



6/12V 150A STARTER/15A AUTOMATIC BATTERY CHARGER & MAINTAINER

MODEL NO's: **SUPERBOOST200E 300E 400E**

Thank you for purchasing a Sealey product. Manufactured to a high standard, this product will, if used according to these instructions, and properly maintained, give you years of trouble free performance.

IMPORTANT: PLEASE READ THESE INSTRUCTIONS CAREFULLY. NOTE THE SAFE OPERATIONAL REQUIREMENTS, WARNINGS & CAUTIONS. USE THE PRODUCT CORRECTLY AND WITH CARE FOR THE PURPOSE FOR WHICH IT IS INTENDED. FAILURE TO DO SO MAY CAUSE DAMAGE AND/OR PERSONAL INJURY AND WILL INVALIDATE THE WARRANTY. KEEP THESE INSTRUCTIONS SAFE FOR FUTURE USE.



Refer to
instruction
manual



Warning:
explosive
material



Wear eye
protection



Warning:
corrosive
substance



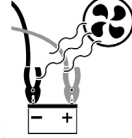
Wear
protective
gloves



Warning:
electricity



Protect from
rain



Use in
well
ventilated
areas



Keep away
from sources
of ignition:
battery could
explode

1. SAFETY

1.1. ELECTRICAL SAFETY

- ☐ **WARNING!** It is the user's responsibility to check the following:
 - ✓ Check all electrical equipment and appliances to ensure that they are safe before using.
 - ✓ Inspect power supply leads, plugs and all electrical connections for wear and damage.
 - ✓ Ensure that the insulation on all cables and on the appliance is safe before connecting it to the power supply.
 - ✗ **DO NOT** use worn or damaged cables, plugs or connectors.
 - ✓ Ensure that any faulty item is repaired or replaced immediately by a Sealey qualified technician.
 - ✓ If the cable or plug is damaged during use, switch off the electricity supply and remove from use.
 - ✓ Sealey recommend that an RCD (Residual Current Device) is used with all electrical products.
- IMPORTANT:** Ensure that the voltage rating on the appliance suits the power supply to be used and that the plug is fitted with the correct fuse.
- ✗ **DO NOT** pull or carry the appliance by the power cable.
- ✗ **DO NOT** pull the plug from the socket by the cable.
- ☐ **WARNING!** 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.
- ✓ The battery charger must only be plugged into an earthed socket-outlet.

1.2. GENERAL SAFETY

▲ DANGER! BE AWARE, LEAD-ACID BATTERIES GENERATE EXPLOSIVE GASES DURING NORMAL BATTERY OPERATION. FOR THIS REASON, IT VERY IMPORTANT TO READ AND FOLLOW THESE INSTRUCTIONS CAREFULLY, EACH TIME YOU USE THE CHARGING EQUIPMENT.

- ✓ This piece of equipment is solely designed for use by a responsible adult/professional user who has received adequate training on its operation & safety risks.
- ✓ Follow these instructions and those published by the battery and vehicle manufacturers, and the maker of any equipment you intend to use in the vicinity of the battery. Remember to review warning marks on all products and on engines.
- ☐ **WARNING!** Modern vehicles contain extensive electronic systems. You are required to check with the vehicle manufacturer, for any specific instructions regarding the use of this type of equipment on each vehicle.
- ✓ No liability will be accepted for damage / injury, where this product is not used in accordance with all instructions.

1.3. PERSONAL PRECAUTIONS

- ✓ Ensure there is another person within hearing range of your voice and close enough to come to your aid, should a problem arise when working near a lead-acid battery.
- ✓ Wear safety eye protection and protective clothing. Avoid touching eyes while working near battery.
- ✓ Have fresh water and soap nearby in case battery acid comes into contact with skin, clothing, or eyes. If contact occurs, wash immediately with soap and water if it touches skin or clothing. If acid enters the eye, flush immediately with cool, clean running water for at least 15 minutes and seek immediate medical attention.
- ✓ Remove personal metallic items such as rings, bracelets, necklaces and watches. A lead-acid battery can produce a short-circuit current which is high enough to weld a ring or the like to metal, which would cause severe burns.
- ✓ Ensure hands, clothing (especially belts) are clear of fan blades and other moving or hot parts of engine, remove ties and contain long hair.
- ✗ **DO NOT** smoke or allow a spark or flame in the vicinity of battery or engine.

1.4. CHARGING SAFETY INSTRUCTIONS

- ✓ Familiarise yourself with the application and limitations of the charger as well as the potential hazards. Also refer to the vehicle manufacturer's hand book. **IF IN ANY DOUBT CONSULT A QUALIFIED ELECTRICIAN.**
- ✓ Ensure the charger is in good order and condition before use. If in any doubt do not use the unit, contact your Sealey stockist.
- ✓ Use the starter/charger in the horizontal position only and ensure it is placed on a stable surface which will adequately support its weight.
- ✓ Ensure the charger is disconnected from the mains supply before attaching/detaching the power clamps to/from the battery.
- ✓ Keep tools and other items away from the engine and ensure you can see the battery and working parts of engine clearly.
- ☐ **WARNING!** This product is NOT intended to supply power to an extra-low-voltage electrical system or to charge dry-cell batteries. Charging dry-cell batteries may burst and cause injury to persons and property.
- ✓ Ensure the output of the charger is the same voltage as the battery.
- ✓ Ensure that during charging, the charger is placed in a location where there is sufficient ventilation to prevent the build up of explosive gases from a lead acid battery, and **DO NOT** cover or obstruct the charger ventilation louvres.
- ✓ If battery has caps to access the battery fluid, remove the caps and check the fluid level before connecting the power clamps.

- ✓ If necessary top-up the battery with distilled water by referring to the battery manufacturer's instructions. (Apply the personal safety precautions described in part 1.3).
- ✓ If the charger receives a sharp knock or blow the unit must be checked by a qualified service agent before using.
- ✓ If the battery terminals are corroded or dirty clean them before attaching the power clamps.
- ❑ **WARNING!** Keep children and unauthorised persons away from the working area.
- ❑ **WARNING!** Children shall NOT play with the appliance.
- ❑ **WARNING!** Cleaning and user maintenance on the appliance shall not be made by children without supervision.
- * **DO NOT** dis-assemble the charger for any reason. The charger must only be checked by qualified service personnel.
- * **DO NOT** try to charge a non-rechargeable battery.
- * **DO NOT** try to charge battery if battery fluid is frozen.
- ❑ **WARNING!** To prevent the risk of sparking, short circuit and possible explosion **DO NOT** drop metal tools in the battery area, or allow them to touch the battery terminals.
- * **DO NOT** allow power clamps to touch each other or to make contact with any metallic part of the vehicle.
- * **DO NOT** cross connect power leads from charger to battery. Ensure positive (+/RED) is to positive and negative (-/BLACK) is to negative.
- * **DO NOT** pull the cables or clamps from the battery terminals.
- ✓ Ensure there is effective ventilation to prevent a build-up of explosive gases, and **DO NOT** cover or obstruct charger ventilation louvres.
- * **DO NOT** use the charger for a task for which it is not designed.
- ❑ **WARNING! DO NOT** simultaneously charge batteries of different capacities or discharge levels.
- ❑ **WARNING!** If a fuse blows, ensure it is replaced with an identical fuse type and rating. Use only Sealey genuine parts.
- ✓ When not in use, store the charger carefully in a safe, dry, childproof location.

2. INTRODUCTION

Microprocessor-controlled charger with up to ten analysis and charge phases, including trickle/maintenance. Suitable for charging 6V, 12V, and 24V electrical systems and jump starting 12/24V vehicles. Battery compatibility includes VRLA, GEL, AGM/EFB, Leisure and Lithium batteries (12V only). BSU mode provides support for the battery during prolonged electronic diagnostic checks. Built-in alternator check and dedicated repair function. Safety features include integrated thermal management system, reverse polarity, short circuit, overcharge and overcurrent protection systems.

3. SPECIFICATION

Model No:	SUPERBOOST200E	SUPERBOOST300E	SUPERBOOST400E
Accessories Included	Clamp connectors	Clamp connectors	Clamp connectors
Cable & Clamp Length:	1.85m	1.8m	1.8m
Electrical Class:	Class I	Class I	Class I
Fuse Rating:	2 x 50A	3 x 50A	4 x 50A
Nett Weight:	14.5kg	16.5kg	18.28kg
Plug Type:	Bare Wire	Bare Wire	Bare Wire
Power Supply Cable Length:	1.85m	1.85m	1.7m
Output:	6/12/24V	6/12/24V	6/12/24V
Zero Volt Charging:	> 1V	> 1V	>1V
Battery Support / DC Supply Mode:	Yes	Yes	Yes
Supply Current (Amps):	15A	25A	25A
Supply Voltage:	230V ~ 50Hz	230V ~ 50Hz	230V ~ 50Hz
Charger Type:	HF	HF	HF
Battery Range: (Ah)	15Ah - 350Ah	15Ah - 400Ah	15Ah to 500Ah
Max Size Battery (Ah) Full Charge in 12 hrs	100A	150A	200A
Output Charge Peak:	20A	30A	40A
Output Start Peak:	200A	300A	400A
Type of Battery:	All types 6V/12V/24V Lead-Acid Batteries and 12V Lithium Batteries	All types 6V/12V/24V Lead-Acid Batteries & 12V Lithium Batteries	All types 6V/12V/24V Lead-Acid Batteries and 12V lithium Batteries
VRLA (Lead-Acid)	YES	YES	YES
Gel	YES	YES	YES
Lithium	YES	YES	YES
Leisure (Deep Discharge)	YES	YES	YES

4. OPERATION

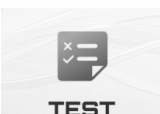
1	LCD TFT Display
2	BACK Button
3	ENTER Button
4	START/STOP Button
5	Select button
6	Select button
7	Panel function display
8	Handle
9	ON/OFF switch
10	24V charging port
11	6/12V charging port
12	Negative plug terminal
13	Lead storage bracket
14	Foot
15	Cable exit
16	Cooling fan grill

4.1. TYPES OF OPERATION

5. DISPLAY MESSAGES

5.1. HOME INTERFACE

- 5.1.1. The main interface displays 5 functional interfaces.
For detailed information, please refer to the table below. Fig.1

	Charge a 6V/12V/24V lead-acid battery or 12V Lithium Ion battery(4-cell LiFePO ₄).
	Provides additional amps for cranking an engine with a weak or run-down battery.
	Provide a stable output to help the equipment work normally and check and repair.
	The state of the engine is monitored in real time by detecting the voltage of the Battery.
	Provide a positive pulse voltage to charge the battery that has been idle for a long time or the dead battery.

6. CHARGER

- 6.1.1. For the 12V charging function, four battery types can be selected: STD (standard lead-acid), AGM (Absorbent Glass Mat), GEL, and LFP (4-cell LiFePO₄ lithium iron phosphate). For 6V and 24V charging, three battery types are available: STD, AGM, and GEL. In 6V mode, the charging current is fixed at 5A. In 12V and 24V modes, three charging current settings are available: 5A, 25A, and 40A. (see fig.2).

SUPERBOOST200E 300E 400E

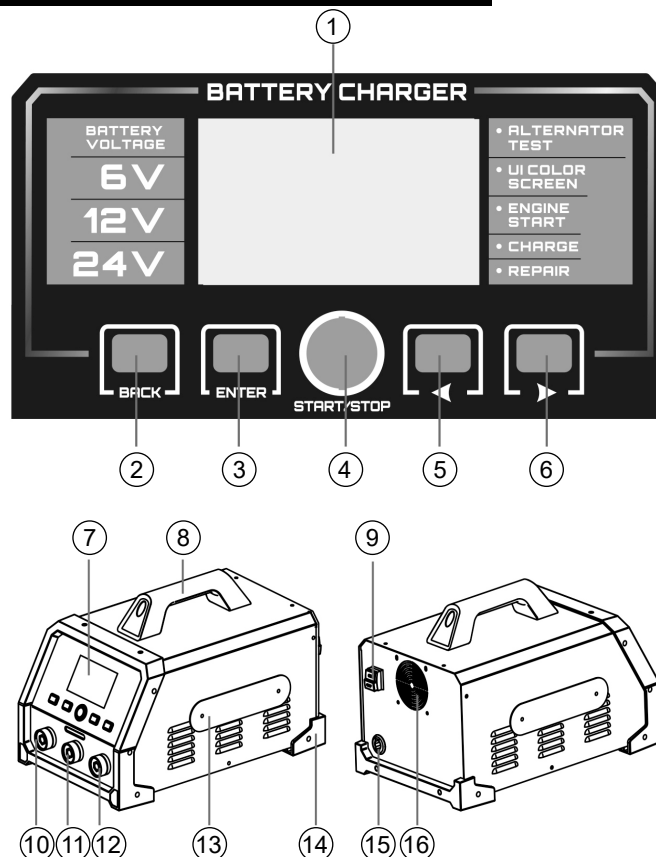


fig.1

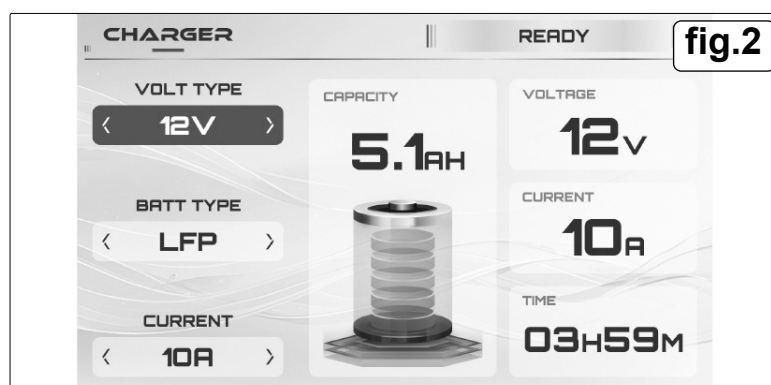
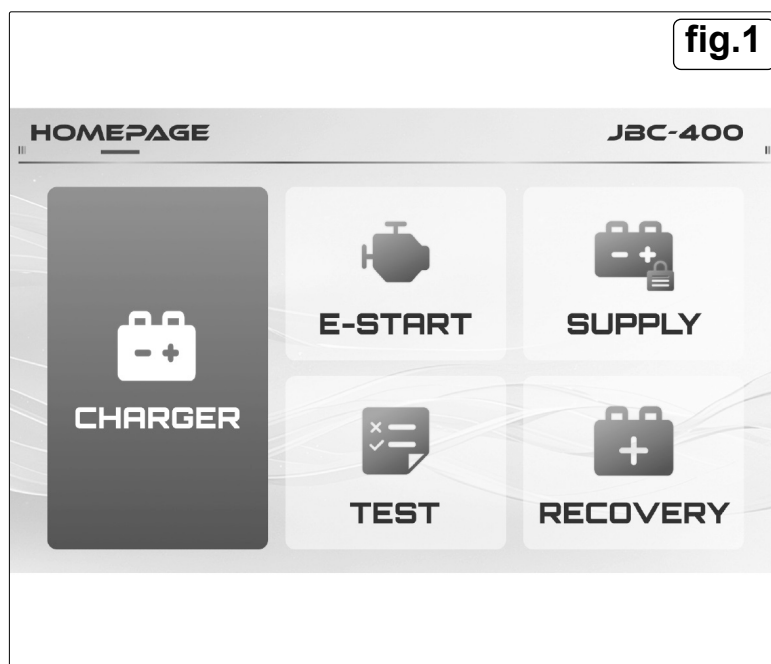


fig.2

The charger can operate at 40A for up to 60 seconds, after which it may reduce to 25A for up to 120 seconds to manage temperature. If the internal temperature rises too high, the charging current will automatically be limited to 25A. Once the temperature falls to a safe level, the charger will automatically return to 40A operation.

Display	Explanation
PAUSE	PAUSE Pause output, press START/STOP button to restart output.
READY	READY Charging is ready and will begin after a delay.
NORMAL	ANALYSING 1 Checks if battery has connected with the charger.
	DESULPHATION Charges with gradually increasing charging current.
	SOFT START Charges with gradually increasing charging current.
	CURRENT Adjusts the charging current intelligently.
	ANALYSING 2 Tests if the battery can absorb charge.
	CONSTANT OUTPUT CHARGE Charges with constant voltage and compensates fake full charge caused by high current charging.
	RECOVERY CYCLE CHARGE Absorbs more charge and compensates side effect of reduced charging current.
	ABSORPTION Charges with constant trickle current for maximum battery voltage.
	ANALYSING 3 Tests if the battery can hold charge.
FULL	FULL Battery is charged full.
MAINTAINING	MAINTAINING Continuously monitors the battery, and charges with trickle current once the voltage is lower than threshold.

7. E-START

Your battery charger can be used to assist in starting a vehicle with a low battery. Follow all safety instructions and precautions before charging or engine starting. Always wear appropriate eye protection and protective clothing.

- ❑ **WARNING!** Always use the ENGINE START function with a battery connected to the vehicle. (see fig.3)
Using the ENGINE START function without a battery installed may damage the vehicle's electrical system.

1. With the charger unplugged from the AC outlet, connect the charger to the battery as described in the Connecting to the Battery section 11.

2. Plug the charger's AC power cord into a suitable AC outlet.

3. Press the ENGINE START button until the ENGINE START indicator illuminates.

NOTE: In extremely cold weather, or if the battery voltage is below 2V, charge the battery for 5 minutes before attempting to start the engine.

4. Crank the engine for no more than 3 seconds.

5. If the engine does not start, wait 3 minutes before attempting another start. This allows the charger and battery to cool down.

6. If the engine still fails to start, charge the battery at the FAST rate for 5 minutes before attempting to start the engine again.

7. After the engine starts, unplug the AC power cord before disconnecting the battery clamps from the vehicle.



NOTE: If the engine turns over but does not start, the starting system is functioning correctly. The problem is likely elsewhere in the vehicle. Stop cranking the engine until the fault has been diagnosed and corrected.

7.1. LOW BATTERY VOLTAGE

If the battery voltage is extremely low, allow the charger to remain in ENGINE START mode for 1–2 minutes before attempting to crank the engine. On some vehicles, it may be helpful to turn the ignition key to the ON position before activating the ENGINE START function.

- ❑ **WARNING! DO NOT** touch or disconnect the battery clamps while the ENGINE START function is operating. Failure to follow this instruction may result in serious personal injury or property damage.

	Pause Output is paused. Press the START/STOP button to resume output.
	Charge and wait for cranking The charger supplies a small charging current to the battery until the engine is cranked, at which point it automatically delivers the higher current required for engine starting. The charger will automatically detect when the engine is being cranked. DO NOT disconnect the clamps during this process, as doing so may result in serious injury or property damage.
	Cranking When cranking is detected, the charger will deliver up to 400A to assist in starting the vehicle for up to 5 seconds. DO NOT disconnect the clamps during this period, as doing so may result in serious personal injury or property damage.
	Cool down After cranking, the charger enters a mandatory 240-second cool-down state. The timer counts down from 240 to 0. After 4 minutes, the charger automatically returns to the charging state.

8. SUPPLY

SUPPLY FUNCTION converts the charger into a constant-voltage, constant-current DC power supply that can be used to power 12 VDC or 24 VDC devices. Before use, consult the device manual to ensure it is suitable for operation in this mode. As a power supply, it can also be used to maintain a vehicle's onboard computer settings during battery repair or replacement. It provides up to 25 A output. Spark protection is disabled in this mode. **DO NOT** allow the positive and negative battery clamps to touch or connect, as the charger may generate sparks. (see fig.4).

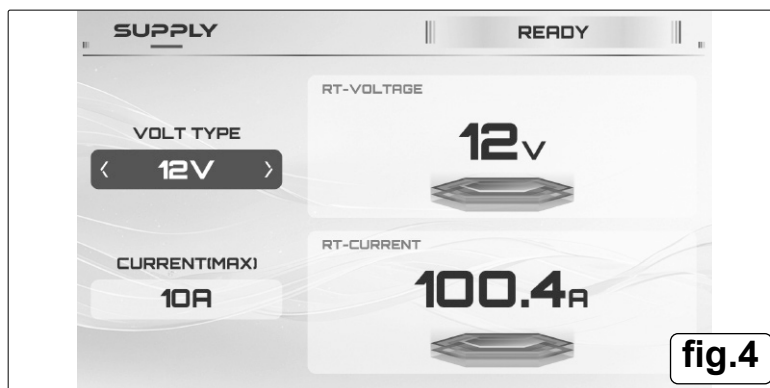


fig.4

PAUSE	Pause Pause output, press START/STOP button to restart output.
NORMAL	Normal Normal output state.
FULL	Full The battery is fully charged. After the battery voltage drops, wait 5 seconds before recharging.

9. TEST (CHARGING SYSTEM)

The TEST function supports 12 V or 24 V batteries. When the charger is idle, follow the steps below:

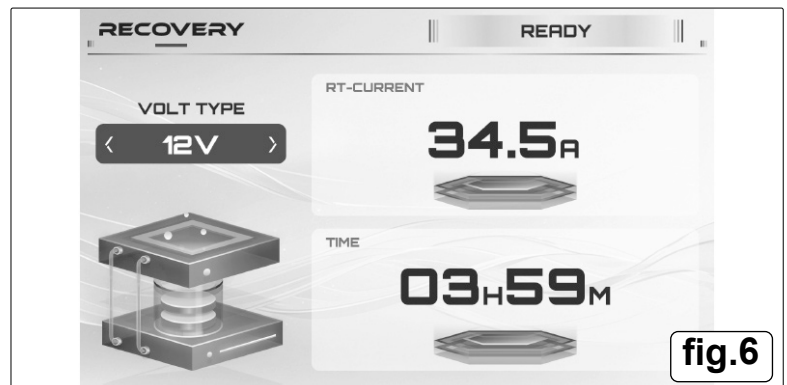
1. With the charger unplugged from the AC outlet, connect the charger to the battery according to the instructions in the previous sections.
2. Plug the charger AC power cord into the AC outlet.
3. Start the vehicle and switch on the headlights. Read the status on the digital display. If a reading of "0–100%" is displayed, the alternator is functioning properly. If the display shows "LOW" or "HIGH," have the charging system inspected by a qualified technician. (see fig.5 on the next page).



Status	Explanation
NULL	The batteries are not properly connected, or the input AC voltage and frequency do not meet the required specifications.
LOW	When the voltage of a 12V battery is lower than 13.2V, or the voltage of a 24V battery is lower than 26.4V.
HIGH	When the voltage of a 12V battery is higher than 14.6V, or the voltage of a 24V battery is higher than 29.2V.
GOOD	When the voltage of a 12V battery is between 13.2V and 14.6V, or when the voltage of a 24V battery is between 26.4V and 29.2V.

10. RECOVERY

This function is for lead-acid batteries only. It is an advanced battery recovery mode designed to repair old, idle, stratified, or sulphated batteries. Not all batteries can be recovered. One repair cycle may take up to eight (8) hours to complete the recovery process. If the repair is completed successfully within 8 hours, the system will return to the PAUSE state. If the repair fails, an error message will be displayed. (see fig.6).



Status	Explanation
PAUSE	Pause Pause output, press START/STOP button to restart output.
NORMAL	Normal Repair the battery using 1A and 10A pulse currents.

10.1. ERROR SITUATIONS

Display	Meaning	Solution
 MISMATCH	The charger has detected an abnormal AC power input.	Repair or replace the AC power source being used if the input voltage or frequency is outside the specified operating range. Ensure that the charger is connected to a properly functioning power outlet before use.
 NO BATTERY	No battery is connected, the battery voltage is below 1V (battery may be deeply discharged), or the positive and negative clamps are connected together.	1. Connect the red and black clamps (or ring terminals) to the battery terminals. 2. Clean the battery terminals and ensure good electrical contact. 3. If the battery voltage remains below 1V, replace the battery immediately. 4. If the red and black output terminals are connected together, disconnect them.
 REVERSED	Reverse polarity detected: the red clamp is connected to the negative terminal and the black clamp is connected to the positive terminal.	Reconnect the clamps correctly: connect the red clamp to the positive (+) terminal and the black clamp to the negative (–) terminal.
 OVER HEAT	The output current is reduced to 0 when the charger temperature becomes too high.	DO NOT disconnect the AC plug immediately. After the charger cools down, it will resume normal operation automatically.
 BAD BATTERY	The battery cannot store electrical charge (dead battery), or it cannot be recovered through the repair process.	Try the REPAIR mode or replace the battery with a new one.
 MISMATCH	Charging a 24 V battery in 12 V mode, or a 12 V / 24 V battery in 6 V mode.	Replace the battery or connect the positive output cable to the correct terminal.
 OVER LOAD	An overload has occurred in SUPPLY mode. Reduce the load or disconnect the output, then restart operation.	1. Disconnect the external device. 2. The charger will automatically shut down for 30 seconds as a protection measure.
 REPAIR FAIL	If the battery voltage remains below 12V / 24V after 8 hours of repair in 12V / 24V mode, the repair process is considered unsuccessful.	Check the battery voltage. If the voltage does not increase or continues to decrease, the battery is faulty and should be replaced.

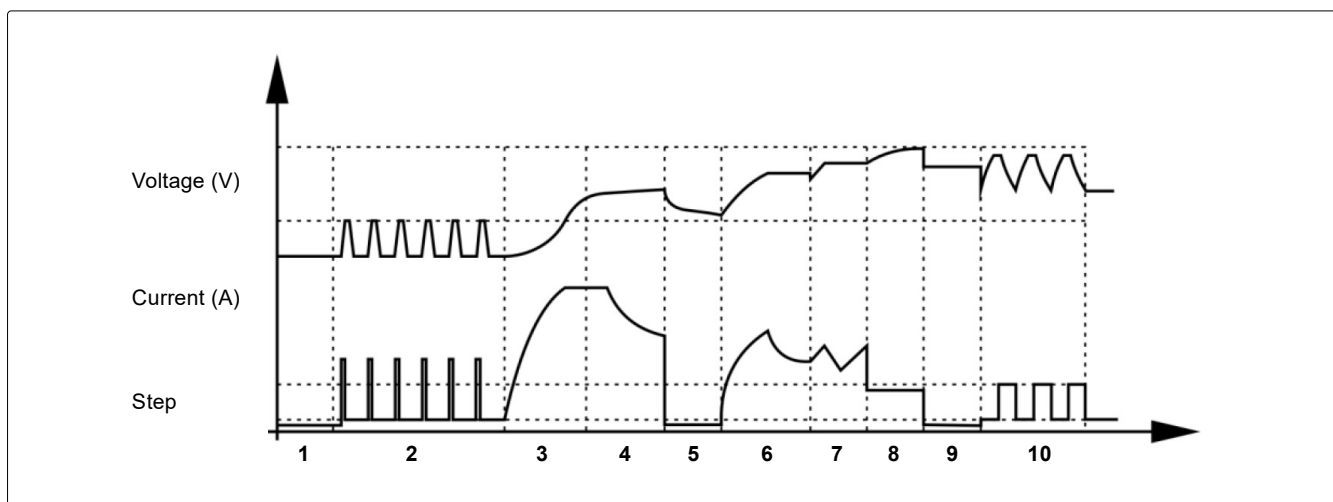
11. CONNECTING TO THE BATTERY

1. Identify the polarity of the battery terminals. The positive terminal is typically marked POS, P, or +. The negative terminal is typically marked NEG, N, or –.
2. **DO NOT** connect the charger to the carburettor, fuel lines, or thin sheet-metal parts.
3. Determine whether the vehicle uses a negative-ground or positive-ground electrical system. This can be identified by checking which battery terminal (NEG or POS) is connected to the vehicle chassis.
4. For a negative-ground vehicle (most common), connect the red positive (+) clamp to the positive battery terminal first, then connect the black negative (–) clamp to the negative battery terminal or a suitable chassis ground.
5. For a positive-ground vehicle (very uncommon), connect the black negative (–) clamp to the negative battery terminal first, then connect the red positive (+) clamp to the positive battery terminal or a suitable chassis ground.
6. When disconnecting the charger, follow the reverse order of connection. Disconnect the negative connection first (or the positive connection first for positive-ground systems).
7. A marine (boat) battery must be removed from the vessel and charged on shore. Charging a battery while it remains onboard requires equipment specifically designed for marine use.

12. CHARGING STEPS

No.	Step	Indicator	Charging state
1	ANALYSING 1	CHARGING The indicator is lit.	Checks whether the battery is properly connected to the charger.
2	DESULFATION	CHARGING The indicator is lit.	Pulsed charging is used to help remove sulphate buildup on the battery plates.

No.	Step	Indicator	Charging state
3	SLOW CURRENT STARTUP	CHARGING The indicator is lit.	Charges the battery with a gradually increasing charging current.
4	CONTROLLED CURRENT CHARGE	CHARGING The indicator is lit.	Intelligently adjusts the charging current based on battery condition and charging state.
5	ANALYSING 2	CHARGING The indicator is lit.	Tests whether the battery is able to accept and store charge.
6	CONSTANT OUTPUT CHARGE	CHARGING The indicator is lit.	Charges with a constant voltage and compensates for false "full charge" indications caused by high charging current.
7	RECOVERY CYCLE CHARGE	CHARGING The indicator is lit.	Absorbs additional charge and compensates for the side effects of reduced charging current.
8	ABSORPTION	CHARGING The indicator is lit.	Charges with a constant trickle current to maintain the battery at maximum voltage.
9	ANALYSING 3	CHARGING The indicator is lit.	Tests whether the battery can hold a charge.
10	MAINTENANCE	CHARGING The indicator is lit.	Continuously monitors the battery and supplies trickle current when the voltage drops below a set threshold.



13. MAINTENANCE

- WARNING! REMOVE FROM MAINS SUPPLY** When the product is no longer in use, it must be safely disassembled according to proper procedures.

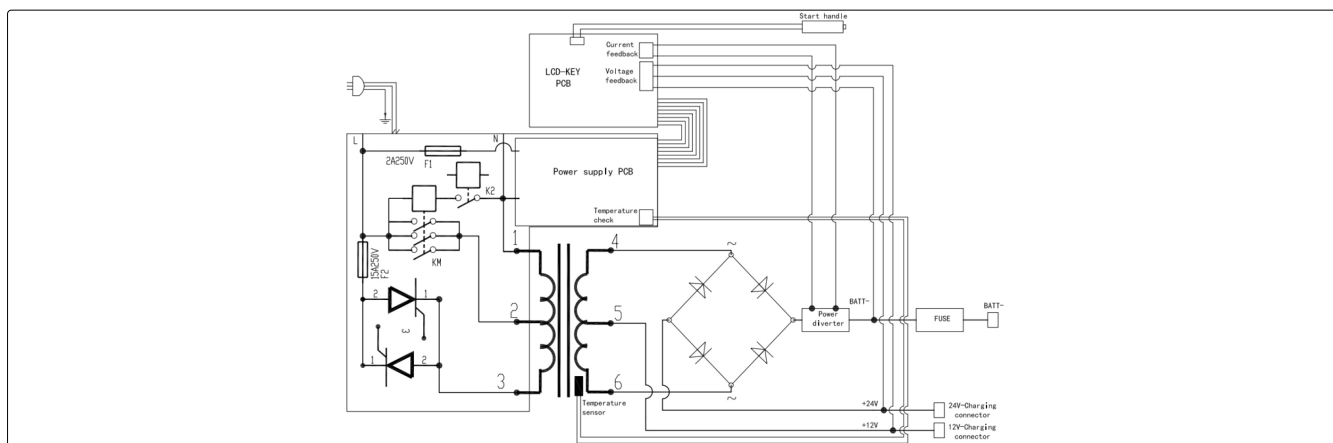
13.1. FREQUENCY AND TYPE OF MAINTENANCE

13.1.1. Maintenance shall be performed periodically or whenever the product is exposed to harsh operating conditions or shows signs of abnormal operation. Routine maintenance includes inspection and cleaning of the unit, checking cables, clamps, and connectors for wear or damage, and verifying correct electrical operation. Emergency maintenance shall be carried out when faults or malfunctions occur, including immediate inspection, repair, or replacement of damaged components, and discontinuation of use until the unit is restored to safe working condition. Contact Sealey Service Centre for information regarding servicing.

- WARNING! AGAINST MISUSE**

This product must be used only as intended. Any misuse, such as incorrect connection of clamps, using the wrong voltage mode, operating with damaged cables or connectors, or attempting to charge non-compatible batteries, may result in equipment damage, electrical shock, fire, or explosion. Misuse can also lead to reduced performance or complete failure of the product. Always follow the operating instructions and safety precautions to ensure safe and reliable use.

14. CIRCUIT DIAGRAM



15. END OF LIFE

- 15.1. At the end of its service life, the product must be disposed of in accordance with local regulations. **DO NOT** dispose of the product with household waste. The unit should be taken to an authorised recycling or electrical waste collection facility. Proper scrapping and recycling help prevent environmental contamination and allow safe recovery of materials.



ENVIRONMENT PROTECTION

Recycle unwanted materials instead of disposing of them as waste. All tools, accessories and packaging should be sorted, taken to a recycling centre and disposed of in a manner which is compatible with the environment. When the product becomes completely unserviceable and requires disposal, drain any fluids (if applicable) into approved containers and dispose of the product and fluids according to local regulations.



REGISTER YOUR
PURCHASE HERE



WEEE REGULATIONS

Dispose of this product at the end of its working life in compliance with the EU Directive on Waste Electrical and Electronic Equipment (WEEE). When the product is no longer required, it must be disposed of in an environmentally protective way. Contact your local solid waste authority for recycling information.

Note: It is our policy to continually improve products and as such we reserve the right to alter data, specifications and component parts without prior notice.

Important: No Liability is accepted for incorrect use of this product.

Warranty: Guarantee is 12 months from purchase date, proof of which is required for any claim.

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