REDMAX

Model: HC-12601

OWNER'S MANUAL

AUSTRALIAN & NEW ZEALAND STANDARD AS/NZS 60335.2.29 APPROVED

Congratulations on purchasing the **REDMAX HC-12601** fully automatic switchmode 6 Volt & 12 Volt, 1 Amp battery charger and maintainer. Please take the time to carefully read and understand this manual before using this product.

IMPORTANT SAFETY ADVICE AND WARNINGS

- The charger is designed to charge 6V & 12V lead acid batteries from 3Ah to 20Ah. However the charger can also be used to maintain batteries up to 100Ah.
- The charger can also be used to charge 12V $LiFePO_4$ (lithium iron phosphate) motorcycle and powersport batteries (<20Ah) however you must disconnect the battery from the charger when it is fully charged. Float charging a lithium battery for extended periods will damage the battery cells.
- Always refer to the battery manufacturers specifications and recommendations if you're unsure of your battery charging requirements (e.g. removing or not removing cell caps whilst charging).
- Explosive gases are produced during charging so please ensure the battery is charged in a well ventilated area.
- This charger is designed for indoor use only and should never be exposed to water, rain, snow, liquids etc.
- Do not attempt to use the charger if it has been dropped or damaged.
- Do not attempt to use the charger if the cables or plugs are damaged.
- If battery acid contacts your skin or clothing, wash immediately with soap and water. If acid enters your eye, immediately flush the eye with running cold water for at least 10 minutes and seek medical attention.
- Never attempt to charge a damaged, frozen, or non rechargeable battery.
- Never place the charger on the battery or battery on the charger.
- 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 or piece of jewellery as this will cause an explosion.
- NEVER smoke, use an open flame or create sparks near a battery or charger during charging operation as this may cause an explosion.
- 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 is not a toy. Keep it away from children and pets.
- Children should be supervised to ensure that they do not play with the appliance.
- After charging, disconnect the battery charger from the supply mains. Then remove the chassis connection and then the battery connection.

MAIN FEATURES

- 100% automatic smart battery charger & maintainer.
- Easy to use and requires no technical experience.
- High frequency, high efficiency switchmode charger and maintainer
- Suits lead acid batteries (VRLA, AGM, Gel & Wet) and $LiFePO_4$*****
- Selectable 6 volt & 12 volt output
- Pulse charge for long term maintenance
- 2 stage charging - Bulk & Float / 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 (lead acid batteries only). The intelligent charger will monitor the battery voltage and will maintain it at peak performance with a special pulse charge during long term maintenance.
- Short circuit and reverse polarity protection.
- Heavy duty. corrosion resistant output connectors.
- Includes battery clips and ring terminals

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 internal temperature decreases to a safe level, the charger will resume normal charging.
- **REVERSE POLARITY:** The charger has reverse polarity protection. If the charger output leads are connected 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 battery clips or ring terminals accidentally touch each other while the charger is turned on.

***** This charger can be used to charge lithium iron phosphate motorcycle and powersport batteries (>20Ah) which contain an integrated BMS. Consult the battery manufacturer's specifications before charging to confirm the Bulk charge voltage is suitable. Once the $LiFePO_4$ battery is fully charged you should disconnect it from the charger. Float charging a $LiFePO_4$ battery for an extended period will damage the battery cells. If the $LiFePO_4$ low voltage protection is active you will need to wake up the battery before connecting it to the charger.

BATTERY TYPES & CAPACITY:

- Suits 6V and 12V lead acid batteries (Flooded, Calcium, AGM & Gel) and 12V motorcycle & powersport $LiFePO_4$* batteries (can also be used as a maintenance charger if required).
  It can also be used as a maintenance charger if required.
- The Ah (Ampere hour) capacities shown below are to be used as a general guide only. Some batteries may be able to handle a higher charge current. Refer to the battery manufacturers specifications and recommendations for your charging requirements.

Battery Capacity: Charging	3 - 20Ah
Battery Capacity: Maintaining	3 - 100Ah

ELECTRICAL PARTS & ACCESSORIES:

AC Power Cord:	SAA 3 Pin AU Plug
DC Output Lead:	1.2m with quick connect
Charging Leads:	Quick connect 60cm battery clip harness Quick connect 60cm ring terminal harness

TECHNICAL SPECIFICATIONS:

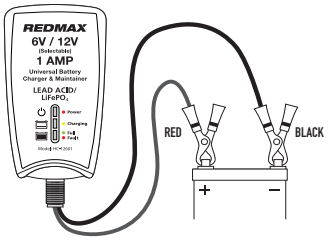
Model Number	HC-12601
Output	1A @ 6V/12V
Input Voltage	100-240VAC / 0.35A(20W)
Input Frequency	50/60Hz
Charge Voltage	7.2V/14.4V
Float Voltage	6.75V/13.5V
Start Voltage	4.4V/8.8V
Operating Temperature	-15 to 50° C
Storage Temperature	-25 to 85°C
Operating Humidity	90% RH Max.
Size (L*W*H)	100mm x 65mm x 36mm
Weight	0.4kg
Approvals	AS/NZS, EMC

CHARGING INSTRUCTIONS:

STEP 1 - Pre charge check & electrolyte level check

- Check the battery electrolyte levels (not required on sealed & maintenance free batteries).

  If necessary, remove the vent caps and add distilled water so the levels are halfway between the upper and lower fill lines.
- Check the battery voltage (i.e. 6V/12V), type and Ah capacity to ensure the charger is compatible. Select correct battery voltage on battery charger.
- Ensure the battery is in a well ventilated area.

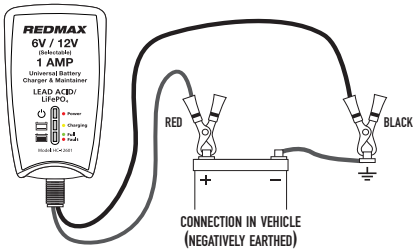


STEP 2 - Connecting the battery charger to your battery

If the battery is out of the vehicle:

Connect the red (+) battery clip or ring terminal to the positive (+) battery terminal. Connect the black (-) battery clip or ring terminal to the negative (-) battery terminal.

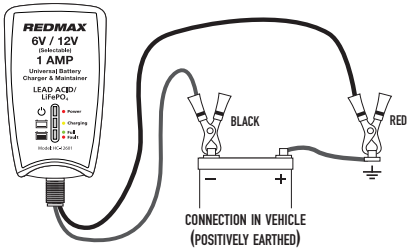
If the battery is in the vehicle, determine if the vehicle is positively or negatively earthed.



If negatively earthed (most common)

FIRST Connect the red (+) battery clip or ring terminal lead to the positive (+) battery terminal and then connect the black (-) battery clip or 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 (-) battery clip or ring terminal lead to the negative (-) battery terminal and then connect the red (+) battery clip or ring terminal lead to the vehicle's chassis.

DO NOT connect the red (+) lead to the carburettor or fuel lines.

STEP 3 - Connect the battery charger to Mains Power (240VAC)

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

  Note: If the red LED fault indicator illuminates, please check your connections as it's likely that the positive and negative leads are reversed. Refer to trouble shooting page for further information.

THE CHARGING PROCESS:

1) **Bulk Charging - Amber Charging LED ON**
   Uses the maximum current output (1A) until the battery voltage reaches 7.2V/14.4V.
2) **Float Mode/Maintenance - 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.*****

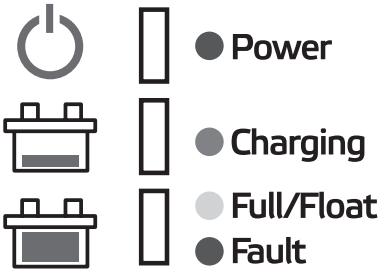
STEP 4 - Disconnecting the charger from the battery

- **If the battery is out of the vehicle:**
  (1) Switch OFF the charger and remove the charger from the outlet.
  (2) Disconnect the black and red charging leads from the battery.
- **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 maintenance free batteries)

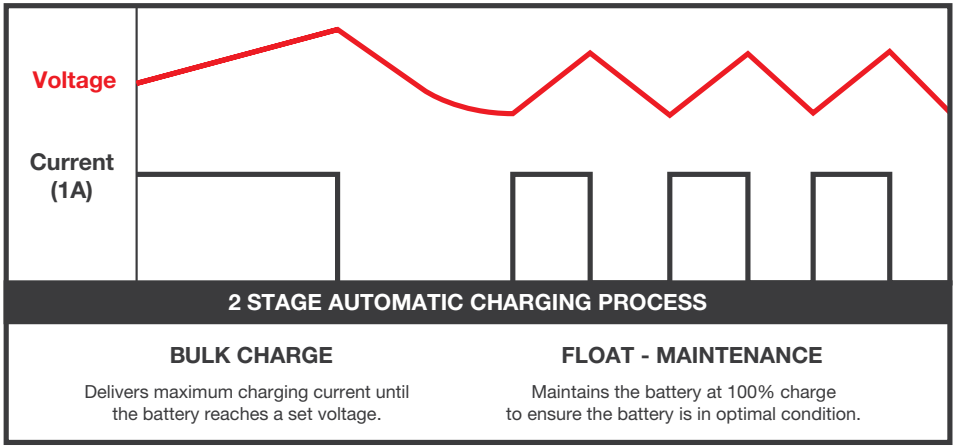
***** This charger can be used to charge lithium iron phosphate motorcycle and powersport batteries (>20Ah) which contain an integrated BMS. Consult the battery manufacturer's specifications before charging to confirm the Bulk charge voltage is suitable. Once the $LiFePO_4$ battery is fully charged you should disconnect it from the charger. Float charging a $LiFePO_4$ battery for an extended period may damage the battery cells. If the $LiFePO_4$ low voltage protection is active you will need to wake up the battery before connecting it to the charger.

LED STATUS INDICATOR TABLE:



Power Red	Charging Amber	Full Green	Fault Red	
ON	OFF	OFF	OFF	AC power is connected, battery disconnected
ON	ON	OFF	OFF	Charging
ON	OFF	ON	OFF	Fully Charged, Float/Maintenance Charging
ON	OFF	OFF	ON	Battery reverse polarity connection
OFF	OFF	OFF	OFF	AC Power OFF

CHARGING CURVE



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?	Fault Red LED is ON or Only Power LED is ON	- Output is short circuited - Reverse polarity protection - Loose / bad connection to the battery - Wrong battery voltage selected. - Battery voltage to low for charger to start.	- Check connection between charger and battery and make sure they are not short circuited. - Check that the battery clips have not fallen off or come loose. - Check battery voltage selection is correct for your battery type. - Check that the battery clips/ ring terminals are connected to the correct polarity.

2 YEAR PRODUCT WARRANTY

R & J Batteries PTY LTD warrants to the Customer that this product is substantially free from defects in materials and workmanship under normal use for a period of Two 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 the R & J Batteries through one of the following methods:

Phone: 1300 769 282
Email: rjbatt@rjbatt.com.au
Website: www.rjbatt.com.au

If the Authorised Supplier and / or R & J 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 ship to the nearest service point for repair or replacement, at our discretion. The product must be packaged appropriately for safe shipment. To prove that the product is under warranty, the customer should enclose a copy of their receipt for proof of purchase. It is recommended that returned products be sent by registered mail as R & J Batteries accepts no responsibility or liability for goods lost or damaged in transit.

Exclusions:
If upon receiving a product for repair and if testing and examining the product has disclosed 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 persons, this will not be covered under this warranty. Also charges may apply to any product returned which has no fault found or if the warranty has expired or been void.

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.

SAA Approval No. SAA-221062-EA

HC-12601 Owner's Manual: Rev 1.1 - 10/23 - Specifications subject to change without notice.