

# Protect alpha.

Protect alpha. 450

Protect alpha. 600

Protect alpha. 800

EN

Uninterruptible Power Supply



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# 1. SAFETY – CAUTION

- This UPS utilizes voltages that may be hazardous. Do not attempt to disassemble the unit. The unit contains no user serviceable parts. Only qualified service personnel may perform repairs.
- Internal battery voltage is 12 V DC. Sealed, lead-acid, 6 cell battery.
- Connection to any other type of socket other than a two-pole, three-wire grounded socket may result in shock hazard as well as violating local electrical codes.
- In the event of an emergency, press the OFF button and disconnect the power cord from the AC power supply to properly disable the UPS.
- Do not allow liquids or any foreign object to enter the UPS. Do not place beverages or any other liquid-containing vessels on or near the unit.
- The unit is intended for installation in a controlled environment (temperature controlled, indoor area free of conductive contaminants).
- Avoid installing the UPS in locations where there is standing or running water, or excessive humidity.
- Do not plug the UPS input into its own output.
- Do not attach a power strip or surge suppressor to the UPS.
- Do not attach non-computer related items, such as medical equipment, life-support equipment, microwave ovens, or vacuum cleaners to the UPS.
- To reduce the risk of overheating the UPS, do not cover the UPS' cooling vents and avoid exposing the unit to direct sunlight or installing the unit near heat emitting appliances such as space heaters or furnaces.
- Unplug the UPS prior to cleaning and do not use liquid or spray detergent.
- Do not dispose of batteries in a fire as they may explode.
- Do not open or damage the battery or batteries. Released electrolyte is harmful to the skin and eyes and may be toxic.
- A battery can present a risk of electrical shock and high short circuit current.
- The following precautions should be observed when working on batteries:
  - 1) Remove watches, rings, or other metal objects from hands.
  - 2) Use tools with insulated handles.
  - 3) Wear rubber gloves and boots.
  - 4) Do not lay tools or metal parts on top of batteries.
  - 5) Disconnect charging source prior to connecting or disconnecting battery terminals.

- Servicing of batteries should be performed or supervised by personnel trained in batteries and the required precautions. Keep unauthorized personnel away from batteries.
- When replacing batteries, replace with the same number and type of sealed lead-acid batteries. The maximum ambient temperature rating is 40 °C.
- This pluggable type A equipment, with battery already installed by the supplier, is operator installable and may be operated by non-technical users.
- During the installation of this equipment it should be assured that the sum of the leakage currents of the UPS and the connected loads does not exceed 3.5 mA.
- Attention, electric shock hazard. With disconnection of this unit from the mains, hazardous voltage still may be accessible through the supply from the battery. The battery supply should therefore be disconnected at the positive and negative poles of the battery when maintenance or service work inside the UPS is necessary.
- The mains socket outlet that supplies the UPS shall be installed near the UPS and shall be easily accessible.

## 2. INTRODUCTION

This UPS is specially designed for Personal Computer use and has multiple functions. Its light weight, compact design fits perfectly to the limited working environment. This line of UPS is equipped with boost and buck AVR to stabilize input voltage range. It is also built-in with DC-start function. This function enables the UPS to be started up without AC power supplied. Although it's a small UPS, the main features of the Protect alpha. UPS are listed below:

- Microprocessor control guarantees high reliability
- Equipped with boost and buck AVR
- Green Power Function for energy saving
- DC-start Function
- Auto-restart while AC recovery
- Compact size, light weight
- Provides AC overload protection

### 3. TROUBLE SHOOTING

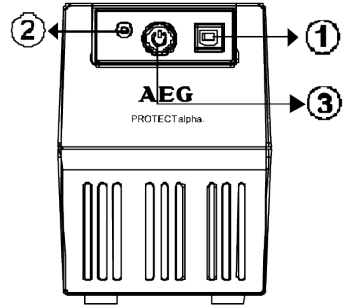
Symptom	Possible Cause	Remedy
No LED display on the front panel	1. Battery weak	1. Charge battery for up to 8 hours
	2. Battery defective	2. Replace with the same type of battery
	3. Power switch is not pressed	3. Press the power switch again
Alarm buzzer beeps continuously when AC supply is normal	Overload of the UPS	Verify that the load matches the UPS capability specified in the specs
In event of power failure, back-up time is shortened	1. Overload of the UPS	1. Remove some non-critical load
	2. Battery voltage is too low	2. Charge battery for 8 hours or more
	3. Battery defective due to high temperature operation environment, or improper operation of battery	3. Replace with the same type of battery
Mains normal but LED is flashing	Power cord is loose	Reconnect the power cord properly

If any abnormal situations occur that are not listed above, please call service personnel immediately.

## 4. SYSTEM DESCRIPTION

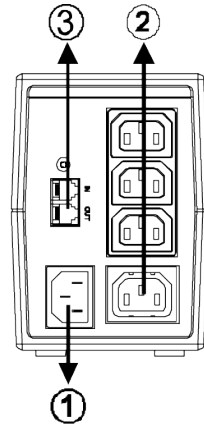
### Front panel

1. USB Port
2. LED indicators –
  - AC mode: Green
  - Battery mode: Green flashing
3. Power switch



### Back panel

1. AC input
2. Output sockets
3. RJ11 communication

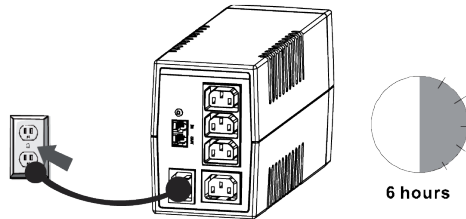


### 4.1. INSPECTION

Remove the UPS from its packaging and inspect it for damage that may have occurred during shipping. If any damage is discovered, repack the unit and return it to the place of purchase.

## 4.2. CHARGING

This unit is shipped from the factory with its internal battery fully charged, however, some charge may be lost during shipping and the battery should be recharged prior to use. Plug the unit into an appropriate power supply and allow the UPS to charge fully by leaving it plugged in for at least 6 hours with no load connected (i.e. no electrical devices such as computers, monitors, etc.).

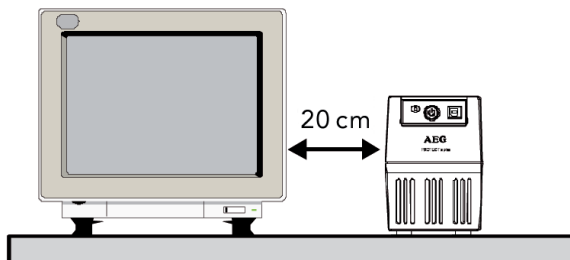


## 4.3. PLACEMENT

Install the UPS unit in any protected environment that provides adequate airflow around the unit, and is free from excessive dust, corrosive fumes and conductive contaminants. Do not operate your UPS in an environment where the ambient temperature or humidity is high.



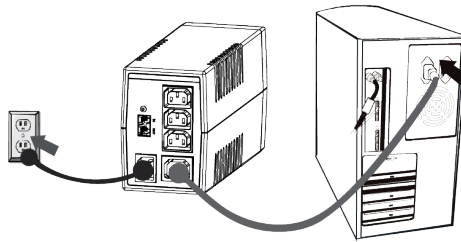
Locate the UPS at least 20 cm away from the monitor to avoid interference.





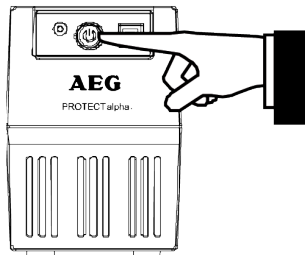
#### 4.4. CONNECTION

Plug the UPS into a 2-pole, 3-wire grounded socket. Then connect one computer-related device into each of the power sockets supplied on the back of the UPS.



#### 4.5. TURN ON/OFF

To turn on the UPS unit, press the power switch lightly.  
To turn off the UPS unit, press the power switch again.



#### 4.6. DC-START

All Protect alpha. UPSs are equipped with DC-start. To start the UPS when AC utility power is not available, simply press the power switch.

#### 4.7. GREEN POWER FUNCTION

All Protect alpha. UPSs are equipped with Green Power Function. For saving power and protecting battery, the method of deep discharging protection is adopted in inverter mode.

## 5. SPECIFICATION

<b>MODEL</b>	<b>Protect alpha. 450/600/800</b>			
<b>CAPACITY</b>	VA / W	450VA/ 240W	600VA/ 360W	800VA/ 480W
<b>INPUT</b>	Voltage	230 VAC		
	Voltage range	170 – 280 VAC		
<b>OUTPUT</b>	Voltage	220/230/240 VAC		
	Voltage regulation (battery mode)	± 10%		
	Frequency	50 Hz or 60 Hz		
	Frequency regulation (battery mode)	±1 Hz		
	Output waveform	Modified sine wave		
<b>BATTERY</b>	Battery type	12V 4.5Ah	12V 7Ah	12V 9Ah
	Recharge time	6 hours to 90% after complete discharge		
<b>TRANSFER TIME</b>	Typical	2 – 6ms typical, 10ms max.		
<b>INDICATOR</b>	AC mode	Green LED		
	Battery mode	Green flashing LED		
<b>AUDIBLE ALARM</b>	Backup mode	Sounding every 10 seconds		
	Low battery	Sounding every 1 second		
	Overload	Sounding every 0.5 seconds		
	Fault	Continuously sounding		
<b>PROTECTION</b>	Full protection	Discharge, overcharge, and overload protection		
<b>PHYSICAL</b>	Dimension (mm)	278 (L) x 100 (W) x 143 (H)		
<b>WEIGHT</b>	Net weight	3.7kg	4.35kg	5.15kg
<b>ENVIRONMENT</b>	Operating environment	0°C – 40°C		
	Noise level	Less than 40dB		

## 6. CE CONFORMITY



### Declaration of Conformity

Document - No. CE 0333

We

**AEG Power Solutions GmbH**  
**Emil – Siepmann – Straße 32, D – 59581 Warstein**

declare under our sole responsibility that the product

**Uninterruptible Power Supply (UPS)**  
**Protect alpha 450VA, 600VA, 800VA**

to which this declaration relates is in conformity with the following standards  
 or other normative documents:

EN 62040-2:2006  
 EN 62040-1:2008

Following the provisions of directives

2004 / 108 / EC	EMC- Directive
2006 / 95 / EC	Low Voltage Directive

Year of labeling the CE – Mark: 2013

59581 Warstein, 16.05.2013

**AEG Power Solutions GmbH**  
**Product Management**  
**Compact UPS**

**AEG Power Solutions GmbH**  
**Quality Management**

  
 Dirk Schneider

  
 Michael Kirchoff

