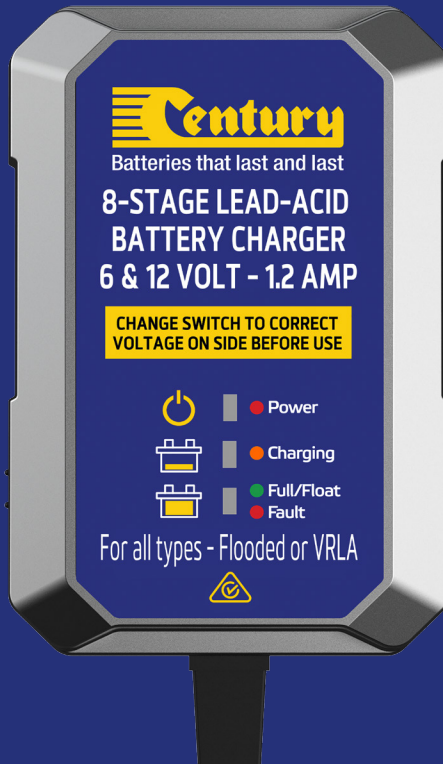




Batteries that last and last



**Model: CC6121.2**

# OWNER'S MANUAL

AUSTRALIAN & NEW ZEALAND STANDARD AS/NZS 60335.2.29 APPROVED

Congratulations on purchasing your Century selectable 6 volt and 12 volt battery charger, maintainer and rejuvenator. Please take the time to carefully read and understand this manual before using this product.

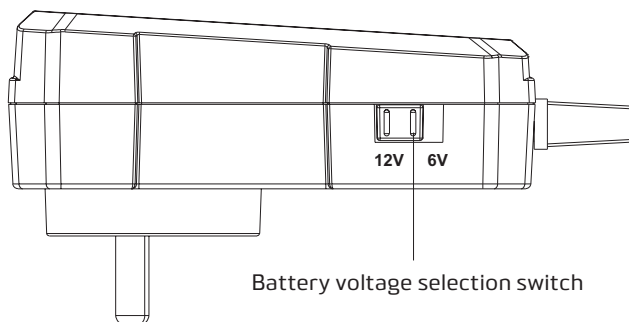
## IMPORTANT SAFETY ADVICE AND WARNINGS

- The CC6121.2 is designed to charge and maintain 6V and 12V conventional lead-acid batteries only, including:
  - Sealed Maintenance Free (SMF) flooded calcium batteries.
  - Absorbed Glass Mat (AGM), Enhanced Flooded (EFB) and maintainable flooded batteries.
  - Gel electrolyte type batteries.
- Always refer to the battery manufacturers specifications and recommendations if you're unsure of your battery charging requirements.
- Explosive gases may escape from the battery during charging so please ensure the battery is charged in a well-ventilated area - never in a closed room.
- NEVER smoke, use an open flame or create sparks near a battery or charger during charging operation as explosive gases may cause an explosion. Flames, sparks, burning cigarettes or other ignition sources must be kept away at all times.
- Battery acid can cause burns. Suitable hand, eye and face protection and protective clothing must be worn.
- First Aid: For advice, contact the Poisons Information Centre in Australia (phone 13 11 26) or the National Poisons Centre in New Zealand (phone 0800 764 766), or contact a doctor immediately. If battery acid enters your eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing for at least 15 minutes or until advised to stop by poisons information centre, national poisons centre or doctor. If battery acid contacts your skin or clothing, wash immediately with soap and water. If hair contact occurs, remove contaminated clothing and flush hair with soap and running water. Someone should always be within range of your voice.
- If electrolyte is swallowed, do NOT induce vomiting – give a glass of water. Seek immediate medical assistance.
- When working with lead-acid batteries, remove personal metal items such as rings, bracelets, necklaces, watches and make sure you don't short circuit the battery terminals with any type of metal tool, piece of jewellery or other conductors as this will cause an explosion. You can wrap your spanner with insulation tape to minimise the risk of a short circuit.
- Acid spill response: Bund and neutralise spills with soda ash or other suitable alkali. Dispose of residue as chemical waste or as per local requirements.
- This charger is designed for indoor use only and should not be exposed to water, rain, snow, liquids etc.
- Do not attempt to use the charger if it has been dropped or damaged or if the cables or plugs are damaged.
- Never attempt to charge a damaged battery, frozen battery or non-rechargeable battery.
- **If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.**
- Never place the charger on the battery or battery on the charger.
- Do not disassemble the charger. Take it to a qualified and authorised person for repair.
- If using a generator, you must ensure you use a surge protector to protect the charger from voltage spikes.
- The charger must not be used or played with by infirm persons or children. Also keep away from pets.
- Turn engine and or charger off before disconnecting a battery\*
  - \* In some vehicles, ignition may be required to be placed in accessory mode where electronic memory minder is present.

**IMPORTANT: Never charge a 6V battery on the 12V setting as this may cause an explosion and fire.**

## MAIN FEATURES

- The battery charger is easy to use and requires no technical experience.
- It is an automatic smart battery charger & maintainer with reconditioning mode that is fully microprocessor controlled with safety timers at every stage. Ensure the correct battery voltage setting is selected.
- **8 Stage process for Lead-acid type batteries (GEL, AGM/FLOODED/EFB, CALCIUM SMF):**
  - 1 - Qualification - Battery condition check
  - 2 - Battery rejuvenation (reconditioning mode)
  - 3 - Soft start charging
  - 4 - Bulk charging
  - 5 - Absorption charging
  - 6 - Battery analysis
  - 7 - Float mode
  - 8 - Long term maintenance pulse charge
- **Battery condition analysis.**
- **Battery voltage retention analysis.**
- **Automatic diagnosis and charge:** On power up, the charger will automatically diagnose the battery condition and determine if the rejuvenation mode (reconditioning) or charge cycle is required.
- **Patented battery rejuvenation (reconditioning) technology:** The charger has a unique and patented rejuvenation feature which uses high voltage equalising and peak pulse reconditioning to repair sulphated batteries. This feature is fully automatic and depends on the internal impedance of the battery. It also depends on whether the battery is still connected in the vehicle.
- **Ultra low power consumption (ECO Mode).**
- **Pulse charge for long term maintenance.**
- **Can be left on 24/7 to ensure your battery is always maintained and fully charged:** The battery charger can be left permanently connected all year round. The intelligent charger will monitor the battery voltage and will maintain it at peak performance with a special pulse charge during long term maintenance. Please note that even if the battery charger incorporates this feature, Century Batteries does not recommend leaving the battery charger connected 24/7.
- **Short circuit and reverse polarity protection.**
- **Heavy-duty and corrosion-resistant output connectors.**
- **Crocodile clips / Ring Terminals:** It comes with a quick connect fly lead and heavy duty, fully insulated crocodile clip harness and ring terminal harness.
- **Selectable 6 volt and 12 volt output.**



## TEMPERATURE & SAFETY PROTECTION:

- **INTERNAL OVERHEAT PROTECTION:** The charger has a built-in overheat and an overload electronic circuit. This protects the charger from being damaged if overheated or overloaded and will automatically decrease the charging current. Once the unit's internal temperature decreases to a safe level, the charger will resume normal charging.
- **SAFETY TIMER PROTECTION:** The charger has safety timers for every stage. If the battery voltage doesn't reach a certain voltage within a certain time, the unit will stop charging as it is highly likely that you are attempting to charge a severely discharged or heavily sulphated battery. If any of the stages times out, the charger will immediately stop charging in order to protect the battery. This will be indicated with the fault LED ON.
- **REVERSE POLARITY:** The charger has reverse polarity protection. If the charger output leads are connected in reverse polarity, the fault LED will come on and the charger will be disabled. Simply unplug the charger from AC power and then connect the output leads to the correct polarity.
- **SHORT CIRCUIT PROTECTION:** The charger will automatically turn off if the output leads are short circuited and the fault LED will come on. This prevents the charger from being damaged if the positive and negative crocodile clips or the optional ring terminals accidentally touch each other while the charger is turned on.
- **ECO MODE:** This Century battery charger has a built in ultra low power consumption circuit. If AC power is connected and the battery is disconnected, after 10 seconds the charger will automatically go into an ECO mode. During this mode the power drawn is less than 0.36W which totals 0.01kWh per day power consumption. If AC power is connected and the battery is connected, once the battery is fully charged and during the long term maintenance stage, the total power consumption is around 0.03kWh per day.  
The Power LED will flash RED to indicate ECO mode.

## BATTERY TYPES & CAPACITY:

- Suits 6V and 12V conventional lead acid batteries: All SMF [Calcium], AGM/Flooded, EFB & Gel. The Ah (Ampere Hours) capacities shown below are to be used as a general guide only. Refer to the battery manufacturers specifications and recommendations for your charging requirements.

	Model No. CC6121.2
Charge Rate:	1.2A
Charging	4 - 24Ah
Maintaining	< 100Ah

These figures are based on 5 to 30% of battery Ah rating. For optimum charging, 10% of battery Ah rating is recommended for flooded batteries and 20% of battery Ah rating is recommended for AGM & Gel batteries.

Visit <http://www.centurybatteries.com.au/battery-charging> or <http://www.centurybatteries.co.nz/battery-charging> for further advice.

## ELECTRICAL PARTS & ACCESSORIES:

AC Power:	SAA 2 Pin AU Plug
DC Output Lead:	1.2m with quick connect
Charging Leads:	Quick connect 60cm Crocodile Clip harness and 60cm Ring Terminal harness

## TECHNICAL SPECIFICATIONS:

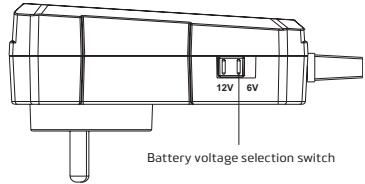
<b>Model Number</b>	<b>CC6121.2</b>
Output	1.2A @ 6V DC & 12V DC
Input Voltage	100-240Vac / 0.4A - 0.2A (22W) - 12V 100-240Vac / 0.24A - 0.12A (11W) - 6V
Input Frequency	50/60Hz
Charge Voltage	7.2V / 14.4V
Float Voltage	6.8V / 13.6V
Start Voltage	3V / 8V
Operating Temperature	-10 to 40°C
Storage Temperature	-25 to 85°C
Operating Humidity	90% RH Max.
Size (L*W*H)	100mm x 66mm x 34mm
Weight	500g (approx.)
Approvals	AS/NZS, EMC

## CHARGING INSTRUCTIONS:

### STEP 1 - Pre charge check & electrolyte level check

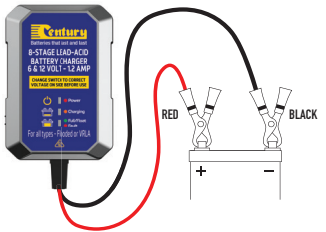
- Check the battery voltage, type and Ah capacity to ensure the charger is compatible and to determine which Battery voltage selection you require.  
Visit <http://www.centurybatteries.com.au/battery-charging> or <http://www.centurybatteries.co.nz/battery-charging> for further advice.
- Check the Battery Electrolyte levels. For maintainable batteries, remove the vent caps and if necessary, add distilled water so the levels are halfway between the upper and lower fill lines. On Sealed Maintenance Free (SMF) batteries, check the State of Charge indicator.
- Ensure the battery is in a well ventilated area and the charger should be as far away from the battery as the cables permit.
- Follow health and safety precautions outlined on page 1 of this manual before using the charger.

**IMPORTANT:** Please make sure the correct battery voltage is selected to suit your battery type. For 6V batteries make sure the unit is switched to 6V and for 12V batteries make sure the unit is switched to 12V. The battery voltage select switch is located on the left hand side of the charger.



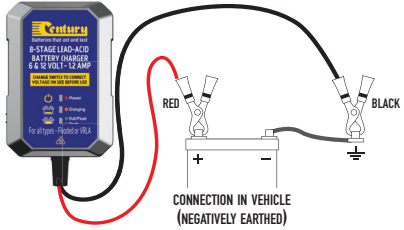
**STEP 2 - Connecting the battery charger to your battery**

If the Battery is out of the vehicle

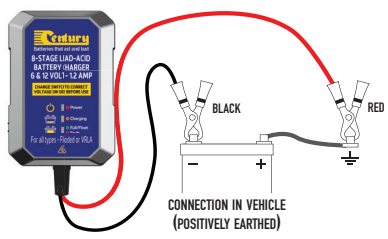


Connect the Red (+) Crocodile clip or ring terminal to the (+) battery terminal. Connect the Black (-) Crocodile clip or ring terminal to the (-) battery terminal.

If the battery is still **in the vehicle**, determine if the vehicle is positively or negatively earthed.



**If Negatively Earthed (Most Common) –** FIRST Connect the Red (+) Crocodile clip or optional ring terminal lead to the (+) battery terminal and then connect the Black (-) Crocodile clip or optional ring terminal lead to the vehicle’s chassis. **DO NOT** connect the Black (-) lead to the carburettor or fuel lines.



**If Positively Earthed –** FIRST Connect the Black (-) Crocodile clip or optional ring terminal lead to the (-) battery terminal and then connect the Red (+) Crocodile clip or optional ring terminal lead to the vehicle’s chassis. **DO NOT** connect the Red (+) lead to the carburettor or fuel lines.

**STEP 3 - Plug the battery charger into a Mains Power outlet (100-240V AC)**

- The charger will automatically start when AC power is connected and switched on.

**Note:** If the Fault Indicator LED illuminates Red, please check your connections as it is likely that the Positive and Negative Leads are reversed. The Fault Indicator may also illuminate if the 6V setting has been selected for a 12V battery, as long as the 12V battery's state of charge is over 8V.

## **THE CHARGING PROCESS:**

### **1) Qualification - Battery Condition Check - Orange Charging LED Flashing Fast**

When the charger is first switched on it checks the battery condition to determine whether the battery needs reconditioning. During this qualification process it checks the internal impedance and initial voltage of the battery and it will determine how much charge current, if any that the battery will accept.

### **2) Enhanced Battery Rejuvenation - Orange Charging LED Flashing Fast**

If the initial qualification detected that the battery was in poor condition, the patented rejuvenation process will begin automatically. During the rejuvenation process a high voltage equalising and peak pulse reconditioning charge is used to repair the sulphated battery. This unique patented feature will break down and dissolve the lead-sulphate crystal build up on the battery plates which will extend the life of your battery. It can also balance out high concentrations of acid. The equalisation voltage will be 8V maximum for 6V battery selection and 16V maximum for 12V battery selection.

### **3) Soft Start Charging - Orange Charging LED Flashing Slow**

Gently charges the battery using a reduced charge output until the battery voltages reaches 5.5V for 6V battery selection or 11V for 12V battery selection. If the battery voltage doesn't reach these levels within 6 hours, the safety timer protection will stop the unit from charging, the Red Fault LED will illuminate and the Orange Charging LED will start flashing.

### **4) Bulk Charging - Orange Charging LED ON**

Uses the maximum charge output until the battery voltage reaches 7.2V for 6V battery selection or 14.4V for 12V battery selection. If the battery voltage doesn't reach these levels within 24 hours, the safety timer protection will stop the unit from charging, the Red Fault LED will illuminate and the Orange Charging LED will illuminate.

### **5) Absorption Charging - Orange Charging LED ON**

Uses a constant voltage while reducing the charging output current to ensure the battery receives a full charge without overcharging the battery.

### **6) Battery Analysis - Full/Float Green LED ON**

The battery analysis stage checks the condition of the battery after the charge cycle is completed. If the battery voltage drops too quickly during the analysis mode, this means the battery is probably faulty. If the battery analysis failed, this is indicated by the Green Full LED flashing.

### **7) Float Mode - Full/Float Green LED ON**

This stage allows you to keep the charger connected 24/7 to ensure your battery is well maintained and kept 100% fully charged. Float mode will maintain the battery at a constant 6.8V for 6V battery selection or 13.6V for 12V battery selection.

### **8) Long Term Maintenance - Full/Float Green LED ON**

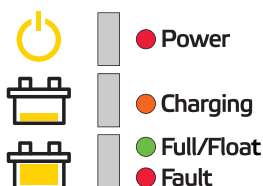
During long term maintenance / float mode, the unit will apply a special pulse charge to ensure the battery is kept in optimal condition.

#### **STEP 4 - Disconnecting the Battery Charger from the Battery**

- **If the Battery is out of the vehicle:**
  - (1) Switch OFF and Remove the Charger from the outlet.
  - (2) Remove the Black lead and then the Red lead.
- **If the battery is still in the vehicle:**
  - (1) Switch OFF and Remove the Charger from the outlet.
  - (2) Remove the lead from the vehicle chassis.
  - (3) Remove the lead from the battery.

**Note:** Check electrolyte levels if possible after charging as they may need topping up with distilled water. (This does not apply to sealed maintenance free batteries)

#### **LED STATUS INDICATOR TABLE:**

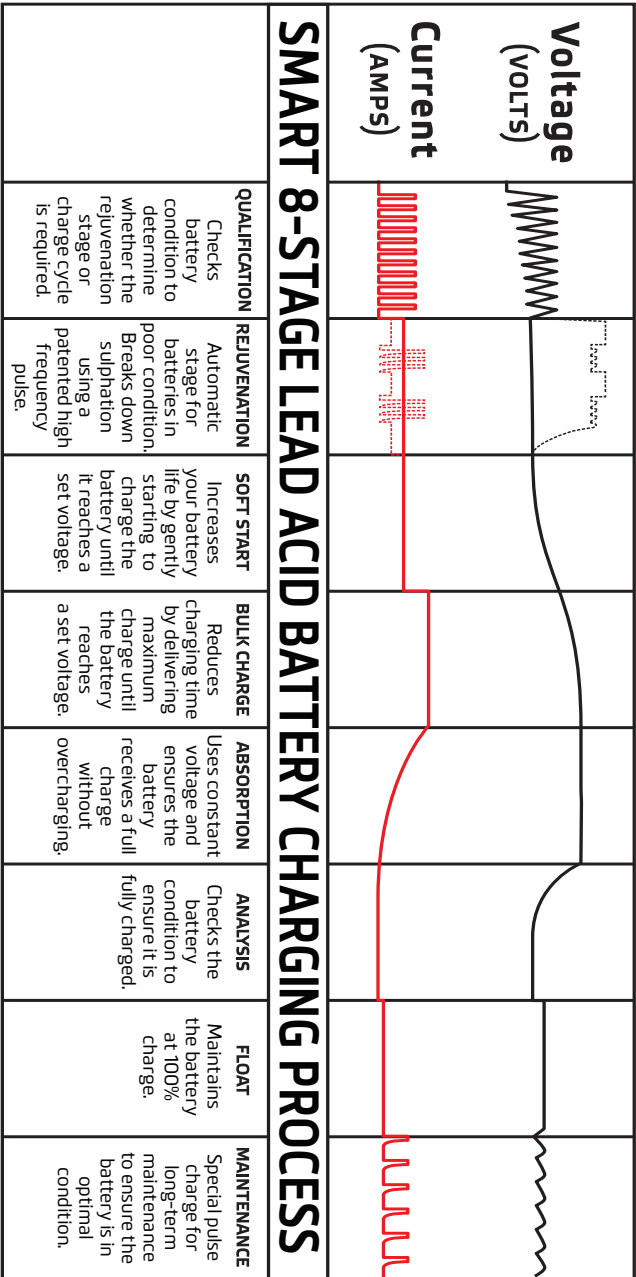


LED	Status	Description
<b>Power LED</b>		
Red	ON	Indicates AC power is ON
Red	Flashing	Indicates AC power is ON and no Battery has been detected. ECO Mode.
<b>Charging LED</b>		
Orange	Flashing Fast	Qualification and battery condition check
Orange	Flashing Fast	Battery rejuvenation
Orange	Flashing Slow	Soft start charging
Orange	ON	Bulk charging or absorption charging
<b>Full/Float and Fault LED</b>		
Green	ON	Battery is fully charged and is in Float/Maintenance mode
Green	Flashing	Battery analysis has failed
Red	ON	Short circuit or reverse polarity
Red	ON	Soft start charging timed out if Orange Charging LED is also flashing
Red	ON	Bulk charging timed out if Orange Charging LED is also ON
Red	Flashing	Battery voltage select switch was switched during charging mode or incorrect battery voltage selected

**Note:** When the unit is in ultra low power consumption mode (ECO Mode), this will be indicated by the Power LED flashing RED. The unit will automatically go into this mode if no battery is detected or connected.



## CHARGING CURVE



## SMART 8-STAGE LEAD ACID BATTERY CHARGING PROCESS

**QUALIFICATION**  
Checks battery condition to determine whether the rejuvenation stage or charge cycle is required.

**REJUVENATION**  
Automatic stage for batteries in poor condition. Breaks down sulphation using a patented high frequency pulse.

**SOFT START**  
Increases your battery life by gently starting to charge the battery until it reaches a set voltage.

**BULK CHARGE**  
Reduces charging time by delivering maximum charge until the battery reaches a set voltage.

**ABSORPTION**  
Uses constant voltage and ensures the battery receives a full charge without overcharging.

**ANALYSIS**  
Checks the battery condition to ensure it is fully charged.

**FLOAT**  
Maintains the battery at 100% charge.

**MAINTENANCE**  
Special pulse charge for long-term maintenance to ensure the battery is in optimal condition.

## ONLINE RESOURCES

Visit <http://www.centurybatteries.com.au/battery-charging> or <http://www.centurybatteries.co.nz/battery-charging> for further information on battery charging and for advice on using the Century's CC6121.2 battery charger and maintainer.

## TROUBLE SHOOTING

Problem	Indication	Possible Causes	Suggested Solution
Charger does not work?	No Indicator lights on	- No AC power	- Check AC connections and make sure the AC Power Point is switched ON. - Try a different AC Power Point which you know is working.
Charger has no DC output?	Red Power LED is ON but the Charging LED is OFF  Fault Red LED is ON	- Incorrect battery voltage selection - Battery is deeply discharged - Output is short circuited - Reverse polarity protection - Loose / bad connection to the battery	- Check the battery voltage selection switch is set to the correct voltage. For 6V batteries, the battery voltage must be over 3V and for 12V batteries the battery voltage must be over 8V for the charger to start. - Check DC connection between charger and battery and make sure they are not short circuited. (Touching each other) - Check that the crocodile clips have not fallen off or come loose. - Check that the crocodile clips/ring terminals are connected to the correct polarity. <b>Note:</b> The charger output is only present when connected to a battery.
No charging current?	Fault Red LED is ON and Orange Charging LED is ON or Flashing	- Battery is severely sulphated - Battery has a damaged cell - Overheat protection mode	- Check the battery condition, age etc. - Battery may need replacement. - Move battery & charger to a cooler environment.
The full / float light won't come on.	Fault Red LED is ON and Orange Charging LED is ON or Flashing  or  Full Green LED is Flashing	- Battery Ah capacity too large for the battery charger and it has time out - Battery is defective - Battery is severely sulphated	- Check the charger specifications match the battery capacity. Eg. make sure battery capacity is not too big for the charger. - Battery may need replacement.

Refer to LED Status Indicator Table on Page #7 for further information regarding the Fault LED.

## 5 YEAR PRODUCT WARRANTY

Century Yuasa Batteries Pty Ltd (ABN 66 009 685 232) of 37-65 Cobalt Street, Carole Park, QLD, 4300, Australia and Century Yuasa Batteries (NZ) Ltd (NZBN 9429039377319) of 259 Church Street, Onehunga, Auckland, 1643, New Zealand warrant to the Customer that this product is substantially free from defects in materials and workmanship under normal use for a period of Five Years from the Date of Purchase. Please ensure you keep a copy of your purchase receipt on file as this will be required to validate your warranty.

### **Obtaining Warranty Service:**

Within the warranty period, the Customer must contact the authorised supplier / retailer where the product was purchased or alternatively you can contact Century Yuasa Batteries through one of the following methods:

Phone - Australia: 1300 362 287

Phone - New Zealand: 0800 93 93 93

Website: [www.centurybatteries.com.au](http://www.centurybatteries.com.au) / [www.centurybatteries.co.nz](http://www.centurybatteries.co.nz)

If Century Yuasa Batteries concludes that while under normal use, a product failure or malfunction occurred during the warranty period and was caused by a defect in material or workmanship (see Exclusions), the Customer will be asked to return the product to the original point of purchase. The product must be packaged appropriately for safe shipment. The customer should enclose with the product, a copy of their receipt for proof of purchase and warranty. It is recommended that products are returned to point of purchase or be sent by registered mail as Century Yuasa Batteries accepts no responsibility / liability for goods lost or damaged in transit.

### **Exclusions:**

If upon receiving a product for repair, the testing and examination of the product discloses that the alleged defect or malfunction in the product does not exist or was caused by the Customer or any third persons misuse, neglect, physical abuse, water damage, unauthorised attempts to open, exposure to extremely high temperatures, tampered with or repaired by an unauthorised person, this will not be covered under this warranty. Costs may be charged to the Customer in the event that the product returned has been tested and no fault found or the warranty has expired or been voided.

### **This Warranty is also void if:**

1. The warranty seal is broken or altered.
2. The warranty period has expired.
3. The product has been tampered with or repaired by an unauthorised person.
4. If used on a generator without using a surge protector.

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure. For New Zealand customers, this warranty is in addition to statutory rights observed under New Zealand legislation.

Century Yuasa Batteries Pty Ltd  
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[www.centurybatteries.com.au](http://www.centurybatteries.com.au)

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SAA Approval No. SAA-180161-EA