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Knowledgeable biologists depend upon **Smith-Root** equipment.

USER'S MANUAL

BC-24ps BATTERY CHARGER



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BC-24ps Battery Charger

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RELATED EQUIPMENT 6

Items manufactured by companies other than Smith-Root carry the original manufacturer’s warranty. Please contact product manufacturer for return instructions.

All Smith-Root, Inc. manufactured products are covered by a one year warranty.

Credit & Refund Policy: Customers returning equipment, in new condition, will be given credit to the applicable VISA/Master Card account within five days from the date of the return. A return authorization must accompany returns. Valid equipment returns include, but are not limited to, ordering incorrect equipment, funding deficits, and defective equipment returned for reimbursement. All returns are subject to a restocking fee and applicable shipping charges. The restocking fee is figured at 10% of the purchase price but not less than \$20.00. Customers receiving equipment in damaged condition will be referred to the shipping company for insurance reimbursement.

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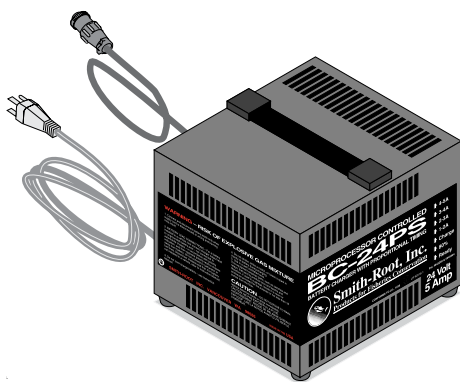
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BC-24ps Battery Charger

CHARGER DESCRIPTION

The Smith-Root BC-24PS (JP, EU) series chargers are a revolutionary concept in battery charger design. This high technology, compact device offers a number of benefits not found in conventional chargers.

The BC-24PS Battery Charger is designed to charge Batteries for the LR-24 Electrofisher System.



The BC-24PS is a truly automatic charger tailored for maintenance-free batteries as well as other types of lead acid batteries.

The BC-24PS has a fully automatic, three stage charge sequence with an electronically timed routine and a desulfation mode.

Stage 1 - Constant Current Mode. The charger starts with maximum current until the battery reaches a preset voltage.

Stage 2 - Timed Constant Voltage Mode. The charge is electronically controlled with a fixed voltage ceiling which prevents excess battery gas emission and over-charging.

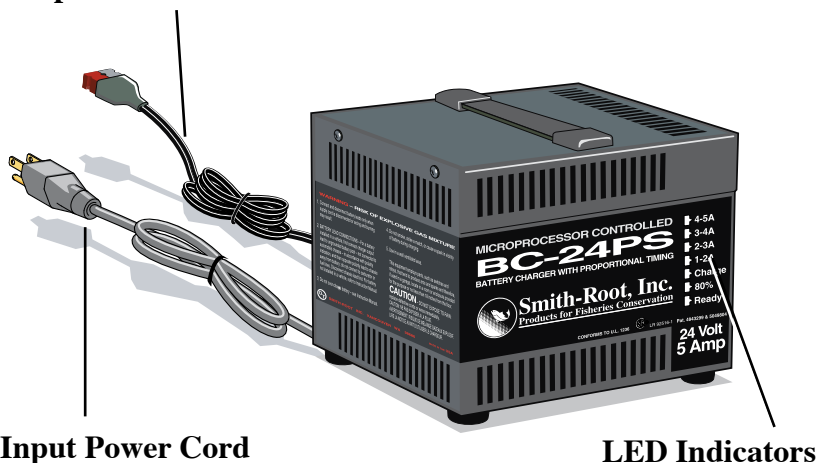
Stage 3 - Float/Standby Mode. In this mode a fixed ceiling of 2.3 volts per cell will be maintained by monitoring and replacing battery standing losses as necessary.

Full electronic protection is provided against short circuit and reverse battery connection.

BC-24ps Battery Charger

CONNECTORS AND INDICATORS

Output Cord & Connector



Input power cord: The input power plug is a standard 120VAC three-pin with ground. *Note: A cordset specific to the customer's specified country will be substituted when applicable.*

Output cord and connector: The connector on the end of the cord is wired to plug directly into the quick-disconnect connector on the battery pack.

Front panel indicators: The seven front panel indicator lamps are labeled to indicate the battery's state of charge.

Users that have an inventory of older style Smith-Root Electrofisher batteries that wish to charge and maintain them with the BC-24PS may do so using adapter cables available from SRI (See page 6).

BC-24ps Battery Charger

CHARGER OPERATING INSTRUCTIONS

This charger is suitable for use with all types of lead acid batteries, including the new types of maintenance free and gelled electrolyte batteries.

1. Connect charger to battery.
2. Connect the charger to the AC power supply and switch on. The state of charge is shown by the LED indicators on the battery charger as follows. The red "Charge" LED will light to indicate that the battery is correctly connected and is charging. During charging, the current flowing into the battery is indicated by the LED Amp Meter. This is the vertical group of four red LEDs located directly above the "Charging" LED. At the start of charge, if the battery is in normal condition, all four red LEDs will be on, and will gradually go out in sequence as the charge current drops and the battery approaches full charge. When the battery reaches an 80% level of recharge, the red "Charge" LED will go off and the yellow "80%" LED below it will come on. After a further time interval, the "80%" LED will go off and the green "Ready" LED will come on. The time interval for this final 20% of charge is automatically adjusted by the charger in proportion to the time taken to reach the 80% level.
3. The length of time needed for recharging will depend on the size and depth of discharge of the battery. A minimum of one hour is needed and full charging of a large battery may take up to 12 hours.
4. For best results, the charger should be allowed to complete its full cycle as indicated by the green "Ready" LED, and if possible, the battery should be left connected and on-charge permanently until it is required for immediate use. There is no need to switch off the charger to prevent over-charging.

BC-24ps Battery Charger

5. **IMPORTANT SAFETY NOTE:** When disconnecting the battery from the charger, switch off or unplug the AC supply to the charger first. This precaution will eliminate any risk of gas explosion due to arcing.

STORAGE INSTRUCTIONS

1. When not in use, store the charger indoors in a cool dry place, preferably with it's original packing and carton.
2. Place these instructions with the charger during storage.

MAINTENANCE AND CLEANING

Very little maintenance is required other than protecting the charger from damage and weather.

1. Coil cord when not in use.
2. Clean case and cords with a slightly damp cloth.
3. Examine cords for damage periodically and replace if necessary with manufacturer approved parts.

BC-24ps Battery Charger

SPECIFICATIONS:

There are 3 models of chargers:

BC-24PS

Input 117 Volts AC 60Hz, 200 VA

Output 5 Amps DC 24 Volts

Dimensions..... 6.5"W x 5.25"H x 6.0"D

Weight9.5 lbs.

BC-24PS-JP

Input 100 Volts AC 50/60Hz, 220 VA

Output 5 Amps DC 24 Volts

Dimensions..... 6.5"W x 5.25"H x 6.0"D

Weight9.5 lbs.

BC-24PS-EU

Input 115/230 Volts AC 50/60Hz, 220 VA

Output 5 Amps DC 24 Volts

Dimensions..... 6.5"W x 5.25"H x 6.0"D

Weight9.5 lbs.

BC-24ps Battery Charger

CHARGING OTHER SMITH-ROOT BATTERIES

The BC-24PS Battery Charger is designed to charge Batteries for the LR-24 Electrofisher System. However, users that have an inventory of older style Smith-Root Electrofisher batteries can charge and maintain them with the following adapters.

The Model 12 Adapter Cable (#07458) will allow you to charge Model 12 Batteries (#03298 & #02595) with the current model of BC-24PS.



Model 12
Adapter Cable

Also, the LR-24 Adapter Cable (#07459) will allow you to charge LR-24 Batteries with our older, Model 12 style BC-24 Battery Charger (#04954) with a 4-pin connector.



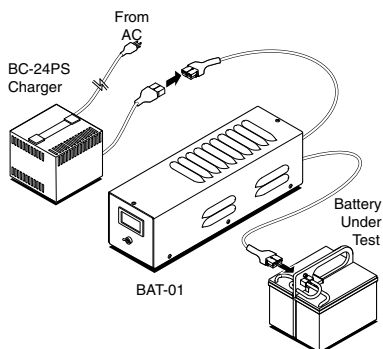
LR-24
Adapter Cable

LR-24 Adapter Cable.....#07459

Model 12 Adapter Cable.....#07458

BAT-01 BATTERY ANALYSIS TOOL

The Battery Analysis Tool is an additional module designed to operate with existing Smith-Root batteries and chargers. Its purpose is to test back-pack Electrofisher batteries, and to demonstrate in a clear concise manner the amount of usable life remaining in batteries being tested.



BAT-01#08041

Battery Cycle Notes

Use this form to record the number of times a battery has been cycled:

[illegible]

WARRANTY

Smith-Root, Inc. original products have a 1-Year Limited Warranty.

Smith-Root, Inc. warrants that its Products are free from defects in material and workmanship that result in Product failure during normal usage, according to the following terms and conditions:

1. The limited warranty for the Product extends for the length of ownership beginning on the date of the purchase of the Product by the original purchaser ("Consumer") of the Product and is not assignable or transferable to any subsequent purchaser or user.
2. The limited warranty extends only to Consumers who purchase the Product from Smith-Root, Inc. or an authorized distributor.
3. During the 1-year limited warranty period, Smith-Root, Inc. will repair, or replace, at Smith-Root, Inc.'s sole option, any defective parts, or any parts that will not properly operate for their intended use with new or refurbished replacement items if such repair or replacement is needed because of product malfunction or failure during normal usage. No charge will be made to the Consumer for any such parts. Smith-Root, Inc. will also pay for the labor charges incurred by Smith-Root, Inc. in repairing or replacing the defective parts. The limited warranty does not cover defects in appearance, cosmetic, labels or structural items, including framing, and any non-operative parts. Smith-Root, Inc.'s limit of liability under the limited warranty shall be the actual cash value of the Product at the time the Consumer returns the Product for repair, determined by the price paid by the Consumer for the Product less a reasonable amount for usage. Smith-Root, Inc. shall not be liable for any other losses or damages. These remedies are the Consumer's exclusive remedies for breach of warranty.
4. Upon request from Smith-Root, Inc., the Consumer must prove the date of the original purchase of the Product by a dated bill of sale or dated itemized receipt.
5. The Consumer shall bear the cost of shipping the Product to Smith-Root, Inc. Smith-Root, Inc. shall bear the cost of shipping the Product back to the Consumer after the completion of service under this limited warranty.
6. The Consumer shall have no coverage or benefits under this limited warranty if any of the following conditions are applicable:
 - a) The Product has been subjected to abnormal use, abnormal conditions, improper storage, exposure to moisture or dampness, unauthorized modifications, unauthorized connections, unauthorized repair, misuse, neglect, abuse, accident, alteration, improper installation, or other acts which are not the fault of Smith-Root, Inc., including damage caused by shipping.
 - b) The Product has been damaged from external causes such as collision with an object, or from fire, flooding, sand, dirt, windstorm, lightning, earthquake or damage from exposure to weather conditions, an Act of God, or battery leakage, theft, blown fuse, or improper use of any electrical source, or damage caused by the connection to other products not recommended for interconnection by Smith-Root, Inc.
 - c) Smith-Root, Inc. was not advised in writing by the Consumer of the alleged defect or malfunction of the Product within fifteen (15) days after the expiration of the applicable limited warranty period.
 - d) The Product serial number plate or the accessory data code has been removed, defaced or altered.
7. If a problem develops during the limited warranty period, the Consumer shall take the following step-by-step procedure:
 - a) The Consumer shall return the Product to Smith-Root, Inc. for repair or replacement processing.
 - b) The Consumer contacts the Customer Service Department at Smith-Root, Inc., at the number listed on the bottom of this page, for repair or replacement processing.
 - c) The Consumer shall ship the Product prepaid and insured. Expenses related to removing the Product from an installation are not covered under this limited warranty.
 - d) The Consumer will be billed for any parts or labor charges not covered by this limited warranty. The Consumer will be responsible for any expenses related to reinstallation of the Product.
 - e) Smith-Root, Inc. will repair the Product under the limited warranty within 30 days after receipt of the Product. If Smith-Root, Inc. cannot perform repairs covered under this limited warranty within 30 days, or after a reasonable number of attempts to repair the same defect, Smith-Root, Inc. at its sole option, will provide a replacement Product or refund the purchase price of the Product less a reasonable amount for usage.
 - f) If the Product is returned during the limited warranty period, but the problem with the Product is not covered under the terms and conditions of this limited warranty, the Consumer will be notified and given an estimate of the charges the Consumer must pay to have the Product repaired, with all shipping charges billed to the Consumer. If the estimate is refused, the Product will be returned freight collect. If the Product is returned after the expiration of the limited warranty period, Smith-Root, Inc.'s normal service policies shall apply and the Consumer will be responsible for all shipping charges.
8. The Product consists of newly assembled equipment that may contain used components that have been reprocessed to allow machine compliance with Product performance and reliability specifications.
9. ANY IMPLIED WARRANTY OF MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE OR USE, SHALL BE LIMITED TO THE DURATION OF THE FOREGOING LIMITED WRITTEN WARRANTY. OTHERWISE, THE FOREGOING LIMITED WARRANTY IS THE CONSUMER'S SOLE AND EXCLUSIVE REMEDY AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. SMITH-ROOT, INC. SHALL NOT BE LIABLE FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO LOSS OF ANTICIPATED BENEFITS OR PROFITS, LOSS OF SAVINGS OR REVENUE, PUNITIVE DAMAGES, LOSS OF USE OF THE PRODUCT OR ANY ASSOCIATED EQUIPMENT, COST OF CAPITAL, COST OF ANY SUBSTITUTE EQUIPMENT OR FACILITIES, DOWNTIME, THE CLAIMS OF ANY THIRD PARTIES, INCLUDING CUSTOMERS, AND INJURY TO PROPERTY, RESULTING FROM THE PURCHASE OR USE OF THE PRODUCT OR ARISING FROM BREACH OF THE WARRANTY, BREACH OF CONTRACT, NEGLIGENCE, STRICT TORT, OR ANY OTHER LEGAL OR EQUITABLE THEORY, EVEN IF SMITH-ROOT, INC. KNEW OF THE LIKELIHOOD OF SUCH DAMAGES. SMITH-ROOT, INC. SHALL NOT BE LIABLE FOR DELAY IN RENDERING SERVICE UNDER THE LIMITED WARRANTY, OR LOSS OF USE DURING THE PERIOD THAT THE PRODUCT IS BEING REPAIRED.
10. Some states do not allow limitation of how long an implied warranty lasts, so the above warranty limitation may not apply to you (the Consumer). Some states do not allow the exclusion or limitation of incidental and consequential damages, so certain of the above limitations or exclusions may not apply to you (the Consumer). This limited warranty gives the Consumer specific legal rights and the Consumer may also have other rights which vary from state to state.
11. Smith-Root, Inc. neither assumes nor authorizes any authorized service center or any other person or entity to assume for it any other obligation or liability beyond that which is expressly provided for in this limited warranty including the provider or seller of any extended warranty or service agreement.
12. This is the entire warranty between the Smith-Root, Inc. and the Consumer, and supercedes all prior and contemporaneous agreements or understandings, oral or written, relating to the Product, and no representation, promise or condition not contained herein shall modify these terms.
13. This limited warranty allocates the risk of failure of the Product between the Consumer and Smith-Root, Inc. The allocation is recognized by the Consumer and is reflected in the purchase price.
14. Questions concerning this limited warranty may be directed to: Smith-Root, Inc.

Smith-Root, Inc.
14014 NE Salmon Creek Ave.
Vancouver WA, 98686

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www.smith-root.com