

## WORKSHOP BATTERY CHARGER 6 / 12 / 24 VOLT 10 AMP 7 STAGE

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# INSTRUCTION MANUAL



### PRODUCT SPECIFICATIONS

|  |   |
|--|---|
| PLU:   | 544709  |
| Input voltage:                                 | AC (230-240V) / 50Hz 380W   |
| Output voltage:                                | 6V, 12V, 24V DC (charger will automatically select); 340W max   |
| Output current:                                | 10A (Max)   |
| Start charge battery voltage:                  | Zero Volts (Battery Disconnected)   |
| Inbuilt Safety Features:                       | Short circuit, reverse polarity, over current, over temperature, even charging & over charging protections                      |
| Spoken Voice Alerts:                           | 6V / 12V / 24V Charging / Connection Error / Battery Fault / Charging Completed   |
| Working temperature:                           | -15°C to 50°C   |
| Water Resistance:                              | None, undercover use only   |
| Compatible battery types:                      | 6/12/24V Flooded Lead Acid, AGM, GEL, Maintenance Free, Calcium<br><b>*NOT TO BE USED ON LITHIUM OR DRY CELL BATTERY TYPES*</b> |
| Maximum recommended battery charging capacity: | 1100CCA / 110AH   |
| 7 Stages of Charging:                          | Desulphation, Soft Start, Bulk, Absorption, Analysis, Boost & Maintenance   |



Manufactured and packaged for SRGS PTY LTD ABN 23 113 230 050  
6 Coulthards Avenue, Strathpine QLD 4500, Australia



PLU 544709

### 1. SAFETY / WARNING

- Before using the battery charger ensure the instructions have been read and understood.
- The battery charger is not intended for use by young children or infirm persons. Please keep away from pets.
- This Calibre battery charger is designed to charge most 6, 12 and 24 volt battery types including: Lead Acid, Deep Cycle, Calcium, Gel and Absorbed Glass Matt (AGM) batteries and flooded and maintenance free configurations.
- Always wear the appropriate Personal Protective Equipment (PPE) when working near batteries. This includes gloves and eye protection.
- Always ensure that there is no damage to the power source (240v power outlet). This includes cracks or exposed wires.
- When working with Lead Acid batteries remove all jewellery including watches and rings. Use insulated tools to ensure prevention of a battery short should the metal tool make contact with the battery terminals.
- Ensure the battery is charged in a well ventilated area. Explosive gases may escape from the battery during charging. Never charge a battery in a closed off space or in an area without ventilation.
- Never smoke, use an open flame or create sparks near a battery or charger whilst charging as gases may cause an explosion. Please keep burning cigarettes, flames or other ignition sources away from the charging battery at all times.
- This Calibre battery charger is designed for indoor use only, and is not water resistant or waterproof. Do not expose the battery charger to water or liquids.
- Do not attempt to use the battery charger if the cables or plugs are damaged. This unit does not contain serviceable parts. To avoid a hazard ensure that any damage to the unit, cable or plugs are replaced by the manufacturer or service agent / qualified technician.
- Do not disassemble the battery charger. The warranty will be void if this instruction is ignored.
- Ensure the battery charger is off before connecting and disconnecting from the battery. Once connected power can be turned on.
- Ensure vehicles ignition is switched off before charging the battery. Do not place the battery charger where it is not able to get adequate ventilation. Do not place on fabric/leather/vinyl seats, on the battery or improperly balanced in the engine bay.
- This Calibre SBC10ML Battery charger is fitted with a sophisticated method of detecting the voltage and chemistry of the battery being charged. Even though this charger has been designed to operate with no user selectable input, always consult the battery manufacturers recharging guide.
- This battery charger is not capable for charging a frozen battery, non-rechargeable, lithium or dry cell battery.

### 2. FIRST AID

- For advice, contact the Poisons Information Centre in Australia (PH: 13 11 26) or the National Poisons Centre in New Zealand (PH: 0800 764 766)
- If battery acid makes contact with the skin or clothing, wash immediately with soap and water.

- If battery acid makes contact with the eyes, hold eyelids apart and flush the eye continuously with fresh running water for at least 15 minutes or until the Poisons information centre advises you to stop.
- If battery acid is swallowed, do not induce vomiting. Drink a glass of water and seek medical assistance.

### 3. FEATURES

- Fully automatic voltage and battery type charging, 7 stage charging system
- Suitable for charging 6, 12 and 24V Gel, Lead Acid, AGM, and Maintenance Free Calcium types of flooded automotive batteries. This charger is NOT suitable for Lithium type batteries. Do not attempt to recharge dry cell batteries.
- Large easy to read LED display shows the charging stage status, volts and amps output, and notifies of battery fault or reverse polarity connections.
- Zero Volt battery charging (disconnected battery), enabling recovery and charging of a completely deep discharged battery
- Voice guided prompts for fault detection and connection errors, charging commencement and completion

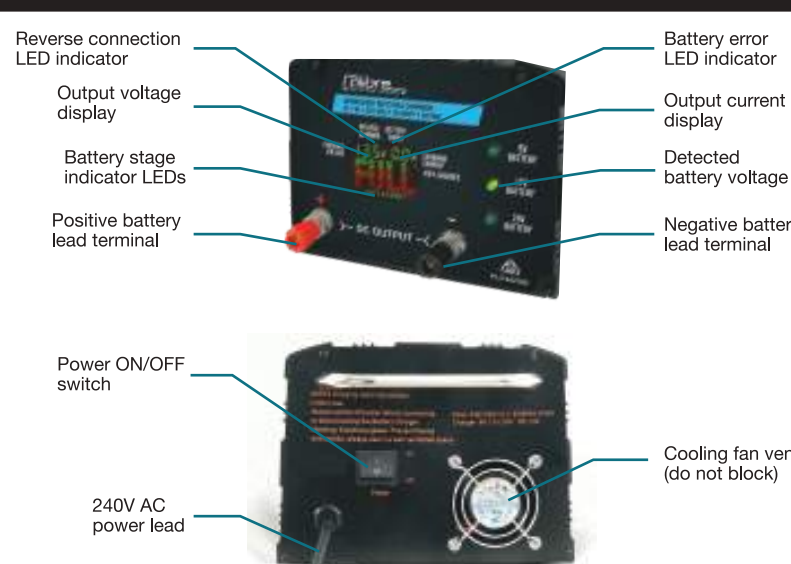
#### Battery Protection Systems

- 1. Over-charging protection**  
The battery charger contains an advanced microchip monitoring and controlling system to ensure that the battery does not become overcharged which can result in the loss of electrolyte or in internal short circuit which can cause damage to the battery.
- 2. Overload protection**  
Overload protection will activate when the current exceeds 120% of the maximum working current.
- 3. High temperature protection**  
High temperature protection will activate when the internal temperature of the charger rises above 50°C. If this occurs, the charger output is automatically reduced. Once the temperature is below approximately 35°C, the charger output will return to normal.  
This feature is designed to protect the battery and the battery charger when they are being used in environments with very high ambient temperatures.
- 4. Even charging function**  
By slowly raising the voltage, the batteries cells with a lower voltage are not charged too quickly which can overheat individual battery cells, compared to battery cells with a higher voltage.
- 5. Reverse polarity protection**  
Audible alarm and voice prompt "Wrong Connection" when battery clamps are incorrectly connected to the battery in the reverse polarity. Reverse Warning LED indicator will also be flashing. This protection will protect both the charger and the battery from damage. If you have accidentally made a reverse polarity connection, please switch battery charger off from AC power, and correct the battery clamp connections to the correct polarities.
- 6. Short circuit protection**  
Audible alarm and voice prompt "Wrong Connection". No output when clamps are connected together, power output only occurs when connected to a battery. This prevents charger malfunction if clamps accidentally come in contact with each other.

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### 4. BATTERY CHARGER DIAGRAM



### 5. BATTERY CHARGING INSTRUCTIONS

- Step 1.** Connect battery charger alligator cables to battery charger, using the supplied nuts to the correct polarity terminals on the front of the charger – (Red + Positive) / (Black – Negative). Please ensure not to over-tighten nuts on front panel.
- Step 2.** Electrolyte Level Check  
For sealed maintenance free batteries check the state of charge indicator. Please Note: Refer to the vehicles manufacturers' owner manual.
- Step 3.** Connect battery charger to battery  
Please Note: Refer to the vehicles manufacturers' owner manual.  
There are two (2) options for connecting the battery charger to a battery  
i. Connect battery charger to a battery out of the vehicle (Zero volts)  
ii. Connect battery charger to a battery fitted inside vehicles engine bay

#### i. Battery out of a vehicle (Zero Volts)

- Ensure the battery is in a safe location on a stable surface with adequate ventilation.
- Ensure the correct Personal Protective Equipment is being worn i.e. Gloves and Eye Wear.
- (If applicable) ensure the battery vent caps are loosened.
- Plug the battery charger into the 240v AC Power Source ensuring that the power is OFF.
- Connect the RED lead (Battery Clamp) to the Positive Terminal (+/positive) on the battery.
- Connect the BLACK lead (Battery Clamp) to the Negative Terminal (-/negative) on the battery.

- Turn the 240v AC Power Source ON, and switch the power switch on the rear of the unit to ON to commence charging.
- The battery charger will commence working automatically without the need for any further user input. Once correct voltage is selected, the voice prompt will say "6V Charging / 12V Charging or 24V Charging" depending on connected battery voltage.
- Disconnect the BLACK lead (Battery Clip) from the Negative Terminal (-/negative).
- Disconnect the RED lead (Battery Clip) from the Positive Terminal (+/positive).
- Refit battery into vehicle and correctly reconnect using the vehicle manufacturer's recommendations.
- If required, replace or tighten the vent caps on the battery.



#### ii. Battery connected in vehicle

- Ensure the correct Personal Protective Equipment is being worn i.e. Gloves and Eye Wear
- (If applicable) ensure the batteries vent caps are loosened or removed
- Ensure vehicle ignition is switched off before making ANY connection to battery.
- Plug the battery charger into the 240v AC Power Source ensuring that the power is OFF
- Connect the RED lead (Battery Clip) to the Positive Terminal (+/positive) on the battery, or to the Positive lug in the engine bay if the vehicle has its battery installed elsewhere (check owners manual)
- Connect the BLACK lead (Battery Clip) to the Negative Terminal (-/negative) on the battery, or to a grounded non-moving metal part of the body or chassis
- Turn the 240v AC Power Source ON, and switch the power switch on the rear of the unit to ON to commence charging.
- Once correct voltage is selected, the voice prompt will say "6V Charging / 12V Charging or 24V Charging" depending on connected battery voltage. Once the battery is fully charged turn the power switch on the rear of the unit OFF, and disconnect the 240v AC Power Source.
- Disconnect the BLACK lead (Battery Clip) from the Negative Terminal (-/negative)
- Disconnect the RED lead (Battery Clip) from the Positive Terminal (+/positive)
- If required, replace or tighten the vent caps on the battery

#### Step 4. Charging

- Once correct voltage is selected, the voice prompt will say "6V Charging / 12V Charging or 24V Charging" depending on connected battery voltage. The LED.... Once correct voltage is selected, the voice prompt will say "6V Charging / 12V Charging or 24V Charging" depending on connected battery voltage. The LED's on the right side of the charger front panel will also indicate the voltage of the battery.

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- If there is a fault with the battery or one of the batteries cells, the battery charger will automatically switch off; no charge will be sent to the battery and a voice prompt stating "Battery Fault", the battery error indicator LED light will illuminate.
- If the battery leads are placed on the reverse polarity terminals of the battery, a voice prompt stating "Wrong Connection" will also be heard together with the Reverse Warning indicator flashing to indicate that the battery charger has been incorrectly connected to the battery. Immediately disconnect the battery charger from the battery terminals and correctly fit the battery cables to the correct battery terminals.

#### Charging Stages

- 1. Analysis / Desulphation**  
A small voltage pulse is applied to the battery to ensure it can effectively and safely accept a charge. If the battery has a fault the charger will give the battery error warning LED will illuminate. The charger will cut output and not continue to charge until it is either switched off, or the battery is removed. Desulphation uses pulse reconditioning to gently remove any sulphation build up on the battery plates and prevents oxidation. Stabilizes electrolyte consistency and minimises the battery temperature rising while charging, recovers battery capacity and can help extend battery life.
- 2. Soft Start**  
The soft start function improves the batteries charging capability, reduces gas and heat build-up and can improve electrolyte consistency which can become uneven in the battery cells from day to day use. A steadily increasing current is applied over a set time so as not to initially overload the battery. This stage prepares the battery for the more intense charging stages to follow.
- 3. Bulk charge**  
Maximum charge current is delivered to the battery to minimize charge times.
- 4. Absorption**  
Reduces the current supplied to the battery and ensures that the battery has been completely charged without the risk of being overcharged.
- 5. Analysis – Testing the battery while charging**  
The charger shuts off power and measures voltage drop over a set time. If unacceptable readings are measured this may indicate an internal short or other issue inside the battery.  
If the battery has a fault the charger will give a voice prompt stating "Battery Fault" and the battery error warning LED will illuminate, along with an audible beeper. The charger will cut output and not continue to charge until it is either switched off, or the battery is removed.
- 6. Boost/ equalisation charge**  
Once the battery is fully charged, the charger will equalize all of the battery cells by providing a steady set voltage over a programmed period of time, at low current.
- 7. Maintenance charge**  
After the boost/ equalisation charge the voltage will maintain at a constant level with a small pulse frequency. A voice prompt stating "Charging Completed" will also be heard. Current is dropped to a very low level.

### 6. TECHNICAL SPECIFICATIONS

|   |   |
|---|---|
| PLU:  | 544709  |
| Charger Type  | Automatic voltage and chemistry detection, switch mode, 7 stage battery charger.            |
| Battery type selection  | Automatic, no user input required   |
| Compatible rechargeable battery types                                       | 6V, 12V, 24V (automatic detection), Flooded Lead Acid, AGM, GEL, Maintenance Free, Calcium. |
|   | <b>DO NOT ATTEMPT TO CHARGE LITHIUM OR DRY CELL BATTERIES</b>                               |
| 240V Cable Length   | 1.9M  |
| 12V Cable Length  | 1.2M  |
| Lead connector length, alligator clips & ring terminal connectors           | 1.2M  |
| Input power   | 380W  |
| Maximum Output power  | 340W  |
| Reverse connection protection   | Yes, audible beep, unit cuts output power   |
| Short circuit protection (when charger battery clamps are touched together) | Yes, unit cuts output power   |
| Case type   | Aluminium   |
| Ambient operating temperature   | -15°C to +50°C  |
| Lithium compatible  | NO  |
| Water resistance  | NO, undercover use only   |
| Maximum recommended battery charging capacity                               | 1100CCA / 110AH   |

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### 7. TROUBLESHOOTING

| Problem   | Indication  | Possible Causes  | Suggested Solution  |
|---|---|--|---|
| Battery charger does not work?                            | No indicator lights are illuminating  | No 240v 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.   |
| Battery charger has no DC Output?                         | Reverse Warning LED indicator light is illuminated or audible beeping is heard        | Output is short circuited - Reverse polarity protection Loose / bad connection to the battery  | Check DC connection between charger and battery and make sure they are not short circuited. (Touching each other) Check that the battery leads have not fallen off or come loose. Check that the battery leads/ ring terminals are connected to the correct polarity.<br><b>Note:</b> The charger will only output power when connected to a battery. |
| No charging current when battery is checked?              | Battery Error LED indicator light is illuminated while audible beeping is heard       | Battery could be severely sulphated<br>Battery has a damaged cell or internal short<br>Overheat protection mode (no indicator or beeping will occur) | Check the battery condition, age etc. Battery may need replacing.<br>Move battery & charger to a cooler environment and wait for it to cool.  |
| The battery charger isn't showing FULL on the LED screen? | Fault LED indicator light is illuminated<br>Battery charging status isn't illuminated | Battery Ah capacity too large for the battery charger<br>Battery is defective<br>Battery is severely sulphated<br>Overheat protection mode           | Check the charger specifications match the battery capacity. Eg. Ensure battery capacity is not too big for the charger. Battery may need replacing. Battery charger may be in thermal cut-off - disconnect and allow to cool.  |
| The battery is swollen after it has been charged          | Battery sides are rounded and swollen   | Battery has failed<br>Battery is severely sulphated  | Immediately turn the Battery Charger off and remove from the battery. Replace Battery.  |

### 8. FREQUENTLY ASKED QUESTIONS

- Q. Is the battery charger waterproof or water resistant?  
A. No. Please ensure that the battery charger is kept out of the weather or wet conditions
- Q. Is this battery charger suitable for lithium batteries?  
A. No. Please see the website for lithium battery chargers.
- Q. Can the battery charger be left on the battery permanently?  
A. Yes, but it is recommended that any equipment powered through 240v AC Power is checked regularly. Leaving a battery on charge permanently may cause damage to your battery if a fault occurs. Lead Acid batteries require frequent checking of electrolyte levels. AGM Batteries may not be recommended to be left on charge permanently. Please Note: Refer to the vehicle or battery manufacturers' owner manual.

### 7. WARRANTY

This product is guaranteed against defects for a period of 5 years from date of purchase. This warranty is provided by SRGS PTY LTD, ABN 23 113 230 050 of 6 Coulthards Avenue, Strathpine QLD 4500 Ph (07) 3482 7500. Supercheap Auto will offer a repair, replacement product or store credit if the product is assessed as being defective during the warranty period.  
To claim under this warranty, visit the Front Service Desk of your nearest Supercheap Auto store. For store locations, visit [www.supercheapauto.com.au](http://www.supercheapauto.com.au) or [www.supercheapauto.co.nz](http://www.supercheapauto.co.nz) (NZ). You will need your receipt or proof of purchase. Additional information may be requested of you to process your claim. Should you be not able to provide proof of purchase with a receipt or a bank statement, identification showing your name, address and signature may be required to process your claim. This product may need to be sent to the manufacturer to assess the defect before determining any claim. Faults or defects caused by product modification, misuse and abuse, normal wear and tear or failure to follow user instructions are not covered under this warranty.  
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 for 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 minor failure.  
Any expenses incurred relating to the return of this product to store will normally have to be paid by you.  
For more information contact your nearest Supercheap Auto store.  
The benefits to the consumer given by this warranty are in addition to other rights and remedies of the Australian Consumer Law in relation to the goods and services to which this warranty relates.

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