CHLORIDE
POWER PROTECTION

# Cool POWER

**Cool POWER 600**
**900**
**1200**
**1600**

- o Uninterruptible Power System
- o Unterbrechungsfreie Stromversorgung
- o Sistema de Alimentación Ininterrumpida
- o Alimentation sans interuption
- o Sistema Statico di continuita
- o Sistema de Fornecimento de Energia Ininterrupto


Operating Manual
Bedienungsanleitung
Manual de usuario
Manuel utilisateur
Manuale d'Uso
Manual de instruções

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## Safety Instructions

Read the following information carefully!
The failure to follow these instructions could endanger your life, your health, the operation of the equipment or the security of data.

- The UPS satisfies safety regulations relative to information systems and electronic machines used in offices. If you have any questions, contact your after sales service.
- Use the right packaging for transport (protection against bumps and blows).
- The unit is equipped with a power line in compliance with safety norms and should only be connected to a grounded plug.
- The button ⏻ (see chapter entitled “Button operation) does not insulate the unit from the mains.

In the event of a disconnection of mains voltage, the built-in battery will continue to supply energy to the load.

- The power cords should be arranged in such a way as to prevent people from stepping on them or tripping over them. When installing the unit, follow the instructions in the chapter on “Installation and Operation”.
- Data transmission lines should not be connected or disconnected during storms.
- Prevent objects from falling into the equipment (necklaces, paper clips, etc.).
- In the event of an emergency (deterioration of the case, control or line element, penetration of liquids or foreign bodies), disconnect the equipment, remove the connection to the mains and call your after sales service.

## CAUTION:

1. The equipment must be at least 10 cm away from the wall
2. Make sure there are no objects blocking the vent.
3. Do not place the unit near heat sources or in places exposed to direct sunlight, dust, water or mechanical blows.
4. The equipment should only be installed in areas where the temperature is controlled and free of conductive contaminants.
5. Use approved connection cables which support at least the voltage and intensity specified on each model.
6. The incoming and outgoing wires must always be accessible to the user.
7. In compliance with the eletromagnetic compatibility standard (EN 50091-2) the total length of the output cables must not exceed 10m. Likewise, the communication cables must not exceed 3 m. in length.
8. The sum of the leakage current of the loads connected to the UPS should not exceed a total of 2.8mA.
9. Before disconnecting the UPS from the mains, disconnect the output cables connected to the load.
10. Never open the equipment. It should only be opened by qualified technical personnel. It contains elements which have a charge even with the equipment turned off.

**WARNING:** There is a high risk of electrical “shock” from the battery and a high short-circuit intensity. Remove all watches, rings and other metal objects and use only insulated tools when replacing the battery.

**WARNING:** Do not expose the battery to fire; it can explode.

**WARNING:** Do not open the battery. The electrolyte can be dangerous to the eyes and skin when spilled. It may be toxic.

## Explanation of Symbols

The meaning of the symbols used in this manual are the following:


The failure to follow these instructions could endanger your life, your health, the operation of the equipment or the security of data.


The author proposes supplementary information and advice.


The text below describes the procedure to be followed.

# 1. Introduction

Installed between the mains and the load, the Uninterrupted Power System (UPS) protects electronically sensitive equipment against disturbances and particularly against electric power failures.

This UPS works on the Line Interactive principle. This means that the connected equipment is powered from the mains after passing through a voltage stabilizer and diverse filters. This reduces disturbance from the mains which in turn increases the safety level of equipment operation (PCs, servers, distributed systems, etc.). In the event of a mains failure, the built-in, maintenance-free battery assumes the uninterrupted supply of energy to the connected equipment. The energy from the UPS enables the system to keep working until the mains power returns or, in the event of a prolonged outage, the UPS will inform the user when all processes must be terminated and the system shut down.

The UPS indicates by acoustical (buzzer) and optical (LED) alarms that a mains failure has occurred or persists in order to end all tasks as necessary.

These operating instructions contain all of the information necessary for the installation and operation of the UPS.

The UPS has an auxiliary outlet with a filter for surges, electrical noise and transient voltage for non-critical loads which is not battery-powered.

This UPS is equipped with a protection device for voice and data lines patented by ONEAC Corporation. It protects fax, modem or local network boards from cable disturbances (noise and dangerous voltage peaks). This protection device improves the quality of communications by accelerating data transmissions and eliminating static from voice calls.

# 2 Unpacking the Unit and Contents.

Upon receipt of the unit and prior to unpacking it, make sure that there are no visible signs of damage on the outside of the box. If any damage is observed, notify the carrier.
Also observe the date of the last recharge which is located on the side of the box (see Figure “A”). Not the reception date of the equipment and recharge the battery once the equipment has been unpacked.

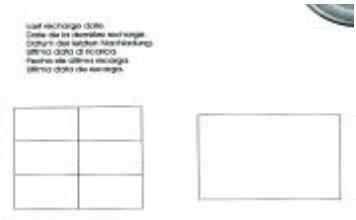


Figure A.

## 2.1 Unpacking the Cool Power

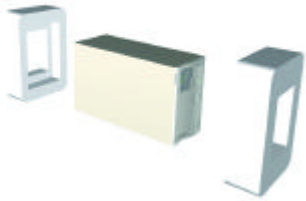
The procedure for unpacking the unit is described below:

1.- There should be a clean, obstacle-free surface available for unpacking the equipment.

2.- Open the box, remove the documentation and cables (manual, power cords and communication cables).

3.- Place the equipment on the open side of the box, leaving the flaps of the box open underneath the equipment.

4.- Lift the box off.



5.- Remove the protective materials from the unit.

6.- The equipment is now ready for connection and start-up.

## 2.2 Contents:

- UPS unit:

- 2 power cables for connection to UPS outlet

- Communication cord:

- User manual.


– Registration and software download card:

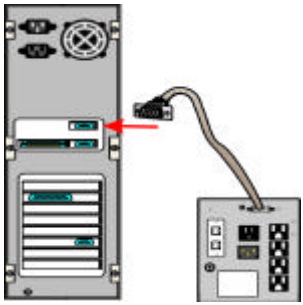

## 3. Installation

No prior knowledge is required to install this equipment.

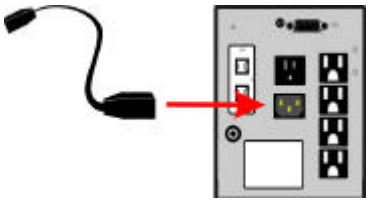
1. Connect the outlets on the back of the UPS to the equipment to be protected using the IEC320 type cables for the 230V model or NEMA 5-15R for the 115V model. Make sure that the total connected load does not exceed the useful power range of your UPS.

2. Connect the selected load (i.e. printer, scanner) to the surge protected outlet. Appropriate loads are those elements that demand surge protection, but that do not require extended runtime during power outages.

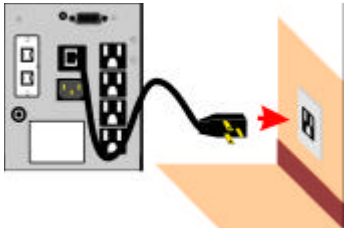
3. If monitoring software is to be used, connect the comm cable between the UPS COM port (DB-15) and the computer's COM port (DB-9).



4. Connect the power cord to the UPS.



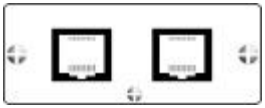
5. Plug the power cord into the mains. The computer's power cord may be used.



6. Once connected to the mains, check to make sure that the LED on the front panel is green within a few seconds. Immediately after connecting the UPS to the AC network the equipment runs a self-test. If the test is successful and the electricity supply is within the specified limits, the equipment will start up and will supply energy to the output connectors.

7. Start up the protected equipment.

The voice and data line is connected for protection as shown on the input and output on the equipment panel.



When the equipment is started, the batteries in the UPS are automatically charged. The UPS may be used immediately even through the batteries have not been fully recharged. In this case, however, the maximum residual capacity will not be available (complete discharge time).

▶ Before running any tests, the batteries must be recharged for at least 6 hours.

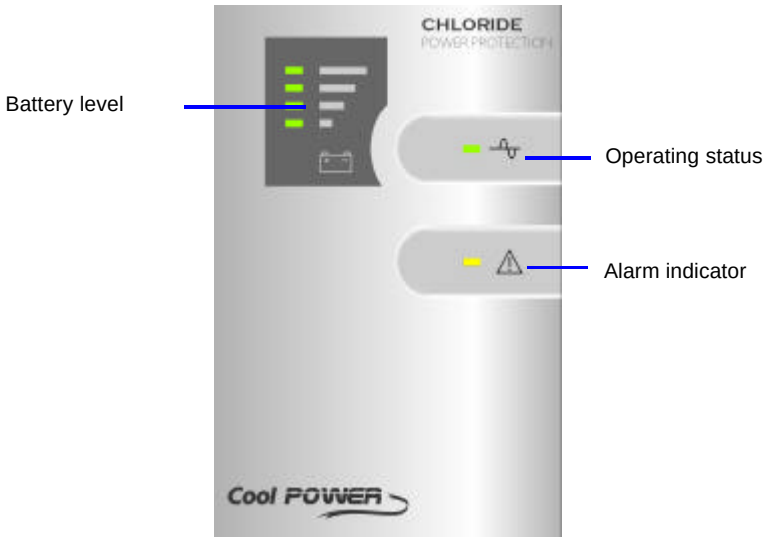
**i** Do not connect any equipment which could overload the UPS or draw continuous current from the UPS (e.g.: hair driers, vacuum cleaners, etc.).

**i** The UPS may be used even without being connected to the mains. To do so, the batteries must be sufficiently charged. See “Button Functions”.

# 4. Display and Operating Components

## 4.1 Front View

All of the models in this range have the same display element located on the front panel. They are as follows:



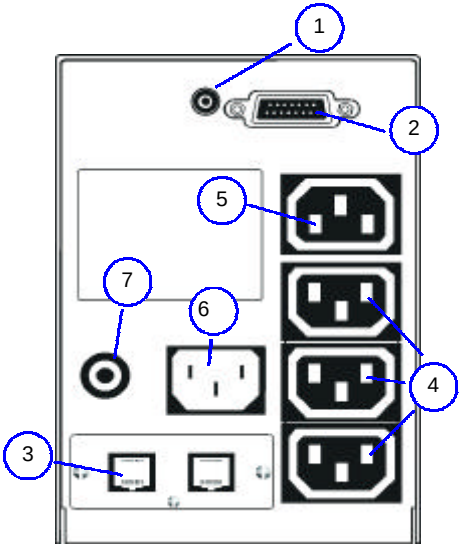

1. Battery level : Indicates the charge level of the battery. For more information see Part 5.2.

2. Working status : The color green indicates that the network is within the tolerance limits; the color red indicates that it is outside of the acceptable limits. more information see Part 5.2.

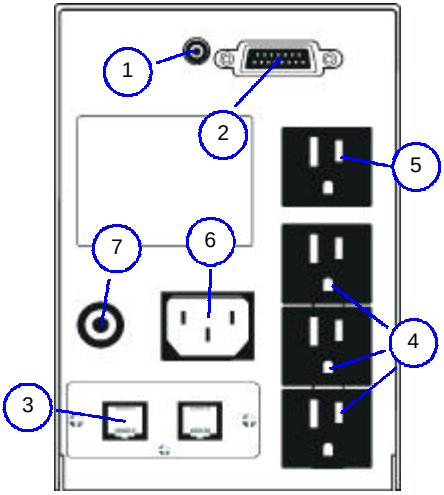
3. Alarm indicator : The color red indicates an overload or temperature alarm. For more information see Part 5.2.

## 4.2. Rear View

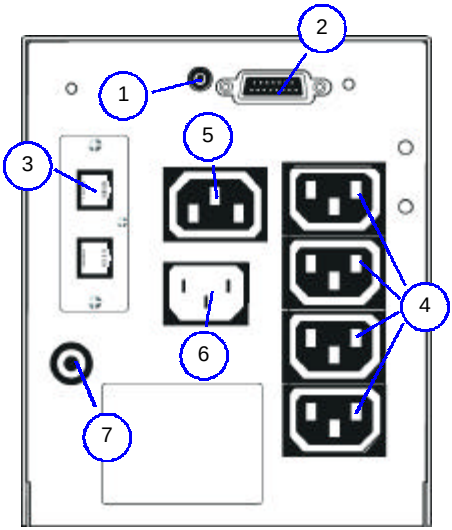
Depending on the model and the power, the elements may be arranged differently on the rear panel.. Each one of the models is described below:



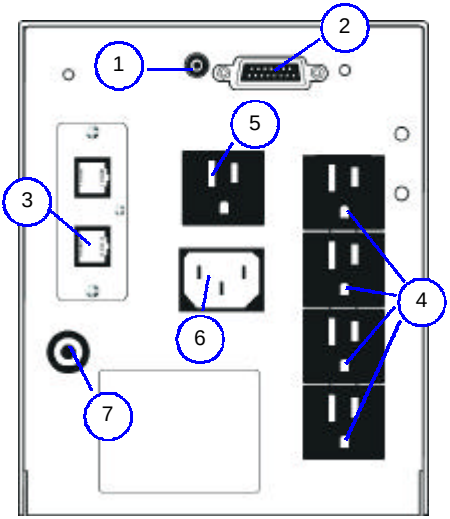

Cool Power 600 230V



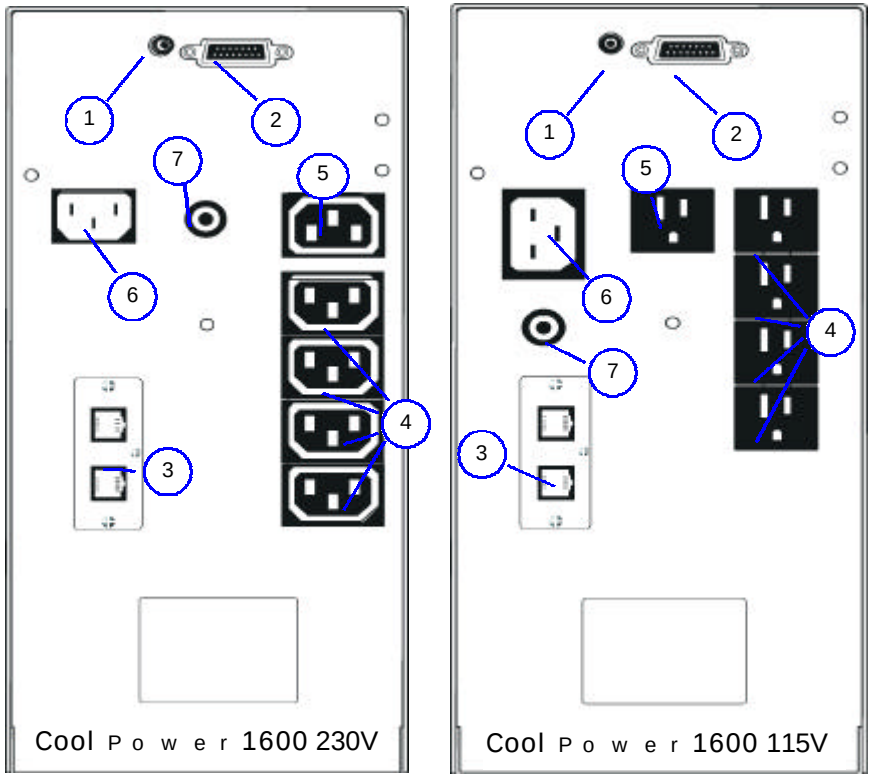

Cool Power 600 115V




Cool Power 900/1200 230V




Cool Power 900/1200 115V




1. Battery test : This button enables you to run a battery test, switch off the UPS and restart it without mains electricity. For more information see Part 5.3.

2. Communication Port : Basic (signals) and advanced (using RS232 protocol) communication port. For more information see Part 6.

3. Telephone and data line protection : Filtering of electric noise on data transmission lines. For more information see Part 5.5

4. Battery protected and filtered outlet : Outlet protected for critical loads requiring additional electricity.

5 Filtered outlet : Outlet protected against surges for non-critical loads.

6. Input : IEC type connector for connecting the power cord of the protected load.

7. Circuit breakers : Protects against short-circuits, electronic fuse with reset.

# 5. Equipment Operation.

## 5.1 Working modes.

This UPS works automatically without the use of a switch. It starts up automatically when there is power from the mains.
When the electricity is within acceptable frequency and voltage margins, the LED  on the front panel is green and the equipment recharges the battery. When outside of the acceptable margins, the LED  is red and uses power from the battery to supply protected critical equipment.

To shut down the equipment, simply shut down the protected equipment. When there is no electricity from the mains, if the UPS does not detect any usage it shuts down automatically within 30 seconds. This makes it possible to shut down the general power supply without wearing down the batteries.

See special push button functions for starting up and shutting down the UPS. Part Aptdo. 5.3

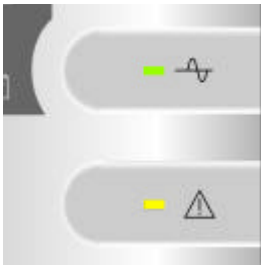
**NOTE:** When the unit is switched off it goes into a stand-by mode during which it draws energy from the batteries to keep the electronics working for a certain period of time while waiting for the power to return. If the power failure lasts longer than the allowed stand-by time, the equipment will shut down completely. When the power comes back, the process will be similar to start-up.

This UPS has a three-stage output voltage regulator: trim, central and boost.
This ensures a wide range of input voltages (without having to run down the battery) and at the same time that the output voltage is always within acceptable margins. This guarantees that the batteries are recharged even with anomalous input voltages while protecting the connected equipment. To ensure maximum autonomy following a total battery rundown, the UPS must be charges for at least 6 hours.

The unit is equipped with a “circuit breaker with reset” for overload protection. If the circuit breaker trips, remove the cause of the overload and rest the circuit breaker.

## 5.2 Indicator Lights.

The indication lights on the front panel enable fast and easy identification of the operating status of the equipment. The different elements are described below:



· The green LED indicates that the equipment is working in line mode. The red LED indicates that the equipment is working in battery mode, powering the protected equipment from the battery.

· This LED indicates an alarm. A blinking red light indicates that the equipment has shut down due to the persistence of an alarm. Try to ascertain he cause of the alarm (temperature or overload).

Red LED statuses:

| | |
|---|---|
| Off: | no alarms. |
| Solid red: | equipment with alarm (acoustical also). |
| Blinking red: | the equipment has shut down due to a persistent alarm. |

· A set of LEDs which indicates the estimated recharge status of the batteries at all times, indicating the following levels: 25, 50, 75 and 100%. If these LEDs are blinking it means that the battery is defective after having run a battery test. In this case, the batteries must be recharged for at least 6 hours followed by another battery test. If the same battery failure occurs at this point, the batteries must be replaced.

NOTE: only applies to 115V models: There is an indicator on the rear panel of a defective grounding connection. If this indicator is lit, the electrical installation should be checked (On the Rack version, this indicator light is located on the front panel).

## 5.3 Push Button Operation

On the rear panel of the equipment there is a “push button” which performs several different functions depending on the initial status of the equipment (In the Rack version the button is located on the front):

· If the equipment is operating normally, pressing the button for approximately 2 seconds will test the batteries.
. If the equipment is operating normally and the button is held down for more than five seconds, the unit will shut down and move into a standby mode (The equipment will restart at the end of the configured standby time if there is power from the mains in order to prevent the battery from being completely worn down) Attention: it is not a real permanent shutdown.

· If the UPS is turned off and the button is pressed for more than 2 seconds, the unit will start up and provided output voltage which will come from the batteries when there is no mains power and the batteries are sufficiently charged.

## 5.4 Acoustical signals

In the event of any anomaly or notable event, the UPS has a buzzer which emits a series of beeps. The acoustical signals will depend on the operating status of the equipment. The different situations in which the buzzer may be activated are as follows:

- **Battery Mode:** One «beep» every 15 seconds indicates that the voltage is outside of the window of tolerance and the UPS is powering the protected load with battery power.
- **Self-Test Mode:** A series of five «beeps» every 5 seconds. The UPS runs an internal self-test when turned on.
- **Pre-Alarm Mode:** One «beep» every second, ongoing. The UPS indicates that the battery is almost completely worn down and that its autonomy is about to come to an end.
- **Historical Mode:** Two «beeps». An event has occurred which is registered and memorized in the "HISTORICAL" log.
- **Alarm Mode:** Four short «beeps» and one long «beep» per second. A user alarm has gone off (overload or temperature).

## 5.5 Voice and Data Line Protection.

The UPS Cool POWER models includes a protective filter for voice and data lines. The load is thus protected not only against electrical disturbances (UPS) but also against potential anomalies in the voice and data lines which can damage the protected load (protective filter for communications).

This filter has been designed and patented by the prestigious ONEAC Corporation, a member of the CHLORIDE POWER PROTECTION Group.

**Patent Nº:**
US 4.758.920
CAN 1.286.812
EPC 388.107(UK, FRA)
GER P3861679.3
AUSTRALIA 593.437

| | Telephone Line / TLP | Data Line / DLP | |
|---|---|---|---|
| **Input impulse** | 10/1000µs,1.5kV, 75 A | | 10/100µs, 1.5kV |
| Impulse between A or B with respect to ground | 520V * | | |
| Impulse between A and B | 95V * | 50 A | 35V * |
| | | 100 A | 65V * |
| Break voltage Vcc | 0-1kV 100V/s | | |
| Impulse between A or B with respect to ground | 520V * | | |
| Impulse between A and B | 320V* | | 7,5V * |
| Loop resistance | 12 a 18 Ω | | ≤ 0.5 Ω |
| Permanent current | ≥ 150 mA | | |
| Response time | < 1 ns | | < 5 ns |
| Insulation resistance | > 100 MΩ | | > 50 kΩ |
| Ground line capacity | 50Vcc, 1Vca, 10kHz-1MHz | | 0Vcc, 1Vca,1MHz |
| Impulse between A or B with respect to ground | < 200pf | | |
| Impulse between A and B | < 200pf | | < 50pf |
| Surge protection | | | |
| Auto reset (Ceramic PTC technology) | 300 mA | | |
| Without reset (fuse with delay) | 1A | | |
| Operating voltage (1A) | < 5V | | |
| Service life | With impulses of 10/1000 µS | | |
| ± 10 A | Unlimited | | |
| ± 75 A | Unlimited | | |
| Operating temerature | -40ºC to 65ºC | | |
| Storage temperature | -40ºC to 85 ºC | | |

* Typical values

# 6. Description of Communication Interfaces.

## 6.1 Standard COM Interface

Cool POWER offers a standard interface which makes it possible to transfer data on an RS232 serial communication protocol. The same interface provides for basic signaling communication using dry contacts.

Both types of interface are combined in a 15-pin Sub-D connector with the serial communication signals, 2 output signals and 1 input signal, all with voltage levels according to the V24 standard.

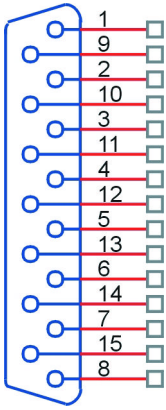
The equipment comes with a communication cable with a 9-pin Sub-D connection on one end and a 15-pine Sub-D connector on the other.

**Both communication systems can be used for:**

· Direct communications between the UPS and the computer (PC)
· Installing the UPS is a centrally controlled network
Transferring basic operating statuses in external signaling systems

**The connector pins are described below:**

- The logic of the low battery and network failure signals can be configured in the software.
- The “remote shutdown” input signal can be enabled or disabled from the software and is active at logical level “1” (takes 5 seconds to act).



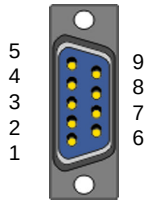

1 - Low battery : Signal that the battery's autonomy is coming to an end
2 - TDO : Serial communication output
3 - RDI : Serial communication input
4 - Remote shutdown : Remote UPS shutdown input signal
5 - GND : ground
9 - +5V @ 10mA : 5V signal
11 – Network failure : Network failure output signal

## 6.2 SNMP Adapter.

Cool Power units have an SNMP management hardware option called ManageUPS. This innovative device enables us to communicate and monitor the status of the UPS through the network with an SNMP/Telnet management program.
It also includes a Web Browser which enables us to monitor through an Internet browser (Internet Explorer, Netscape). By adding the MopUPS software, we are able to do an orderly shutdown of the operating system.

## 6.3 Cable 59

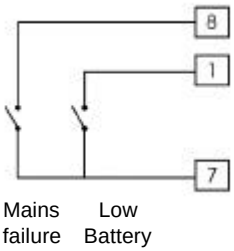
This enables us to manage the equipment's basic signals (low battery, network failure) and to initiate the shutdown of the operating systems included with the UPS service (NT, Linux, Novel S.X y OS/2) without interrupting the RS232 communication.

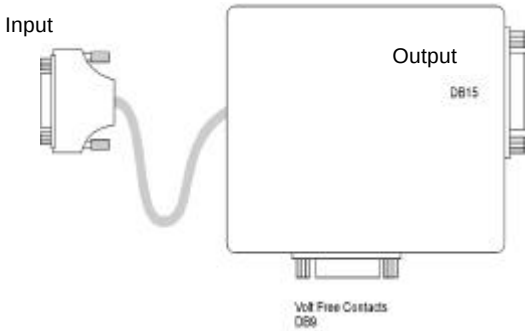



1 – Low battery
2 - R X D
3 - T X D
4 – Remote Shutdown
5 - GND
8 – Mains failure

## 6.4 Cable 61

This option enables us to have the basic network failure and low battery signals free from potential without interrupting the RS232 communication. The following operating systems are commonly used: AS400, RISC 6000 and NT. This cable must include the adapter cord for each operating system. E.g.: Cable 61 plus AS400 A cables.
Cable 61 includes an interfaces with jumpers to modify the logic of the contacts.
It leaves the factory with positive logic in all basic signals.



| Signal | Jumper | Jumper on | Jumper off |
|---|---|---|---|
| Network failure | J3 | Network bad – Contact closed<br>Network good – Contact open | Network bad – Contact closed<br>Network good – Contact open |
| Low battery | J4 | Battery bad – Contact closed<br>Battery good – Contact open | Battery bad – Contact closed<br>Battery good – Contact open |

# 7. Maintenance

This UPS does not require any maintenance by the user except when the batteries wear out and must be replaced.

The typical lifetime of a battery is 4 years at a room temperature of 25 °C, although this will also depend on the working conditions.

Regularly check the unit's residual capacity time to ensure that it is sufficient, at least once every 12 months.

## 7.1 Storage

For long time storage in moderate climates, the batteries should be charged 6 hours every three months. Repeat it every two months in high temperature locations.

- The recharging procedure is described below:
- Connect the UPS to a grounded outlet.
- Unplug the unit after 6 hours.

Note the charge date, preferably by marking the packing in the area reserved for this purpose.

## 7.2 Cleaning

Before cleaning, you should switch off the UPS and pull the plug out of the socket after disconnecting the load.

Do not use scouring powder, aggressive detergents or spray cleaners to clean the UPS.

Be particularly careful not to block vents.

Do not allow the liquid to get inside the UPS.

Clean the outside of the UPS housing by wiping with a dry or a slightly wet cloth.

# 8. Troubleshooting

If a problem occurs despite the high reliability of the device, please review the following table before calling the service center.

- Is the UPS plugged into a correctly working outlet ?
- Has a fuse blown or the protector on the rear panel tripped?
- If the problem persists, please note the following information when you call for service:

A. Information about the device (model, order number, serial number from type plate, date of purchase and date of installation)

B. Full description of problem (which load is connected, does the problem occur regularly or sporadically, etc.)

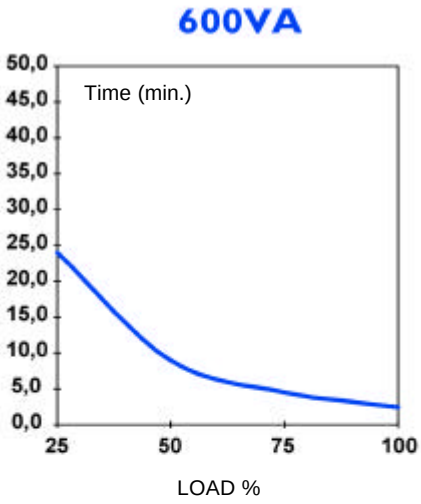
| Problem | Possible Cause | Corrective Action |
|---|---|---|
| No signaling<br><br>No alarm (the UPS is disconnected) | | |
| | No power from mains. | Check the status of the electricity supply |
| | The protection switch has been activated | Reset. If the problem persists, consult your after sales service. |
| **Problem** | **Possible Cause** | **Corrective Action** |
| Indicator light is not on but there is power from the mains. | The input protection switch has reacted. | Reset. If the problem persists, consult your after sales service. |
| The acoustical ALARM light is on | Overload | Reduce the load. (Eliminate the protected equipment until the anomaly disappears) |
| | Overheating | Reduce the ambient temperature |
| Residual capacity time is less than the value indicated. | Batteries not fully charged. | Charge batteries (see 3.1 start-up) and check the autonomy time.<br>If the problem persists, consult your after sales service. |
| | Batteries are defective | |
| | efective charging system | |

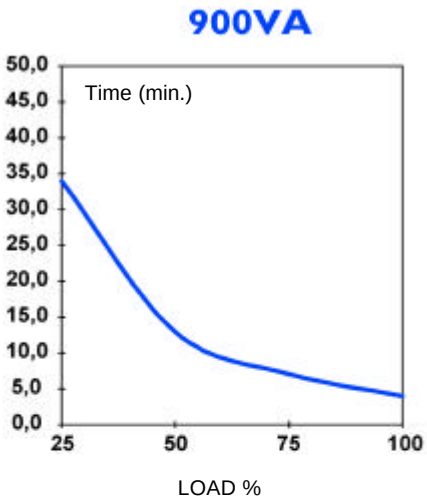
# 9. Technical Data

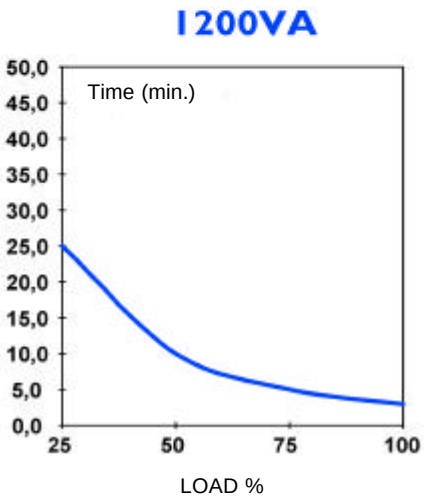
| Models | | 600 | 900 | 1200 | 1600 |
|---|---|---|---|---|---|
| **INPUT** | | | | | |
| Nominal voltage | Vac | 230/115 | | | |
| Voltage range | Vac | 180-285 (ver. 230V) / 90-142 (ver. 115V9 | | | |
| Frequency | Hz | 50/60 ± 4% automatic selection | | | |
| **OUPUT** | | | | | |
| Nominal voltage | Vac | 230/115 | | | |
| Voltage regulation | | 198-258 (ver. 230V) / 98-128 (ver.115) | | | |
| Frequency | Hz | 50/60 (see input frequency) | | | |
| Power | VA | 600 | 900 | 1200 | 1600 |
| | W | 360 | 540 | 720 | 960 |
| Power factor | | 0.6 | | | |
| **INVERTER** | | | | | |
| Wave factor | | Regulated pseudosenoidal | | | |
| Nominal voltage | Vac | 230/115 | | | |
| Crest factor | | 3:1 | | | |
| Transfer time | Ms | <4 | | | |
| Frequency | Hz | 50/60 ± 0,1 % | | | |
| **BATTERY** | | | | | |
| Technology | | Hermetic lead, maintenance-free | | | |
| Floatation voltage | Vdc | 13,6 | 27,2 | | |
| Charger current | A | 0,8 | | | 1,7 |
| Recharge time for 80% | H | <6 | | | |
| Battery test | | Programmable/Automatic/Manual | | | |
| **SIGNALES & COM** | | | | | |
| DB15 | | RS-232 serial communication<br>"Network failure " and "Low battery" (RS-232 configurable logic)<br>"Shutdown" initiation signal | | | |
| **OTHER** | | | | | |
| Working temperature | ºC | 0 to 40 | | | |
| Relative humidity | % | 90 without condensation | | | |
| Maximum altitude without degradation | m | 3000 | | | |
| Dimensions (height-width-depth) | mm | 155x105x345 | 170x140x345 | | 308x140x365 |
| Weight | Kg | 10 | 14,5 | | 23 |
| Protection level | | IP21 | | | |
| **CERTIFICATES** | | | | | |
| | | **EN52091-1 (Ver. 230 V)**<br>**EN50091-2 (Ver. 230 V)** | | **UL 1778 (ver. 115 V)** | |
| | | **IEEC 062.41 Cat. A** | | | |

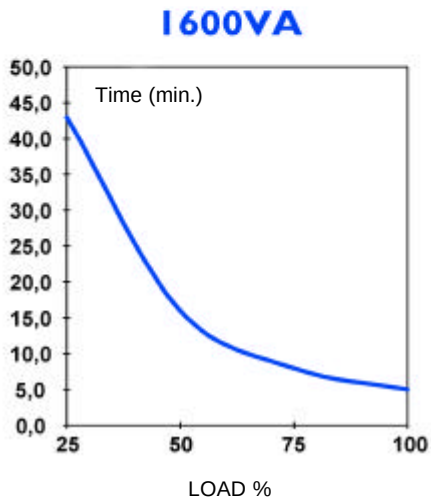
**The company reserves the right to changes thes specifications without prior notice.**

# 10. Backup times



# 11. Registration form.

Please fill out this form as completely as possible. None of the fields are required but the information you provide will help us make our service better suited to your needs. The information you enter below will never be used outside of CHLORIDE POWER PROTECTION.

## Customer Information

First Name : .....

Last Name : .....

Title : .....

Company : .....

Address : .....

City : .....

State/Province : .....

Zip Code : .....

Country of purchase: .....

Phone : .....

Fax : .....

Email : .....

Product information

Model : .....

Serial number : .....

Date of purchase : .....

Purchased form : .....

**For use in:**

- ☐ Home
- ☐ Small Office
- ☐ Corporate Office

**For use with:**

- ☐ Desktop PC
- ☐ PC on LAN
- ☐ PC on WAN
- ☐ Server
- ☐ Printer
- ☐ Scanner
- ☐ Hub, Bridge, Router
- ☐ CAD Workstation
- ☐ Telecom
- ☐ Medical equipment
- ☐ Security system
- ☐ Process

Other: .....

Comments, remarks, suggestions...

.....

**Thank you for registering your product!**
**Note:** Please fill in this form and submit to Chloride Office.

**CHLORIDE WORLD HEADQUARTERS**
Chloride Power Protection
George Curl Way
Southampton
Hampshire, SO18 2RY
United Kingdom
Telephone: +44 (0) 23 8061 0311
Facsimile: +44 (0) 23 8061 0852
international.sales@chloridepower.com

**AUSTRALIA**
Chloride Hytek PTY LTD
Units C1A and C1B
Centrecourt Business Park
25-27 Paul Street North
North Ryde NSW 2113
Australia
Telephone: +61 2 9888 1266
Facsimile: +61 2 9888 1966
australia.sales@chloridepower.com

**FRANCE**
Chloride Industrial Systems
30 Avenue Montgolfier - BP 90
F-69684 Chassieu Cedex
France
Telephone: +33 4 7840 1356
Facsimile: +33 4 7890 5890
industrial.sales@chloridepower.com

Chloride Power Protection
1 rue Felix Potin
ZA Les Belles Vues
91290 Arpajon
France
Telephone: +33 1 6926 1281
Facsimile: +33 1 6083 1816
france.sales@chloridepower.com

Chloride Telecom Systems
ZA Les Rolandières
35120 Dol de Bretagne
France
Telephone: + 33 299 48 2068
Facsimile: + 33 299 48 3394
com-ce@saed.com

**GERMANY**
Masterguard
Schallershofer Str. 141
D-91056 Erlangen
Germany
Telephone: +49 9131 9855 100
Facsimile: +49 9131 9855 270
info@masterguard.de

**ITALY**
Chloride Silectron
Via Fornace 30
40023 Castel Guelfo
Bologna
Italy
Telephone: +39 054 2632 111
Facsimile: +39 054 2632 120
italy.sales@chloridepower.com

**PORTUGAL**
Chloride Power Protection
Rua dos Tercos 574
Zona Industrial de Canelas
4405 270 Canelas VNG. Oporto
Portugal
Telephone: +351 22 7151 210
Facsimile: + 351 22 7126 337
portugal.sales@chloridepower.com

**SPAIN**
Chloride Boar
Azufre 8-10
Polígono Industrial Sur
28770 Colmenar Viejo, Madrid
Spain
Telephone : +34 91 848 84 00
Facsimile : +34 91 845 51 32
spain.sales@chloridepower.com

**THAILAND**
Chloride Power Electronics LTD
Panjathani Tower, 20th Floor
127/25 Nonsee Road
Chongnonsee, Yannawa
Bangkok 10120
Thailand
Telephone: + 662 6810 100
Facsimile: + 662 6810 109
thailand.sales@chloridepower.com

**TURKEY**
Masterguard
Sebnem Sok. Nº 14, Kat: 3-4-7-8
81110 Bostanci Istambul
Turkey
Telephone: +90 216 464 47 00
Facsimile: +90 216 464 47 15
masterguard@masterguard.com.tr

**UK**
Chloride Power Protection
George Curl Way
Southampton
Hampshire, SO18 2RY
United Kingdom
Telephone: +44 (0) 23 8061 0311
Facsimile: +44 (0) 23 8061 0852
.sales@chloridepower.com

**Oneac UK**
18 & 20 Blacklands Way
Abingdon Business Park
Abingdon
Oxfordshire, OX14 1DY
United Kingdom
Telephone: +44 (0) 1235 534 721
Facsimile: + 44 (0) 1235 534 197
oneac_ltd@oneac.com

**USA**
Chloride Power Protection
28430 N. Ballard
Lake Forest IL 60045
USA
Telephone: +1 800 239 2257
Facsimile: +1 800 833 6829

Oneac Corporation
27944 North Bradley Road
Libertyville
Illinois 60048-9700
USA
Telephone: +1 847 816 6000
Facsimile: +1 847 680 5124
info@oneac.com

**INTERNATIONAL SALES**
**Europe, Middle East and Africa**
Chloride Power Protection
George Curl Way
Southampton
Hampshire, SO18 2RY
United Kingdom
Telephone: +44 (0) 23 8061 0311
Facsimile: +44 (0) 23 8061 0852
international.sales@chloridepower.com

Chloride Industrial Middle-East (CIME)
PO Box 17693
Dubai
United Arab Emirates
Telephone: +971 (4) 881 8848
Facsimile:+971 (4) 881 4518

**Latin America**
Chloride Power Protection Latin America
Rua Arizona 1349
Brooklin Novo
Sao Paulo CEP 04567-002
Brazil
Telephone: +55 11 5505 4661
Facsimile: +55 11 5505 4832
latinamerica.sales@chloridepower.com

**Asia Pacific**
Chloride Power Protection
80 Marine Parade Road
#10-08 Parkway Parade
449269
Singapore
Telephone: +65 348 5288
Facsimile: +65 348 3400
asiaups@chloridepower.com