



# 12V BATTERY SUPPORT UNIT & SMART CHARGER/MAINTAINER 40A

MODEL NO: **BSCU40A**

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 instructions



Wear eye protection



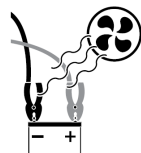
Warning



Electrical shock hazard



Keep away from sources of ignition



Use in well ventilated areas



Indoor use only



Keep in dry area protect from rain

## 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 is replaced immediately by a qualified electrician.
- ✓ If the cable or plug is damaged during use, switch off the electricity supply and remove from use.  
**Ensure that repairs are carried out by a qualified electrician.**
- ✓ 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.

### 1.2. GENERAL SAFETY

- ▲ **DANGER!** Lead-acid batteries generate explosive gases during normal battery operation. For this reason, it is very important to read and follow these instructions carefully, each time you use the charging equipment. If inexperienced, seek training and advice from a suitably qualified engineer.
- ✓ Follow these instructions and those published by the battery and vehicle manufacturer, 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 contacts skin, clothing or eyes.
- ✓ Wash immediately with soap and water if battery acid contacts skin or clothing. If acid enters eye, flush eye 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.
- ✓ The battery terminal not connected to the chassis has to be connected first. The other connection is to be made to the chassis, remote from the battery and fuel line. The battery charger is then to be connected to the supply mains.
- ✓ After Charging, disconnect the battery charger from the supply mains. Then remove the chassis connection and then the battery connection.
- ✓ Use the starter/charger in the upright 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.
- ✓ During charging, the battery must be placed in a well-ventilated area.

- ✓ Ensure the output of the charger is the same voltage as the battery.
- ✓ 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.
- ✓ Keep children and unauthorised persons away from the working area.
- ✓ **CAUTION** : Only allow children at least 8 years old to use the battery charger. Give sufficient instruction so that the child is able to use the battery charger in a safe way and explain that it is not a toy and must not be played with.
- ✓ Instruct the child not to try and recharge non-rechargeable batteries because of the danger of eruption.
- ✓ Examine the battery charger regularly for damage, especially the cord, plug and enclosure. If the battery charger is damaged, it must not be used until it has been repaired.
- ✗ **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.
- ✗ **DO NOT** use the charger outdoors, or in damp, or wet locations and **DO NOT** operate within the vicinity of flammable liquids or gases.
- ✗ **DO NOT** use charger inside vehicle or inside engine compartment.
- ✓ Ensure there is effective ventilation to prevent a build-up of explosive gases, and **DO NOT** cover or obstruct 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.
- ✓ An extension cord should not be used unless absolutely necessary. Use of an improper extension cord could result in a risk of fire and electric shock. If an extension cord must be used, make sure:
  - That the pins on the plug of the extension cord are the same number, size and shape as those of the plug on the charger.
  - That the extension cord is properly wired and in good electrical condition.
  - That the wire size is large enough for the AC ampere rating of the charger as specified.
- ✓ To reduce the risk of electric shock, unplug the charger from the outlet before attempting any maintenance or cleaning. Simply turning off the controls will not reduce this risk.
- ✓ A marine (boat) battery must be removed and charged on shore. To charge it on-board requires equipment specially designed for marine use.
 

**CAUTION:** Children from age 8 years and above, persons with reduced physical, sensory, or mental capabilities those with lack of experience and knowledge can use the appliance, if they have been given supervision or instruction concerning use of the appliance in a safe way to understand the hazards involved.
- ✓ Children shall **NOT** play with the appliance Cleaning and user maintenance on the appliance shall not be made by children without supervision.
- ✓ The appliance shall be disconnected from its power source during service and when replacing parts.

## 2. INTRODUCTION

12V 40A Smart Battery Support Unit and charger designed to both charge 12V batteries and provide support for the battery during prolonged electronic diagnostic checks and reprogramming. Suitable for charging and maintaining a variety of VRLA, Gel, AGM/EFB, leisure and lithium batteries. Safety features include over-charge, over-heat, short circuit and reverse polarity protection. Temperature sensor allows accurate charging of battery even when cold. Compact design with mounting holes for permanent fitting. Once fully charged, battery may be left connected to be automatically conditioned and maintained. Optional Float mode from 13.2V, 13.5V and 13.8V so it can be matched to the manufacturer's guidelines.

## 3. SPECIFICATION

Model No.: .....BSCU40A

Cable & Clamp Length:	1.1m	Plug Type:	3-pin BS
Fuse Rating:	13A	Cable & Clamp Length:	1.10m
Nett Weight:	2kg	Charger Type: Traditional (T) or Intelligent (HF):	HF
Power Supply Cable Length:	1.65m	Battery Range:	80-500Ah
Output:	12V	Max Size Battery (AH) Full charge in 12hrs from Discharged:	480Ah
Zero Volt Charging:	Yes	Output Charge Peak	40A
Battery Support/DC Supply Mode:	Yes	Output Start Peak:	N/A
Supply (Current):	4.3A	Type of Battery:	VRLA (Lead Acid): GEL: AGM/EFB: Lithium: Leisure (Deep Discharged):
Supply (Voltage):	230V		

## 4. CONTENTS



Item	Description	Part No. (see Parts List)
1	Support Unit	BSCU40A
2	Power cable and plug	BSCU40A-22 (not shown)
3	Output clamps and eyelets with EC5 connection	BSCUA40A-23
4	Temperature sensor cable	BSCU40A-24 (not shown)

## 5. OPERATION

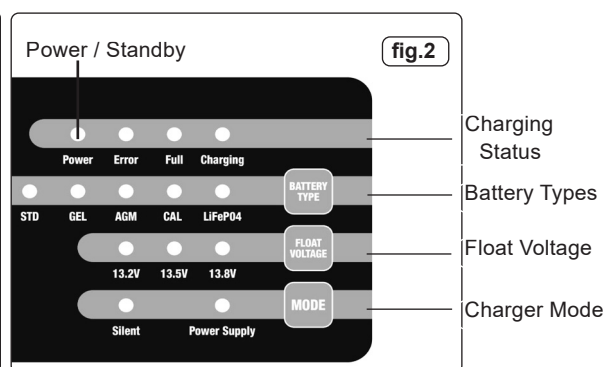
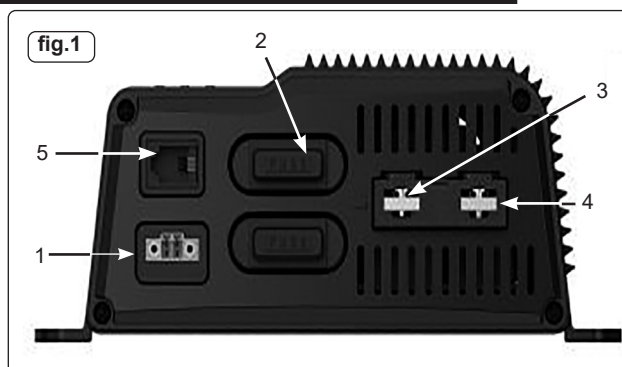


FIG.1 KEY

Item No.	Description
1	Temperature Sensor Socket
2	Fuse Holders
3	Negative Terminal
4	Positive Terminal
5	NOT USED

### 5.1. CONNECTING THE CLAMP CABLES TO THE CHARGER.

- 5.1.1. Unscrew the clamping screw on the positive and negative terminals (fig.1.3 fig.1.4).
- 5.1.2. Locate cable eyelets over tapped holes and replace screws to securely hold cables in place.

### 5.1.3. CONNECTING THE CHARGER TO THE BATTERY.

- 5.1.4. The charger's output leads have red and black crocodile clips, (red-positive and black- negative). Determine which post of the battery is grounded (connected) to the chassis.

### 5.2. FOR BATTERIES MOUNTED INSIDE A VEHICLE.

- 5.2.1. Connect the red crocodile clip to the battery's positive pole.
- 5.2.2. Connect the black crocodile to the vehicle chassis, away from the fuel pipe and the battery.
- 5.2.3. Connect the charger to the wall socket.

### 5.3. FOR POSITIVELY EARTHED BATTERIES.

- 5.3.1. Connect the black crocodile clip to the battery's negative pole.
- 5.3.2. Connect the red crocodile clip to the vehicle chassis, away from the fuel pipe and the battery.
- 5.3.3. Connect the charger to the wall socket.

### 5.4. Connect the charger to AC power socket and operate the On/Off switch. The LED power and standby light (fig.2) will light.

- 5.4.1. Press the "Battery Type" button to select battery type (fig.2). NOTE: Only one battery at a time can be charged.
- 5.4.2. Stop charging at any time by switching the On/Off switch to off to return to standby mode.
- 5.4.3. When disconnecting the charger, please disconnect AC cord first, remove clip from vehicle chassis, and then remove clip from battery terminal. **DO NOT** charge the battery while the engine is operating.

### 5.5. MEMORY FUNCTION.

- 5.5.1. This charger has memory function. When the charger is connected next time, it will continue to charge on the mode you used last.

### 5.6. TEMPERATURE COMPENSATION.

- 5.6.1. When charging STD, AGM, or Calcium battery, the NTC temperature sensor works automatically and will adjust the max voltage according to the ambient temperature.
- 5.6.2. Place the temperature sensor in the positive crocodile clip or as close to the battery as possible.

### 5.7. COOLING FAN

- 5.7.1. The fan is automatically turned on when the output current >3 Amp, and turned off when the output current < 2.5 Amp.

## 6. MAINTENANCE

- 6.1. With only minimal maintenance, this Battery Charger will deliver years of dependable service.
- 6.2. Follow these simple steps to maintain the charger in optimum condition:
- 6.2.1. After each use, clean the battery charger clamps - be sure to remove any battery fluid that will cause corrosion of the copper clamps.
- 6.2.2. Clean the outside case of the charger with a soft cloth and, if necessary, mild soap solution.
- 6.2.3. Keep the charger cords loosely coiled during storage to prevent damage to the cords.
- ☐ **DO NOT** use the charger if cords or clamps have been damaged in any way. If the power supply cord is damaged, it must be replaced by the manufacturer, its service agent or qualified person in order to avoid a hazard.

## 7. TROUBLE SHOOTING

LED Light					Status
Power LED	Error	Full	Chargng	STD/GEL/ AGM/CAL/ LiFePO4	
On	Off	Off	Off	Off	Powered on, on Standby Mode
On	Off	Off	On	On	Charging the battery.
On	Off	On	Off	On	Float-charging the battery
On	On	Off	On	On	Reverse polarity/short-circuit and over temperature happens

Error	Charger Status	Solution
Reverse Polarity	Fault LED light on, Stop output	Disconnect the terminal wires and correctly reconnect them again. The charger will be back to Standby Mode.
Short-circuit	Fault LED light on, Stop output	
Over temperature	Fault LED light on, Stop output	Disconnect the plug and terminal wires for cooling the Device and when the temp is normal, reconnect the charger..

Power Supply LED	In this mode, the charger does not need to detect the battery and can directly perform voltage output. However, if the operation is not proper, such as reverse connection, the fuse will burn or even make the charger broken, there is a certain risk, please choose cautiously.
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## 8. END OF LIFE

- 8.1. Dispose of unit in accordance with local and national regulations and contents of page footers WEEE and Environment Protection.



### 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.



### 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 24 months from purchase date, proof of which is required for any claim.



REGISTER YOUR PURCHASE HERE

Sealey Group, Kempson Way, Suffolk Business Park, Bury St Edmunds, Suffolk. IP32 7AR



01284 757500



sales@sealey.co.uk



www.sealey.co.uk