

CertaUPS

C60 USER MANUAL
A COMPLETE INSTALLATION
AND USER GUIDE

THE C60 SERIES

A line interactive uninterruptible power supply (UPS) solution available from 800VA – 2000VA.

www.certaups.com

For assistance please contact your local CertaUPS partner.

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SAFETY INFORMATION

KEEP THESE INSTRUCTIONS IN A SAFE PLACE

This section contains essential information and instructions that should be followed to ensure the safe handling, installation and maintenance of CertaUPS equipment and batteries.

USER MANUAL SYMBOLS

The following will be referenced throughout this document.

SYMBOL	DEFINITION
	Caution! Follow instructions carefully
	Caution, risk of electric shock
	Power On/Off
	Alternating current (AC)
	Direct Current (DC)
	Grounding / Earth
	Recycle
	Not to be disposed of in general waste Waste electrical equipment or electronic equipment (WEEE) should not be disposed of in the general waste. CertaUPS systems should always be disposed of at a proper recycling/hazardous waste disposal centre. Please see page 10 for disposal guidance.

HANDLING

UPS handling weight guidelines

<18kg (<40lb)	One-person
18 – 32 kg (40 – 70 lb)	Two-person
32 – 55 kg (70 – 120 lb)	Three-person
>55 kg (>120 lb)	Forklift

AUTHORISED PERSONNEL TO HANDLE ONLY

UPS systems contain both AC and DC when disconnected from the mains outlet and should only be serviced by qualified persons.

Before any handling please ensure that the following precautions are taken:

QUALIFIED PERSONNEL Any persons servicing the UPS must be qualified and knowledgeable in UPS technology and batteries	
CLOTHING Correct PPE should always be worn	
POWER OFF Ensure all mains power is disconnected before starting work	
TOOLS always use insulated tools. Do not lay tools down near the UPS or batteries. Follow all isolation procedures.	
UPS GROUNDING The UPS must always be properly grounded in order to reduce earth leakage current below 3.5mA	

CAUTIONARY NOTES

Please be aware of the following risks when handling and operating CertaUPS units.

RISK TYPE	DETAILS
Electric shock	Even after the unit is disconnected from the mains power supply (building outlet socket), components inside the UPS are still energised which are potentially dangerous. The battery in the UPS will always be live.
	The battery circuit is not isolated from the input voltage. Hazardous voltages may occur between the battery terminals and the ground. Verify that no voltage is present before servicing.
Hazardous voltages	Repairs must be carried out only by qualified UPS Engineer. Replacement of batteries must only be completed by an electrically competent person.

FOR FURTHER INFORMATION ON REPLACEMENT PARTS AND SERVICING PLEASE CONTACT YOUR CertaUPS PARTNER.

OPERATING SAFETY

Before operating any UPS system, please read the following guidance:

DO NOT install the UPS in a humid environment or expose to liquids	
DO NOT block the ventilation of the UPS	
DO NOT expose the UPS to direct sunlight or source of heat	
DO NOT exceed recommended ambient temperatures when operating or storing the UPS	
DO NOT allow excessive particulates or foreign bodies to enter the UPS	
DO NOT plug the UPS input into its own output	
DO follow all connection procedures and operational instructions in the order in which they appear within this manual	
DO check that the indicators on the rating plate correspond to the AC powered system and to the actual electrical consumption of all the equipment to be connected to the UPS	
DO ensure the outlet is installed near the UPS and is easily accessible	
DO store the UPS in a dry environment	
DO keep the UPS in a well-ventilated area	

Additional considerations:

- The UPS output is supplied by two sources. When the UPS is disconnected from mains power hazardous voltage may still be present from the internal battery. The battery should be disconnected when maintenance or service work inside the UPS is necessary.
- Servicing of batteries should be performed or supervised by qualified and competent personnel only.
- When replacing the batteries, use the same number and type of batteries.
- Dispose of batteries in the correct manner and in line with local laws and regulations. Never dispose of batteries in a fire. Do not attempt to open the battery. Released electrolyte is harmful to the skin and eyes. A battery can present a risk of electric shock and short circuit.
- Unplug the UPS prior to cleaning and do not use liquid or spray detergent.
- 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.

PRODUCT OVERVIEW

FULL PRODUCT DETAILS CAN BE FOUND AT WWW.CERTAUPS.COM/PRODUCT/CERTAUPS-C60/

The CertaUPS C60 series is a line-interactive uninterruptible power supply (UPS) solution. It is one of the most compact systems available, providing the safe shutdown of supported equipment in the event of a power failure.

THE MODEL LIST

Please check that the unit you have purchased is correct by referring to the model number, which appears on the rear panel of the UPS unit.

ITEM	MODEL NAME	POWER RATING	MODEL TYPE	MODEL DESCRIPTION	OTHER
1	C60-800	800VA/4800W	Tower	Internal battery model	Single Phase input Single Phase output
2	C60-1000	1000VA/600W	Tower	Internal battery model	Single Phase input Single Phase output
3	C60-1500	1500VA/900W	Tower	Internal battery model	Single Phase input Single Phase output
4	C60-2000	2000VA/1200W	Tower	Internal battery model	Single Phase input Single Phase output

THE TECHNOLOGY

The C60 UPS series uses line interactive (VI, Voltage Independent) technology, which performs in a similar way to an offline UPS. A line-interactive solution includes a voltage regulator which maintains the inverter and redirects the DC supply. When the mains power fails or fluctuates, the load is transferred to the inverter output. This type of technology delivers a step-wave, which delivers a negligible transfer time of 4ms.

Key features:

- Automatic start
- Intelligent monitoring software
- USB connectivity
- Separate surge-protected outlets
- Battery backed outlets

SUITABLE APPLICATIONS

Ideally suited for small to medium-sized offices, telecommunication centres and security facilities. Please see list below (not exhaustive):

CCTV
EPOS
PC workstations

UPS STANDARDS

DESCRIPTION	STANDARD
Conduction/Radiation	IEC/EN 62040
	IEC 60950-1
Harmonic Current	IEC/EN 61000-3-2
Voltage Fluctuation	IEC/EN 61000-3-3
ESD	IEC/EN 61000-4-2
RS	IEC/EN 61000-4-3
EFT	IEC/EN 61000-4-4
Surge	IEC/EN 61000-4-5
CS	IEC/EN 61000-4-6
MS	IEC/EN 61000-4-8
Voltage Dips	IEC/EN 61000-4-11
Low frequency signals	IEC/EN 61000-2-2

PLEASE FIND UPS PRODUCT DIAGRAMS AND FULL TECHNICAL SPECIFICATIONS ON PAGE 15 OR VISIT WWW.CERTAUPS.COM/PRODUCT/CERTAUPS-C60/

UPS INSTALLATION

PLEASE ENSURE ALL SAFETY INSTRUCTIONS HAVE BEEN OBSERVED AND UNDERSTOOD PRIOR TO UNPACKING AND INSTALLING THE UPS

INSPECTION

Every effort is made to ensure that CertaUPS systems are packaged as safely as possible to ensure that no damage is incurred during shipment. Please visually inspect the UPS when it is received. Please keep all packaging in a safe place for future use.

IF THE DEVICE IS DAMAGED, PLEASE NOTIFY THE CARRIER IMMEDIATELY

UNPACKING

The UPS unit must be positioned in a well-ventilated area that is free from excessive dust, heat and moisture. Please take note of the specified operating temperatures and remain within these guidelines. To achieve battery design life it is not recommended for the ambient temperature to exceed 25 degrees Celsius.



- Unpacking the unit in a low-temperature environment may cause condensation to occur in and on the device. **DO NOT** install the UPS/EBM until the inside and outside of the device are clear of condensation.
- Unpack the equipment and remove shipping carton and all the packaging materials. **DO NOT** lift the unit using the front and rear panels.

PACKING MATERIALS MUST BE DISPOSED OF IN COMPLIANCE WITH ALL LOCAL WASTE MANAGEMENT REGULATIONS. RECYCLING SYMBOLS ARE PRINTED ON THE PACKING MATERIALS TO FACILITATE SORTING.

C60 BOX CONTENTS CHECKLIST

C60 Series UPS	
USB A to B	
Software CD	
Power lead	
Warranty Card	
Quick start guide	

IF ANY OF THE ITEMS ARE MISSING FROM THE UPS BOX PLEASE NOTIFY YOUR SUPPLIER

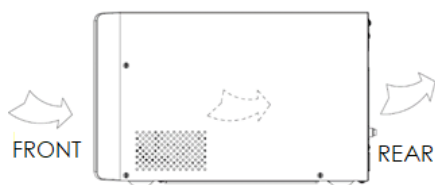
DO NOT FORGET TO REGISTER THE UPS WARRANTY WWW.CERTAUPS.COM/SUPPORT/WARRANTY-REGISTRATION/

INSTALLATION

DO NOT MAKE ANY UNLICENSED MODIFICATIONS TO THE UPS. THIS MAY INCUR DAMAGE AND AFFECT THE UPS WARRANTY.



- **DO NOT** connect the UPS to a mains supply until installation is completed
- Ventilation of the UPS is important for proper operation. Ensure the air vents on the front, side and rear of the UPS are clear. Allow adequate space around the UPS. The airflow diagram is shown as below:



Installation considerations:

- The final location of the UPS unit must be on a flat stable surface in a well-ventilated environment
- **DO** keep at least 200mm of free space behind the rear panel
- If installing an additional unit, place it next to the first unit in its final location
- **DO** allow the UPS to reach ambient temperature before turning on
- The UPS needs to be fully charged to achieve full autonomy

A QUICK START VIDEO GUIDE FOR THE C60 MODEL IS AVAILABLE AT WWW.CERTAUPS.COM/MEDIA

STEP ONE	Unpack the UPS and position in a well-ventilated area. Avoid direct sunlight, excessive heat and humidity and do not put in contact with fluids of any type.
STEP TWO	Connect the UPS to the mains power using the power lead provided. Plug the UPS into an electrical outlet that does not share a circuit with any other heavy electrical load. The UPS will require the internal battery to be charged for at least 6 hours before being able to provide autonomy in the event of a mains failure.
STEP THREE	Connect equipment Connect critical equipment to the battery backup outlets, these are supported automatically when a mains failure occurs. Connect other equipment that needs only surge suppression to the surge-protected outlets. Power is not supplied to these outlets when the unit is switched off. Therefore, please be sure to switch on the unit. NOTE: Please DO NOT connect scanners or printers to the battery backup outlets.
STEP FOUR	Connect modem/phone network for surge protection Connect a single modem/phone line into surge-protected "IN" outlet on the back panel of the UPS unit. Connect from "OUT" outlet to the computer with another phone line cable.
STEP FIVE	Connect Communication Port To allow for unattended UPS shutdown/start-up and status monitoring, connect the communication cable with one end to the USB port, and the other to the communication port of your PC. With the monitoring software installed, you can schedule UPS shutdown/start-up and monitor UPS status through PC.
STEP SIX	Software Installation 1) Please download the monitoring and shutdown software from the website www.certaups.com/downloads to download ViewPower software. 2) When your computer restarts, the monitoring software will appear as an orange plug icon located in the system tray, near the clock.
STEP SEVEN	Power On/Off UPS Press power switch on the front panel of the UPS to turn on the UPS. Press switch again to turn off the UPS.

C60 SERIES STARTUP AND SHUTDOWN

STARTING THE UPS WITH MAIN POWER PRESENT

-  Please switch off the connected loads before turning on the UPS, and switch on connected devices one by one after the UPS is turned on. Switch off all connected loads before turning off the UPS.
-  Verify that the total equipment ratings do not exceed the UPS capacity to prevent an overload alarm.

To start the UPS via mains power (Hot start):

1. Check all the connections are properly connected and correct.
2. Supply mains power to the UPS, the fans may start and the LCD will show the default UPS status summary screen.
3. Press the  button and buzzer will beep for 1 second and the UPS outlets will now be displaying the AC mode symbol and supplying AC power to any connected equipment.
4. The UPS will now be in supporting your equipment. If the utility power is abnormal, the UPS will transfer to battery mode without interruption of the AC supply to the connected equipment.

STARTING THE UPS FROM BATTERY

-  Before using this feature, the UPS must have been powered by utility power with output enabled at least once to ensure the unit is adequately charged.
-  Battery start can be disabled.

To start the UPS via battery power (Cold start):

1. Check all the connections are properly connected and correct.
2. Press the  button and the UPS will power on. The fans will start and the LCD will show the default UPS status summary screen after finishing the initialisation self-test.
3. After a few seconds, the UPS will transfer to battery mode. If the mains power comes back the UPS will transfer to Line mode without output interruption of the UPS.
4. Whilst operating in battery mode the unit beep once every 10 seconds to alert the user to a mains AC failure.

UPS SHUTDOWN WITH MAINS POWER

To shutdown the UPS with mains power:

1. Press the  button to shut the unit down.
1. After that, the UPS will transfer to standby mode immediately.
2. In order to cut off the UPS output remove the mains power supply. A few seconds later the LCD display will shut down.

UPS SHUTDOWN WITHOUT MAINS POWER

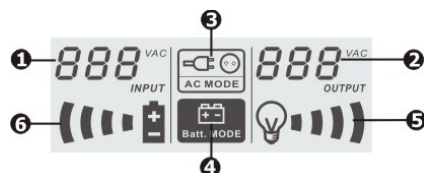
To shutdown the UPS without mains power:

1. Power off the UPS by pressing the  button, at which point the UPS output will stop.
2. A few seconds later the LCD display will power off.

C60 SERIES OPERATION

LCD PANNEL

The CertaUPS C60 has a graphical LCD screen. It provides useful information about the UPS itself, load status, events, measurements and settings.



1. Input voltage
2. Output voltage
3. AC mode indicator
4. Battery mode indicator
5. Load level indicator, flashing indicates overload
6. Battery capacity indicator, flashing indicates low battery

USB COMMUNICATION PORT

- Connect the communication cable to the serial or USB port on the computer.
- Connect the other end of the communication cable to the USB communication port on the UPS.

The USB connection allows for 2 way communication between the device connected and the UPS. This can be used for both issuing configuration commands, communicating with the UPS and issuing shutdown commands.

SOFTWARE

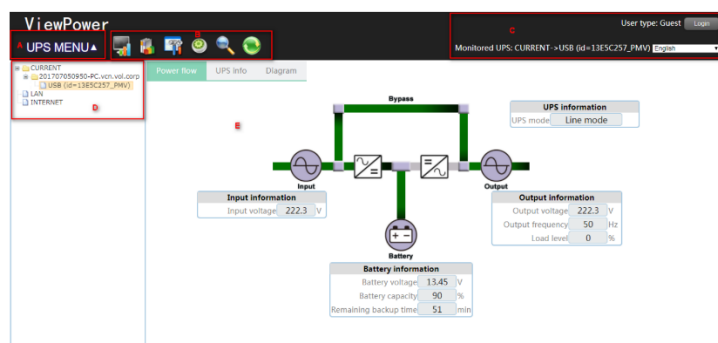
The C60 series is compatible with ViewPower which is an intelligent UPS monitoring and management software tool.

Key features:

- Allows control and monitoring of multiple UPSs via LAN and INTERNET
- User-friendly power analysis graph: event statistics, history data chart export
- Real-time dynamic graphs of UPS data (voltage, frequency, load level, battery level)
- Safely OS shutdown and protection from data loss during power failure
- Warning notifications via audible alarm, broadcast, mobile messenger, and e-mail
- Scheduled UPS on/off, battery test, programmable outlet control, and audible alarm control
- Password security protection and remote access management
- Supports VMware ESX and ESXi
- Multi-language support: English, German, French, Spanish, Italian, Portuguese, Polish, Czech, Russian, Ukrainian, Turkish, Chinese

ViewPower installation:

STEP ONE	Go to: https://www.certaups.com/downloads/ download ViewPower
STEP TWO	Follow the on-screen instructions. Choose the operating system you need and follow the instruction described.
STEP THREE	For additional installation support visit: https://www.power-software-download.com/viewpower/ViewPowerHTML5_user_manual-20190621.pdf



FOR FURTHER GUIDANCE ON UPS MONITORING, PLEASE CONTACT YOUR CertaUPS PROVIDER OR VISIT WWW.CERTAUPS.COM

UPS MAINTENANCE

ADOPTING A PREVENTATIVE MAINTENANCE SCHEDULE IS CRITICAL TO ACHIEVING OPTIMUM UPS PERFORMANCE

UPS CARE

For the best preventive maintenance:

Keep the area around the equipment clean
Keep the equipment free from dust
Ensure the equipment is positioned in a well-ventilated area
For maximum battery life keep the equipment at an ambient temperature of 20-25°C (77°F max)
Carry out regular environmental and battery checks



The batteries are rated for a 3-5 year service life. The service life varies depending on the frequency of usage and ambient temperature. Batteries used beyond expected service life will often have severely reduced runtimes. Replace batteries at least every 4 years (or sooner if environment and usage dictate) to keep units running at peak efficiency and prevent failure.

TRANSPORTING THE UPS



THE INTERNAL UPS BATTERIES MUST BE DISCONNECTED BEFORE TRANSPORT



The following procedure should be performed or supervised by personnel knowledgeable about batteries and the required precautions. Keep unauthorised personnel away from batteries. If the UPS requires any type of transportation, the batteries must be disconnected (but not removed) before the unit is transported:

Verify that the UPS is off and disconnected from mains power
Place the UPS on a flat stable surface with the front of the cabinet facing you
Remove the UPS front cover
Disconnect the internal battery connectors
Replace the UPS front cover

To avoid damage on arrival always use a reputable courier for all equipment transportation.

STORING THE UPS

UPS BATTERIES MUST BE RECHARGED EVERY SIX MONTHS. ALWAYS CHECK THE BATTERY RECHARGE DATE ON THE SHIPPING CARTON BEFORE USE.

Where UPS equipment is stored for a long period of time, the batteries must be recharged every six months. The optimal storage vdc for VLRA batteries, depending on the environment is between 20-40%. This can be achieved by connecting the UPS to mains power.

DO NOT store the equipment in a warm, damp, dusty environment	
DO NOT use the equipment if the batteries have not been recharged/if the recharge date exceeds six months	
DO NOT expose the UPS to direct sunlight or source of heat	
DO Store the equipment in a cool, dry, clean environment	
DO Ensure the batteries are recharged every six months for a minimum of 48 hours	
DO Ensure EBMs are recharged every six months for a minimum of 3 hours	

TROUBLESHOOTING

The C60 series is designed for durable, automatic operation.

TO REGISTER A FAULT PLEASE VISIT WWW.CERTAUPS.COM/SUPPORT/FAULT-REPORTING/

Use the following troubleshooting chart to determine the UPS alarm condition.

EVENT	POSSIBLE CAUSES	ACTION
Nothing displays on the front panel	Low battery Battery fault The UPS is not turned on	Charge the UPS for at least 6 hours Replace the battery with the same battery type Press the power switch again to turn the UPS on
Alarm continuously sounds when the mains is normal	The UPS is overloaded	Remove some connected load first. Before reconnecting the equipment, verify that the load meets the UPS capability specified in the specs
When the power fails, the backup time is very short	The UPS is overloaded Battery voltage is too low Battery defect. It might be due to high-temperature operation, environment or improper operation to battery	Remove some connected load Charge the UPS for at least 6 hours Replace the battery with the same type of battery
The mains is normal but the UPS is on battery mode	The power cord is loose	Reconnect the power cord properly

TECHNICAL DATA

ELECTRICAL SPECIFICATION

INPUT				
MODEL	C60-800	C60-1000	C60-1500	C60-2000
CAPACITY	800VA/480W	1000VA/600W	1500VA/900W	2000VA/1200W
Input Voltage	220/230/240VAC			
Voltage Range	162-290VAC			
OUTPUT				
Voltage Regulation	+/-10%			
Transfer Time	Typical 2-6ms, 10ms max.			
Waveform	Simulated Sinewave			
BATTERY				
Type & Number	12V/9Ah x 1	12V/7Ah x 2	12V/9Ah x 2	12V/9Ah x 2
Charging Time	4-6 hours recover to 90% capacity			
PHYSICAL				
Dimension (WxDxH) mm	100 x 287 x 142	146 x 350 x 160	146 x 397 x 205	
Net Weight (KG)	4.9	8.0	11.1	11.5

OPERATING ENVIRONMENT

Ambient Temperature	0 °C to 40 °C (Full load no de-rating) 40 °C to 50 °C output power derated to 50% load, Charger current derated 50% 20 °C to 25 °C (recommended operating range for peak performance and lifespan)
Operating humidity	< 95% non-condensing
Altitude	< 3000m
	3000m (Above 3000m altitude 10% derating per 1000m)
Storage temperature	-25°C to 55°C (-13 to 130°F)
Audible noise	< 50 dBA at 1 meter typical for 6kVA models < 55 dBA at 1 meter typical for 10kVA models

*Above 3000m altitude 10% derating per 1000m.

RUNTIMES

*

MODEL	RUNTIME @ 100%
C60-800	3
C60-1000	4
C60-1500	3
C60-2000	2

*Calculated to 20°C

DIMENSIONS AND WEIGHTS

Model No.	Dimensions W×H×D (mm)	Net Weight (kg)
C60-800	100 x 287 x 142	4.9
C60-1000	146 x 350 x 160	8.0
C60-1500	146 x 397 x 205	11.1
C60-2000	146 x 397 x 205	11.5

A FULL GLOSSARY OF TERMS CAN BE FOUND AT:
WWW.CERTAUPS.COM/SUPPORT/UPS-GLOSSARY/

FOR FURTHER INFORMATION OR ASSISTANCE, PLEASE CONTACT YOUR CertaUPS REPRESENTATIVE OR VISIT:
WWW.CERTAUPS.COM