CertaUPS

C300R 1-3 kVA

Rack/Tower

1000-3000VA

Installation/Manual

CertaUPS

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IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS

This manual contains important instructions for the C300R 1000-3000VA series that should be followed during the installation and maintenance of the UPS and batteries. Please read all safety and operating instructions before operating the UPS. Adhere to all warnings on the unit and those contained within this manual. Please also follow all operating and user instructions provided.

1. Introduction

The C300R is a compact, Line Interactive, pure sinewave UPS. The C300R is designed to support critical equipment such as desktop PCs, servers, workstations and other networking equipment. The C300R is available with an output rating of 1000-3000VA. The C300R protects connected equipment from power issues including power sags, spikes, brownouts, line noise and blackouts.

The C300R can either be rack mounted or configured as a free standing Tower. The front panel of the UPS includes an LCD display with four control buttons that allow the user to monitor, configure and control the unit. On the LCD, a graphical bar, two status indicators and four alarm indicators are included. See image:

A control button from the front panel allows the user to turn off the AC fail alarm and initiate the UPS self-test sequence. The UPS case is made of metal. This UPS is powered from the AC mains and supplies an AC output via the C13/C19 ports on the rear of the UPS. Communication and control of the UPS is available through serial or USB ports located on the rear panel. The serial port will support communications directly to a server.

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Features:

- Cold start capabilities.

- Selectable input and output ranges.

- Easy battery replacement design.

- Ability to extend runtime with scalable external battery module (EBM).

- Built-in boost and buck Automatic Voltage Regulator (AVR).

- Built-in Dry contact/RS-232/USB communication ports.

- Microprocessor control guarantees high reliability.

- High frequency design.

- SNMP allows for web-based, remote or monitoring management.

- (Optional) Overload, short-circuit, and overheat protection.

- Rack/Tower 2 in 1 Design.

- 19"rackmount available for all models.

2. Safety Warning

⚠️**DANGER:**

This UPS contains high voltages. All repairs and servicing should be performed by trained service personnel only. There are no user serviceable parts inside the UPS.
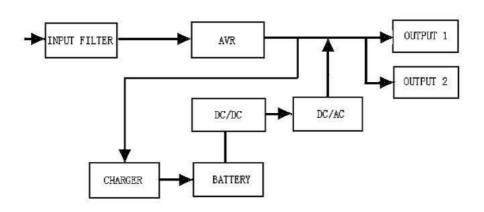
⚠️**WARNING:**

- This UPS contains its own energy source (batteries).The UPS output may carry live voltage even when the UPS is not connected to an AC supply.

- To reduce the risk of fire or electric shock install this UPS in a temperature and humidity controlled indoor environment, free of conductive contaminants.(Ambient: 0-40°C)

- To reduce the risk of fire, please connect to a circuit breaker rated at 20A.

- To comply with international standards and wiring regulations the total leakage current of the UPS and the connected loads must not exceed 3.5mA.

- The electrical supply that feeds the UPS shall be installed near the UPS and shall be easily accessible.

- Disconnection of an earth line should be made at the point that is furthest away from the UPS in order to maintain the dedicated earth line.

- The UPS and Extra Battery Modules (EBMs) should be connected closely together to ensure that the interconnecting wires cannot be touched.

⚠ **CAUTION:**

- Batteries can present a risk of electrical shock or burns from high short-circuit current. Observe proper precautions. Servicing should only be performed by qualified service personnel who have knowledge of batteries and the required precautions. Keep untrained personnel away from the batteries.

- The safe disposal of batteries is required. Refer to your local environmental regulations e.g. WEEE Regulations for disposal requirements.

- Never dispose of batteries in a fire. Batteries may explode when exposed to flames.

The following block diagram shows the basic internal circuit configuration of the UPS.

```
  ┌──────────────┐      ┌──────────┐              ┌──────────┐
─▶│ INPUT FILTER │─────▶│   AVR    │──────┬──────▶│ OUTPUT 1 │
  └──────────────┘      └──────────┘      │       └──────────┘
         │                                │       ┌──────────┐
         │                         ┌──────┴──┐───▶│ OUTPUT 2 │
         │              ┌───────┐  │ DC/AC   │    └──────────┘
         │              │ DC/DC │─▶│         │
         │              └───────┘  └─────────┘
         ▼                  │
  ┌───────────┐      ┌───────────┐
  │  CHARGER  │─────▶│  BATTERY  │
  └───────────┘      └───────────┘
```

2.1 Description of Commonly Used Symbols

Some or all of the following symbols may be used in this manual and therefore, all users should familiarise themselves with their definitions.

Table1. Description of Commonly Used Symbols

Symbol	Description
⚠	Warning: Attention Required
⚡	Caution: high voltage
∿	Alternating current source (AC)
⎓	Direct current source (DC)
⏚	Protective ground
♻	Recycle
🗑	Keep UPS in a clear area

3. Installation

3.1 Inspection of unit

Visually inspect the UPS for damage upon receipt. If the internal packaging or UPS has been damaged during shipment, keep the box and packaging materials in their original form, notify the carrier and contact the supplier immediately.

3.2 Unpacking the UPS

To unpack the system:

1. Open the outer box and remove the accessories packaged with the UPS.
2. Carefully lift the UPS out of the outer box and set it on a flat, stable surface.
3. Discard or recycle the packaging in a responsible manner, or store it for future use.
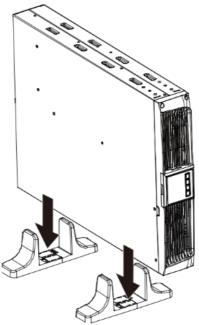
3.3 UPS setup

All models in the C300R range are designed for tower or rack orientation. Please follow the instructions on the next few pages that relate to the configuration that's best for your system.
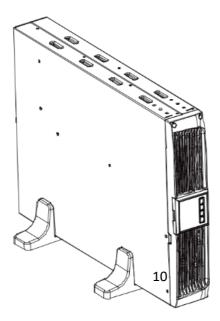
Tower

The C300R can be placed either horizontally or vertically. An optional stand is included with this UPS in order to allow for tower configuration. The stand can be used in order to position the UPS in an upright position. In order to achieve this, the UPS stand should be attached to the bottom of the tower. Please use the following instructions in order to install the UPS within the UPS stand:

1. Carefully place the UPS within the stands.

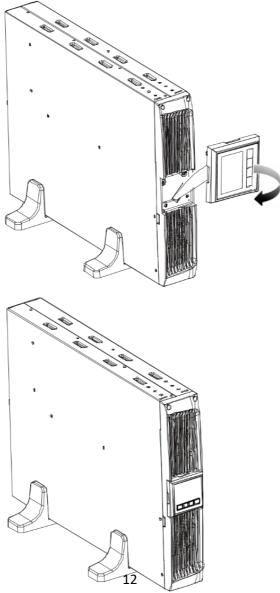2. Slide the UPS stands to each end of the tower.

2. Pull out the LCD panel and rotate it in a

   clockwise direction to 90 degrees and then push it back into the front

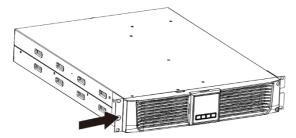   panel. (The LCD is on a short wire please take care when executing this

   step).

Rackmount setup

The UPS can also be installed within a 19" rack cabinet. The UPS takes up 2U of rack space for each additional EBM installed an additional 2U rack space is required.
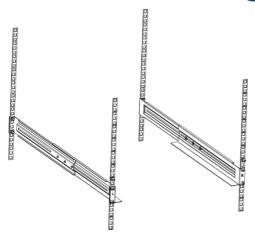
Use the following procedure to install the UPS within a rack cabinet.

1. Align the mounting ears with the screw holes on the side of the UPS, and tighten the screws.
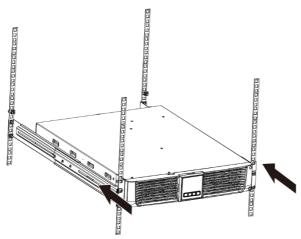

2. Assemble the rack rails with the rackmounting.
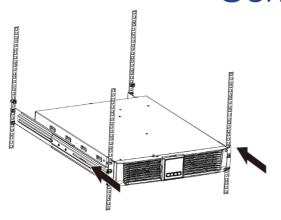
3. Slide the UPS into the rack rails and lock it into the rack enclosure.

4. Tighten the screws. The UPS is now ready for cabling unless you are installing EBMs.

3.4 EBM Installation (Optional)

Connecting the EBM in Tower form:

1. Position the UPS and EBM within the extended UPS stands then slide the stands to either end of the tower.

2. Tighten the screws on the UPS cover for stabilisation.
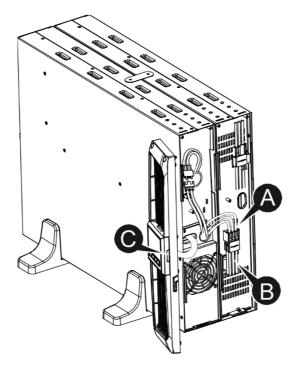
3. Connect an Earth line from the UPS (port A) to the EBM (port B)

4. Take off the front panel. To do this remove

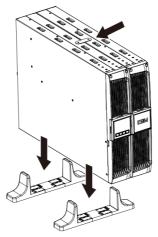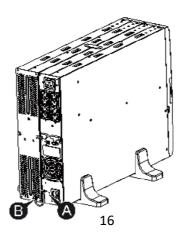   the 2 top screws from the front of the UPS and carefully take out the LCD

   screen and remove the screw that is behind it. Finally push inward the small

   blanking plate on the side of the front panel in order to remove it. This then

   enables you to connect battery terminal (A) from the UPS to the EBM terminal

   (B) shown below. After doing this reassemble the front panel.

5. After setting up the UPS the load can then be connected. Please make

   sure the load equipment is turned off before connecting all loads into

   the output C13/C19 ports.
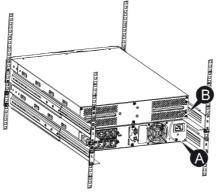
Connecting the EBM in a rack form

1. Using the same method as assembling the UPS in rack form, assemble the
   EBM into the rackmounting above or below the UPS.
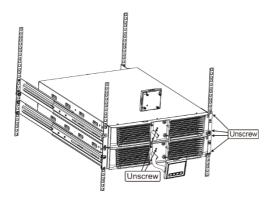
2. Connect an earth line from the UPS (port A) to the EBM (port B)
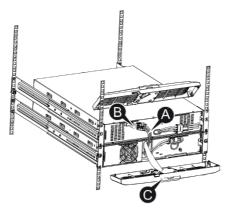
3. Take off the LCD box, and unscrew the internal screws.

4. Take off the front panel. To do this remove the 2 top screws from the front of the UPS and carefully take out the LCD screen and remove the screw. Finally push inward the small blanking plate on the side of the front panel in order to remove it. This then enables you to connect the battery terminal (A) from the UPS to the EBM terminal (B) shown below. After doing this reassemble the front panel.
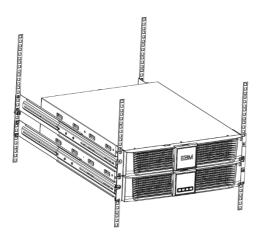
5. After installing the UPS into the rack the load

can then be connected to the UPS. Please make sure the load equipment

is turned off before connecting all loads into the output C13/C19 ports.
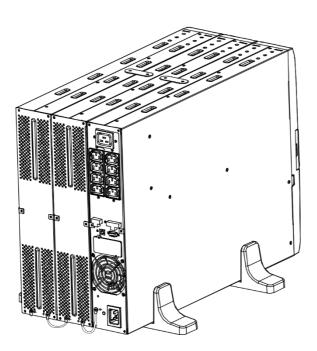
Connecting multiple EBMs

The C300R UPS includes an external battery port that allows users to connect multiple EBMs in order to provide additional backup time. In order to do this please follow the instructions provided on the next few pages of this manual.
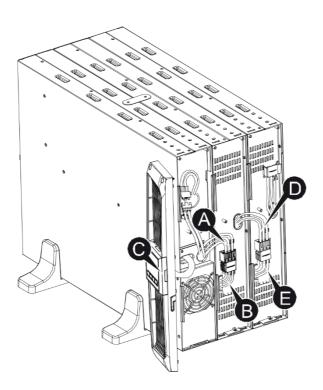
Connecting multiple EBMs in Tower form

1. Connect an Earth line between the UPS and the first EBM and then connect a second Earth line between the first EBM and the second EBM.
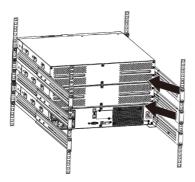
2. Take off the front panel. To do this remove the 2 top screws from the front of the UPS and carefully take out the LCD screen and remove the final screw. Finally push inward the small gate on the side of the front panel in order to remove it. This then enables you to connect the battery terminal (A) from the UPS to the EBM terminal (B) shown below. Then connect the battery terminal (D) from the first EBM to the battery terminal (E) of the second EBM. The user then needs to reassemble the front panel.

Connecting multiple EBMs in rack form

1. Connect an Earth line between the UPS and the first EBM, and then
   connect an Earth line between the first EBM and the second EBM.

2. Take off the front panel. To do this remove the 2 top screws from the
   front of the UPS and carefully take out the LCD screen and remove the
   screw. Finally push inward the small gate (C) on the side of the front
   panel in order to remove it. This then enables you to connect the battery
   terminal (A) from the UPS to the EBM terminal (B) shown below. Then
   connect the battery terminal (D) from the first EBM to the battery
   terminal (E) of the second EBM. After doing this reassemble the front
   panel.

Note: *Three or more EBMs can be connected to the UPS in the same way as shown above.*

3.5 UPS initial start up

To start up the UPS:

1. Verify that the internal batteries are connected. If optional EBMs are installed verify that the EBMs are connected to the UPS.

2. Connect the UPS output to the equipment you need to protect.

3. Connect the UPS to the mains supply. The UPS LCD will illuminate and the UPS status display will show "STbY".

4. Press and hold the power button ⏻ for longer than 3 seconds to turn on the UPS. Once this is done the UPS status display will change to "NORM".

5. Check the UPS display for active alarms or notices. Resolve any active alarms before continuing. See "Troubleshooting" on page 41 for an overview of possible problems and how to resolve them.

6. If optional EBMs are installed see "Configuring UPS for EBM numbers" to set the number of installed EBMs.

6. To change any other factory-set defaults, see "Operation" for step-by-step instructions on how to change these settings.
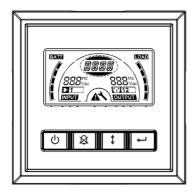
Note: *At initial start up the UPS sets the system frequency according to the input line frequency from the mains supply*.

4. Operation

4.1 Display panel
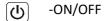
The UPS has a four-button graphical LCD with dual colour backlight. The standard backlight is used to light up the display with black text and a blue background. When the UPS has a critical alarm the backlight changes the background to red. See the diagram below for an illustration of the LCD panel:

Control buttons functions:
There are four buttons on the LCD control panel.

⏻ -ON/OFF

🔕 -UPS Test /Alarm Silence

↕ -Select

↵ -Enter

The following table describes the functions of the LCD control buttons.

Table1. Description of control button

Control Button	Switch	Function
⏻	ON/OFF	*--To turn the UPS on/off.* Press and hold the power button⏻for longer than 3 seconds. *--To remove the UPS from fault mode.* Disconnect the mains input to the UPS and then press and hold the power button⏻ for longer than 2 seconds to shutdown the UPS.
🔕	UPS Test Alarm Silence	*--To perform basic function test.* Press and hold the🔕 button for 3 seconds. *--To perform battery life test.* Press and hold the🔕 button for 10 seconds. *--To disable alarm buzzer.* Press the🔕button for one second.
↕	Select	Press the Select button ↕to scroll through the settings one by one.

⏎	Enter	*--Enter settings mode* Press and hold the ⏎ button more than 3 seconds. *--Enter settings item* Press and hold the Enter button⏎ for more than one second, the UPS allows users to configure the settings, and the settings string will flash. *--Confirm settings* Press and hold the Enter button ⏎ for one second. *--Exit settings mode* Press and hold the Enter button ⏎ for 3 seconds or button ⏻ for 0.5 second.

Note: *Ensure the battery is fully charged during line mode before conducting any functionality tests.*

Note: *The list of events shown below prevents the disabling of the alarm buzzer: Low Battery, Fan Failed, Fan Fault Time Out, and Overheat.*

Note: *The user can disable the alarm buzzer when it's sounding, but an alarm will still sound when a new alarm event is encountered.*

Table2. Description of LCD display functions:

	Description	Function
888 Hz 88.8 Vac	Input frequency and voltage	Indicates the value of input frequency and voltage.
⊡1	Input plug indicator	This light switches on when the UPS is charging from the mains.
888 Hz 88.8 Vac	Output frequency and voltage	Indicates the value of output frequency and voltage.
⊡12	Output plug indicator	The UPS has two groups of outlets. The output plug indicator will light up if there is an output connected.

	UPS/user setting display status	Indicates the UPS current mode of operation (see Table 3).Or Indicates the settings currently being altered by the user (see Table 4).
	Warning indication light	This light will turn on when the UPS alarm is active or if there's an error that is causing the UPS to malfunction.
	Settings light	This light will turn on when the UPS is within settings mode.
BATT	Battery capacity level indicator	This light indicates the amount of battery capacity remaining. Each battery capacity level bar indicates 20% of the total battery capacity.
LOAD	Load capacity level indicator	Indicates the percentage of the UPS load capacity which is being used by the protected equipment. Each LCD level bar indicates 20% of the total UPS output capacity.

The following table describes the functions of the LCD display.

UPS status display string description:

The following table shows the description of the LCD display string messages:

Table3. UPS Status Display String

LCD Display	Description
STbY	The UPS is currently in standby mode.
IPVL	The input voltage is too low. (below minimum operating conditions)
IPVH	The input voltage is too high. (above maximum operating conditions)
IPFL	The input frequency is too low. (below minimum operating conditions)
IPFH	The input frequency is too high. (above maximum operating conditions)
NORM	The UPS is operating under normal conditions. Equipment is being powered from mains supply, not from the UPS batteries.
AVR	The UPS is operating in AVR mode.
bATT	The UPS is providing power to equipment from the UPS batteries. This will occur if there's a problem with the mains supply. UPS will follow shutdown procedures established using the WinPower Software.
TEST	The UPS is currently set to perform tests on the batteries.
OPVH	Displayed during battery operation if the input voltage is too high. (above maximum operating conditions)
OPVL	Displayed during battery operation if the input voltage is too low. (below minimum operating conditions)
OPST	Output short.
OVLD	The UPS output is overloaded
bATH	The battery voltage is too high
bATL	The battery voltage is too low
OVTP	The internal temperature of UPS is too high.
FNLK	The UPS fan is locked/not operating.
bTWK	The batteries are weak and are in need of charging or replacing.

User Setting String Description:

The following table shows the options that can be changed by the user:

Table4. User Setting String

OPV	Output voltage mode selection	[220]= 220V [230]= 230V [240]= 240V
AVR	Input type selection	[000]= Normal range mode [001]= Wide range mode [002]= Generator mode
EbM	External battery module (EBM) settings	0~9 is the number of external battery module(s)
TEST	Auto self-test function	[000]=Disable[001]=Enable
AR	Automatic restart	[000]=Disable[001]=Enable
GF	Green function	[000]=Disable[001]=Enable
bZ	Buzzer control	[000]=Disable[001]=Enable
LS1	Load segment 1	[000]=Turn off[001]=Turn on
LS2	Load segment 2	[000]=Turn off[001]=Turn on

4.2 Operating Mode

● Normal range mode: The UPS accepts an AC input voltage within the range of +/-20%.

● Generator mode: The low frequency transfer point of the UPS can go as low as 40Hz and as high as 70Hz before being transferred to battery mode.

● Wide range mode: The UPS accepts an AC input voltage within the range of -30% ~ +20%.

Battery mode:

When the UPS is operating during a power outage the alarm beeps once every four seconds and the LCD display string shows "bATT" to indicate the UPS is working from the batteries. If the battery's capacity becomes low whilst in Battery mode the alarm beeps once every second and the LCD display string shows "bATL".

Standby mode:

When the UPS is turned off but remains plugged into the mains supply, the UPS is in Standby mode. The LCD display string shows "STbY" to indicate that power is not available to your equipment. The battery recharges when necessary.

4.3 Configuring load segment

The Load Segment is a set of C13/C19 ports that can be controlled through the LCD display. Each UPS has two configurable load segments. See "Rear Panels" on pages 39 - 40 for images which show all connections on the back of the UPS including the load segment (AC Outputs).

Note: *This setting can be altered whilst the UPS is switched on.*

To configure the load segment through the display:

1. **Enter settings mode:** Press and hold the Enter button ⏎ for longer than 3 seconds. This will cause the UPS to go into settings mode.

2. **Select settings item:** Press the Select button

   ⬍to cycle through the setting items shown in Table 5.

3. **Enter settings item:** When the LCD displays "LS1" or "LS2", press the enter

   button ⏎ for longer than one second to enter LS1 or LS2 settings this will

   cause the settings string to flash.

4. **Select setting value:** Press the Select button ⬍to select the settings value.

   Select the value [001] to turn on that load segment or select [000] to turn off

   that load segment.

5. **Confirm settings:** Press and hold the Enter button ⏎ for one second, and the

   UPS will then return to settings mode.

6. **Exit Settings mode:** Press and hold the Enter button ⏎ for 3 seconds or the

   power button ⏻ for 0.5 second to exit settings mode

4.4 Configuring UPS for EBM numbers

To ensure the LCD displays the correct battery capacity, configure the UPS for

the correct number of EBMs:

1. **Enter settings mode:** Press and hold the Enter button ⏎ for longer than 3

   seconds. This will cause the UPS to go into the settings mode.

2. **Select settings items:** Press the Select button ⬍ to cycle through the settings

   until you reach the settings item "EbM".

3. **Enter settings item:** Press the Enter button ⏎ for longer than one second to

   enter the setting item.

4. **Select setting value:** Press the Select button ⬆ to select the number of EBMs according to your UPS configuration. (up to a maximum of 9)

5. **Confirm settings:** Press and hold the Enter button ⏎ for one second, and the UPS will then return to settings mode.

6. **Exit Settings mode:** Press and hold the Enter button ⏎ for 3 seconds or the Power button ⏻ for 0.5 second to exit settings mode.

4.5 Configuring Green Function

The Green Function enables the UPS to detect the level of load being supported. If an insignificant level of load is detected the UPS will shutdown automatically, but only if it's currently operating from the batteries.

The green function is disabled by default but the user can configure the Green Function through the display:

1. **Enter settings mode:** Press the Enter ⏎ button for longer than 3 seconds to enter settings mode.

2. **Select settings items:** Press the Select button ⬆ to cycle through the settings to select the setting item "GF".

3. **Enter settings item:** Press the Enter button ⏎ for longer than one second to enter the settings item.

4. **Select setting value:** Press the Select button ⬆ to select "001" to activate the Green Function.

5. **Confirm settings:** Press and hold the Enter

    button ⏎ for one second, and the UPS will then return to settings mode.

6. **Exit Settings mode:** Press and hold the Enter button ⏎ for 3 seconds or

    button ⏻ for 0.5 second to exit settings mode.

5. Communication Port

5.1 RS-232 and USB communication ports

To establish communication between the UPS and a computer connect your computer to one of the UPS communication ports using an appropriate communication cable (USB or RS-232 lead). When the communication cable is installed power management software (Winpower) can exchange data between the computer and the UPS. The software polls the UPS for detailed information on the status of the power environment. The software can be configured so that in the event of a power cut it initiates the saving of all data and the safe shutdown of the protected equipment. The pin configuration for the RS-232 communication port is identified below and the pin functions are described in Table 5.

Table5. DB9 Female (RS-232 + dry contact)

PIN #	Description	I/O	Function Explanation
1	BATLOW	Output	Battery low
2	RXD	Input	RXD
3	TXD	Output	TXD
4	DTR	Input	N/A
5	Common	--	Common (tied to chassis)
6	DTR	Input	N/A

7	RING	Output	Ring
8	LNFAIL1	Output	Line fail
9	VCC	--	Power supply

RS-232 communication port
5.2 Emergency Power Off (EPO)

The EPO function of the UPS is used to shutdown the equipment remotely. This

feature can be used for shutting down the load during an emergency.

⚠ **Warning:**

This circuit must be separated from hazardous voltage circuits by
reinforced insulation.

⚡ **Caution:**

The EPO must not be connected to any mains supply source. Cabling for
the EPO circuit should be isolated from sources of interference i.e.
mains supply. The EPO Switch must have a minimum rating of 24VDC
and 20mA and be a dedicated latching-type switch not tied into any
other circuit. The EPO signal must remain active for at least 20ms for
proper operation.

EPO Connections		
Wire Function	Terminal Wire Size Rating	Suggested Wire Size
EPO	4-0.32mm^2(12-22AWG)	0.82mm^2(18AWG)

Note: Leave the EPO connector installed in the EPO port on the UPS even if the

EPO function is not required.

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5.3 Network Management Card (Optional)

The Network Management Card allows the UPS to communicate in a variety of networking environments and with different types of device. The C300R series UPS has one available communication slot for Winpower or other management software to achieve remote monitoring of the UPS through network connectivity. Please contact your supplier if you require an SNMP card.

6. UPS Maintenance

6.1 UPS and battery care

For the best preventative maintenance, keep the area around the UPS clean and dust-free. If the atmosphere is very dusty, clean the outside of the system with a vacuum cleaner. For long battery life keep the UPS at an ambient temperature of 20-25°C (77°F)

6.2 Storing the UPS and batteries

When the UPS is being stored for a long period of time recharge the battery every 6 months by connecting the UPS to the mains supply. The batteries charge

to 90% capacity in approximately 4 hours.

However it is recommended that the batteries charge for 48 hours after long-term storage.

6.3 Time to replace the batteries

When the LCD backlight turns to red, the screen displays "bTWK" and there is a continuous alarm the batteries may need to be replaced. Please check the battery connection or contact your supplier to arrange replacement.

⚠️ **WARNING:**

● Turn off the UPS and disconnect it from the mains power supply.

● Servicing should only be performed by qualified service personnel with knowledge of batteries, UPS systems and an understanding of the required precautions. Keep unauthorised personnel away from batteries.

● Batteries can present a risk of electrical shock or burn from high short circuit currents. The following precautions should be observed when working on batteries:

1. Remove watches, rings, or other metal objects.

2. Use tools with insulated handles.

3. Do not lay tools or metal parts on top of batteries.

4. Wear rubber gloves and boots.

5. Disconnect the charging source prior to connecting or disconnecting the battery terminal.

● When replacing batteries, replace with the same type and number of batteries or battery packs. Contact your supplier to order new batteries.
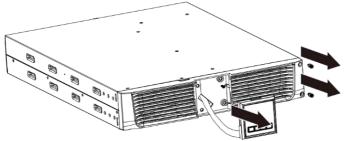
- Do not dispose of batteries in a fire. Batteries may explode when exposed to flames.
- The safe disposal of batteries is required. Refer to your local environmental policies e.g. WEEE Regs. for disposal requirements.
- Do not open or damage the battery. Released toxic electrolyte is harmful to skin and eyes.

Note: *If you are not qualified to replace the batteries, do not attempt to open the battery cabinet. Please call your supplier.*
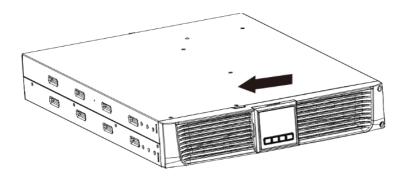
6.4 Replacing the UPS internal batteries

Follow the steps and charts shown below in order to replace the batteries:

1. Take off the LCD panel, and remove the screws.
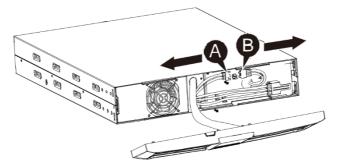

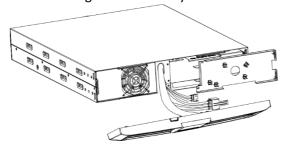2. Slide and pull the front panel as indicated below and then take it off
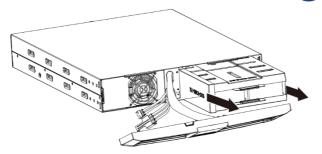
3. Disconnect the cable from the UPS and battery pack.

4. Remove the right inner battery bracket.
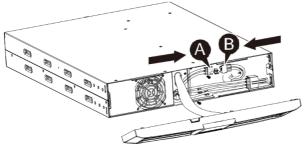
5. Pull the battery pack out onto a flat surface.

6. Install the new battery pack into the UPS.

7. Screw the battery bracket back into the UPS and reconnect the battery cable A and B.

8. Re-install the front panel on the UPS.

6.5 Testing New Batteries
For a battery test, please check:

● The batteries must be fully charged.

● The UPS must be in Normal mode with no active alarms.

● Don't connect/disconnect equipment to/from the UPS.

To test batteries:

1. Connect the UPS to mains power for at least 48 hours to charge the batteries.

2. Press and hold the ⊠ button for 10 seconds to start the battery test. The status display string will show "TEST"

6.6 Recycling the used battery

⚠️**Warning:**

● Never dispose of batteries in a fire. It may explode.

● Do not open or damage the batteries. Released electrolyte is harmful to the skins and eyes. It may be toxic. A battery can present a risk of electrical shock and high short circuit current.

To properly recycle the used battery, please do not discard the UPS, battery pack and batteries into the general waste. Please follow your local environmental regulations e.g. WEEE Regs; you may contact your local recycling waste management centre for further information to properly dispose of the used UPS, battery pack, and batteries.

7. Specification

7.1 Specification
Table 6. Electrical Specification

Model		C300R-010-B	C300R-015-B
Capacity	VA/Watt	1000VA/900W	1500VA/1350W
Input	Input voltage range	176-288VAC	
	Frequency range	50/60Hz ±5Hz for Normal Mode 40-70Hz for Generator Mode	
Output	Voltage	220/230/240VAC	
	Voltage Regulation (Batt. Mode)	±5%	
	Frequency	50Hz or 60Hz	
	Waveform	Pure Sinewave	
Overload rating	Line Mode	110% -0%, +8%: shutdown after 3 minutes. 150% -0%, +10%: shutdown after about 200ms	
	Battery Mode	110% ± 6%; shutdown after 30 seconds. 120 % ± 6 %; Shutdown after about 100ms	
Internal battery	Battery Type	3*12V/7AH	3*12V/9AH
	Backup Time (at full load) (mins)	4.5	3
	Recharge Time	3 hours to 90% after discharged	4 hours to 90% after discharged
External battery module (EBM)	Battery Type	12V/7AH	
Interface	RS-232	YES	
	Dry-Contact	YES	
	USB	YES	
	SNMP	Optional	
	EPO	Optional	

Model		C300R-020-B	C300R-030-B
Capacity	VA/Watt	2000VA/1800W	3000VA/2700W
Input	Input voltage range	176-288VAC	
	Frequency range	50/60Hz ±5Hz for Normal Mode 40-70Hz for Generator Mode	
Output	Voltage	220/230/240VAC	
	Voltage Regulation (Batt. Mode)	±5%	
	Frequency	50Hz or 60Hz	
	Waveform	Pure Sinewave	
Overload rating	Line Mode	110% -0%, +8%: shutdown after 3 minutes. 150% -0%, +10%: shutdown after about 200ms	
	Battery Mode	110% ± 6%; shutdown after 30 seconds. 120 % ± 6 %; Shutdown after about 100ms	
Internal battery	Battery Type	6*12V/7AH	6*12V/9AH
	Backup Time (at full load) (mins)	4.5	3
	Recharge Time	3 hours to 90% after discharged	4 hours to 90% after discharged
External battery module (EBM)	Battery Type	12V/7AH	
Interface	RS-232	YES	
	Dry-Contact	YES	
	USB	YES	
	SNMP	Optional	
	EPO	Optional	

Table 8.Indicators and Audible alarm

Indicator	**AC Mode**	NORM---normal mode
	Backup Mode	Show "bATT" and sounding every 4 seconds
	Load/Battery Level	LCD showing
	UPS Fault	LCD will show a red screen and " **** "
	Overload	LCD will show a red screen and " OVLD "
	Low Battery	LCD will show a red screen and " bTLW "
Audible alarm	**Backup Mode**	Sounding every 4seconds
	Low Battery	Sounding every second
	UPS Fault	Continuously Sounding
	Overload	Sounding every second
	Battery Replacement	Sounding every second

Table 9. Operating Environment

Temperature	20 - 25°C
Humidity	20%-80% relative humidity (non-condensing)
Altitude	＜1500m
Storage Temperature	-15°C to 45°C

CertaUPS
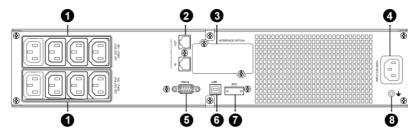
Table10. Dimensions and weights

Model		C300R-010-B	C300R-015-B	C300R-020-B	C300R-030-B
UPS Case	Net weight (kg)	17.8	17.8	27.8	32.0
	Dimension (mm) (WxHxD)	438x86.5x436		438x86.5x608	
EBM Case	Dimension (mm) (WxHxD)	438x86.5x436		438x86.5x608	
	Net weight (kg)	20.5		33.3	

7.2 Rear Panels
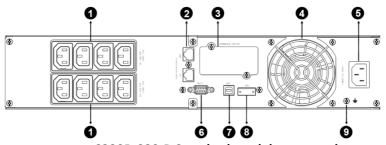
No.	Function (C300R-010-B & C300R-015-B)
1	AC Output
2	Modem/Network Surge Protection
3	SNMP Port
4	AC Input
5	RS-232 / Dry-Contact Communication Port
6	USB Port
7	EPO
8	Earth Line Connection
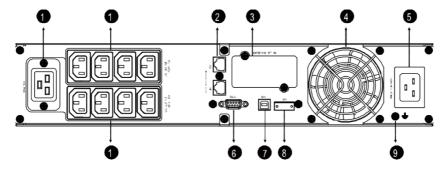
C300R-010-B & C300R-015-B Standard model rear panel

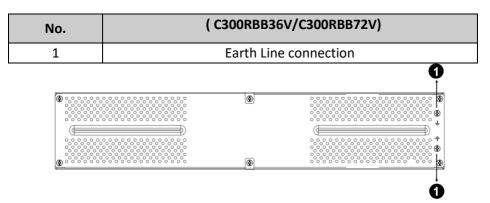| No.	Function (C300R-020-B & C300R-030-B)
1	AC Output
2	Modem/Network Surge Protection
3	SNMP Port
4	Fan
5	AC Input
6	RS-232 / Dry-Contact Communication Port
7	USB Port
8	EPO
9	Earth Line connection

C300R-020-B Standard model rear panel

C300R-030-B Standard model rear panel

The EBM rear panel description table and picture are shown below:

No.	(C300RBB36V/C300RBB72V)
1	Earth Line connection

C300RBB36V/C300RBB72V Rear panel

8. Trouble Shooting

8.1 Audible Alarm Trouble Shooting

Indication	Cause	Solution
Sounding every 4 seconds	The UPS is on battery mode.	Check the input voltage.
Sounding every second and "bATL" on screen	The battery voltage is low.	Save your work and turn off your equipment.
Sounding every second and "OVLD" on screen	Output overload.	Check load level indicator and remove some load.
Continuously sounding and red display	The UPS has failed.	Please contact your supplier.
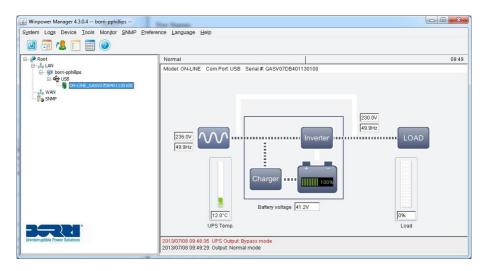
8.2 General Trouble Shooting

Problem	Cause	Solution
The UPS can't be turned on when power switch is pressed	Internal fuse may be broken.	Please contact your supplier.
UPS is on and there is no power to the load	Output jumpers are not connected correctly.	Check output jumpers.
	No power on output receptacle.	Check if the LS1 and LS2 are set up from "001 to 000".
Backup time is short	Battery is empty.	Re-charge the battery for at least 24 hours.
	Battery aging.	Replace the battery.
Continuously sounding and display background is red	The UPS has failed.	Please contact your supplier.
Buttons not working correctly	The setting mode is not configured correctly.	Please see right configuring method.
	Button is broken.	Please contact your supplier.

9. Software Installation

Winpower is a UPS monitoring software which provides a user-friendly interface to monitor and control your UPS. This unique software provides safe auto shutdown for multiple computer systems during a power failure. With this software the user can monitor and control any UPS on the same LAN regardless of distance from the UPSs.

Installation procedure:
1. Go to the website: http://www.certaups.com/software
2. Choose the operating system you use and follow the instructions described on the website to download the software.
3. When downloading the required files from the internet enter the product key: **511C1-01220-0100-478DF2A** to initiate installation of the software. When the computer restarts, the Winpower software will appear as a green plug icon located in the system tray, near the clock.