cord to wall outlet. For best result, charge the battery for at least 10 hours before initial use.

| Storage Temperature          | Recharge Period | Charging Duration |
|------------------------------|-----------------|-------------------|
| -15°C to 30°C (5°F to 86°F)  | Every 6 Months  | 10 Hours          |
| 30°C to 45°C (86°F to 113°F) | Every Month     | 10 Hours          |

## 6 INDICATION TABLE

### ► LED Model

- ◆ Battery Mode

| Status                       | Back-up LED (Yellow)  | On-line LED (Green) | Cut-off LED (Red)          | Buzzer                      |
|------------------------------|---|---------------------|----------------------------|-----------------------------|
| Battery normal & Load normal | LED is ON when UPS is on Battery mode; LED flash twice every 4 seconds when battery and load are normal | LED is OFF          | Depends on fault condition | Beeps twice every 8 seconds |
| Battery low voltage          | LED flash 4 times every second  |                     |                            | Beeps 4 times every second  |

◆ AC Mode

| Status                 | Back-up LED (Yellow) | On-line LED (Green)            | Cut-off LED (Red)          | Buzzer        |
|------------------------|----------------------|--------------------------------|----------------------------|---------------|
| Battery fully charged  | LED is OFF           | LED is ON                      | Depends on fault condition | Buzzer is OFF |
| Battery 70-90% charged |                      | LED flash once every 8 seconds |                            |               |
| Battery 50-70% charged |                      | LED flash once every 4 seconds |                            |               |
| Battery 30-50% charged |                      | LED flash once every 2 seconds |                            |               |
| Battery 0-30% charged  |                      | LED flash once every second    |                            |               |

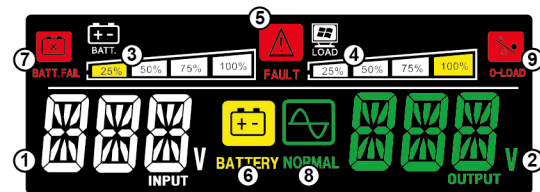
◆ OFF Mode

| Status                                       | Back-up LED (Yellow)           | On-line LED (Green)                     | Cut-off LED (Red)          | Buzzer        |
|--|--------------------------------|---|----------------------------|---------------|
| AC input disconnected                        | LED is OFF                     | LED is OFF                              | LED is OFF                 | Buzzer is OFF |
| AC input normal: Battery is in charging      |                                | LED flash once every 2 seconds          | Depends on fault condition |               |
| AC input normal: Battery is fully charged    |                                | LED is OFF                              |                            |               |
| UPS working schedule: Set via Smart USB port | LED flash once every 2 seconds | Refer to On-line LED (Green) of AC mode | LED is OFF                 |               |

◆ Fault

| Status               | Back-up LED (Yellow)                  | On-line LED (Green) | Cut-off LED (Red)            | Buzzer        |
|----------------------|---------------------------------------|---------------------|------------------------------|---------------|
| Over temperature     | Depends on AC input or load condition |                     | LED is OFF                   | Rapid beeping |
| Overload             |                                       |                     | LED flash twice every second | Constant tone |
| Output short circuit |                                       |                     | LED is ON                    | Rapid beeping |

▶ LCD Model

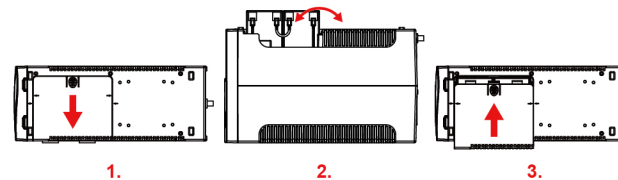


|   | Indicators        | Description   |
|---|-------------------|---|
| 1 | Input Voltage     | Indicate input line voltage.  |
| 2 | Output Voltage    | Indicate output voltage.  |
| 3 | Battery Capacity  | Indicate estimated battery capacity. The accuracy will be influenced by UPS operation mode and load capacity.   |
| 4 | Load Capacity     | Indicate load level, the percentage of UPS full load.   |
| 5 | Fault Icon        | Icon is ON when UPS is fault. Buzzer beeps constantly or rapidly.   |
| 6 | Battery Icon      | Icon is ON when AC power is abnormal and UPS is on Battery mode. Buzzer beeps twice every 8 seconds when battery and load are normal. Buzzer beeps 4 times every second when battery low voltage. |
| 7 | Battery Fail Icon | Icon is ON when UPS battery is abnormal.  |
| 8 | Normal Icon       | Icon is ON when UPS is normal.  |
| 9 | Overload Icon     | Icon is ON when UPS is overload. Buzzer makes constant tone.  |

## 7 CHANGE BATTERY

**Note: Small sparks may occur during battery connection, this is normal.**

- Turn the UPS over, and slide the battery compartment cover off the battery housing.
- LIFT the battery out of the compartment, and disconnect wires from battery positive (+) and negative (-) terminals. Get a new battery and make sure to re-connect wires to positive and negative terminals correctly.
- Aligned all arrows marks and slide the battery compartment cover back onto the battery housing. Double check if battery compartment is well-locked.



## 8 TROUBLESHOOTING

Check UPS with below steps when you face UPS failure problem:

- Is the power switch of UPS turned on?
- Is UPS plugged into a working wall outlet?
- Is line voltage within the rating specified?
- Is circuit breaker on the UPS back panel active?
- Is UPS overloaded?
- Is UPS battery not fully charged?

Use the table below to solve the UPS operation problems. If the problems cannot be resolved, please provide model name, serial number, date of purchase, date of the problem occurred and full description of the problem including load status, UPS LED or LCD status, UPS buzzer status, installation environment...etc. when call for service.

| Problem                                       | Probable Cause                     | Solution  |
|---|------------------------------------|---|
| UPS will not turn on and LED or LCD is not ON | Battery voltage is less than 10VDC | Charge the UPS at least 5 hours   |
|   | PCB is failure                     | Call for service to replace the PCB   |
| UPS is always on Battery Mode                 | Power cord is loose                | Reconnect the power cord properly   |
|   | Circuit breaker is tripped         | Reset the circuit breaker on the UPS back panel   |
|   | PCB is failure                     | Call for service to replace the PCB   |
| Backup time is shortening                     | Battery is not fully charged       | Charge the UPS at least 5 hours   |
|   | Battery defect                     | Replace the battery with same type of battery   |
| Buzzer continuously beeping when AC is normal | UPS is overloaded                  | Remove some loads first. Make sure the equipment plugged in to the UPS is not overloading the capacity of UPS |

## 9 SPECIFICATION

### INPUT

|               |                                  |
|---------------|----------------------------------|
| Voltage       | 110/115/120VAC or 220/230/240VAC |
| Voltage Range | -30%, +25%                       |
| Frequency     | 50/60Hz (Auto-sensing)           |

### OUTPUT

|                    |                 |
|--------------------|-----------------|
| Capacity           | Label specified |
| Voltage Regulation | +/-10%          |

(Battery Mode)

|               |                    |
|---------------|--------------------|
| Frequency     | 50/60Hz +/-1Hz     |
| Waveform      | Simulated sinewave |
| Transfer Time | <6ms (Typical)     |

### BATTERY

|                            |   |
|----------------------------|---|
| Voltage                    | 24VDC                                     |
| Recharge Time              | 5 hours to 90% after fully discharged     |
| Safety Protection          | Over charge and over discharge protection |
| Advance Battery Management | Yes                                       |

### INDICATORS

|           |  |
|-----------|--|
| LED Model | AC normal(Green), Backup(Yellow), UPS Cut-off(Red)       |
| LCD Model | Programmed LCD   |
| Alarm     | Buzzer ON for battery mode, low battery, overload, fault |

### PROTECTION

|                    |  |
|--------------------|--|
| Short circuit      | Line Mode: AC breaker and electronic circuit ;<br>Battery Mode: electronic circuit |
| Over-temperature   | Thermal switch   |
| Over/Under Voltage | Yes  |
| Surge Protection   | 175 Joules   |

### SAFETY/REGULATORY

|                  |            |
|------------------|------------|
| Safety Approvals | EN 62040-1 |
| EMC Compliance   | EN 62040-2 |

### PHYSICAL

|                       |                            |
|-----------------------|----------------------------|
| Operating Temperature | 0°C to 40°C (5°F to 104°F) |
| Related Humidity      | 0 to 95% (Non-condensing)  |
| Audible Noise         | <40dB at 1M                |
| Dimension(D*W*H)      | 343*135*208mm              |

\*Product specifications are subject to change without further notice.