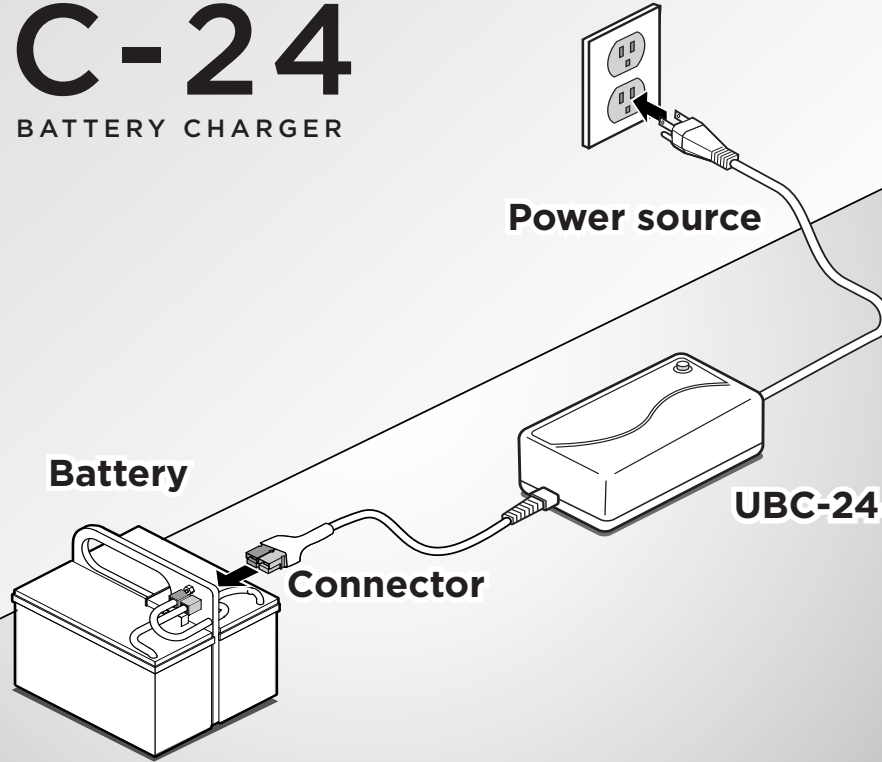


USER'S GUIDE UBC-24

UNIVERSAL BATTERY CHARGER



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CHARGER DESCRIPTION

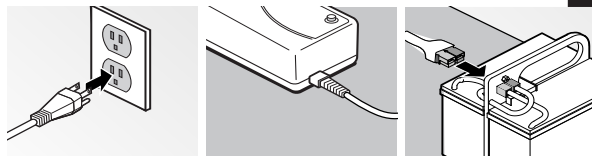
1



The UBC-24 Battery Charger is a fully-automatic charger designed to charge lead-acid and lithium batteries for the LR-24, LR-20 Series, APEX Backpack (and earlier Smith-Root 24V models) electrofisher systems utilizing a three-stage charging sequence.

OPERATIONAL INSTRUCTIONS

2



Read these instructions before using the charger

The battery charger is only designed for indoor use and should not come into contact with water or dust. In order to avoid overheating, the charger should not be covered when it is in use.

Chargers filled with molding material are splash-proof, but must not be immersed in water over long periods of time.

The wall socket should be easily accessible. If an operational error occurs, the plug should be immediately removed from the socket.

The charger contains dangerous voltages and the cover should not be removed. All service or maintenance work should be carried out by qualified personnel who can get assistance by contacting the manufacturer's agent.

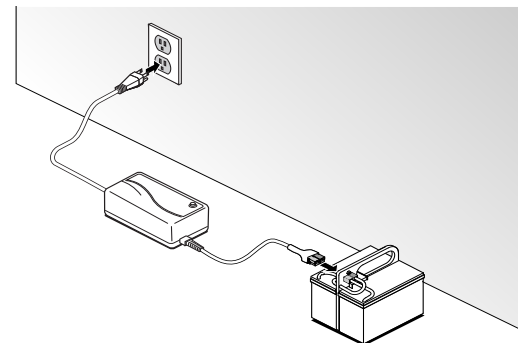
A fuse protects the product against short-circuiting and overloading.



CAUTION: Old lead-acid batteries usually have a reduced capacity and are difficult to charge. Batteries in this condition should be replaced.

HOW TO CHARGE BATTERIES

3



1. The charger and battery should be placed in a well-ventilated area during charging.
2. Do not connect the charger to the wall socket before it is connected to the battery.
3. Verify that the polarity is correct and connect the charger cable: Red to red; black to black.
4. Connect the charger to the wall socket.
5. When charging is finished, disconnect the charger from the wall socket, then disconnect the battery. Do not leave batteries on the charger once fully charged.



WARNING: Explosive gases can arise while charging lead-acid batteries. Avoid sparks and open flames. Verify that there is adequate ventilation while charging. The charger should not be used in the vicinity of flammable gases. Avoid contact with oils, grease, etc., as most types of plastic can be broken down by chemicals and solvents.

LEDS INDICATE FOLLOWING CHARGE STATUS

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FAST CHARGE

The charger is in constant current mode. Charge current is at its maximum.

FINAL CHARGE

The charger is in constant voltage mode. Charge current is less than its maximum.

The battery is normally 80-95% charged. The charger stays in this mode until the charge current decreases to charge termination level.

FLOAT (Standby/Ready)

The charger is in standby mode. The battery is fully charged. The LED changes to green. Remove battery from charger. Do not leave charged battery on charger for extended periods of time.



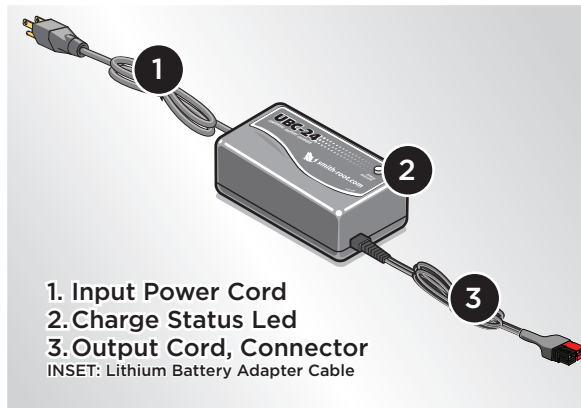
CONNECTORS AND INDICATORS

5

INPUT POWER CORD: The input power plug is a standard 120VAC three-pin with ground. Note: A cord-set specific to the customer's specified country will be substituted upon request.

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.

CHARGE STATUS LED: The top panel indicator LED indicates the battery's state of charge (see page 4).



CHARGING SRI LITHIUM BATTERIES

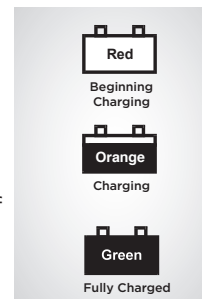
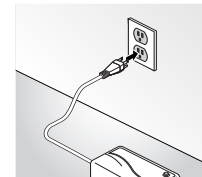
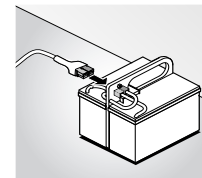
The use of any other charger than the UBC-24 to charge lithium batteries will result in damage. Do not use older style Smith-Root chargers for lithium batteries.

CHARGER OPERATING INSTRUCTIONS

6

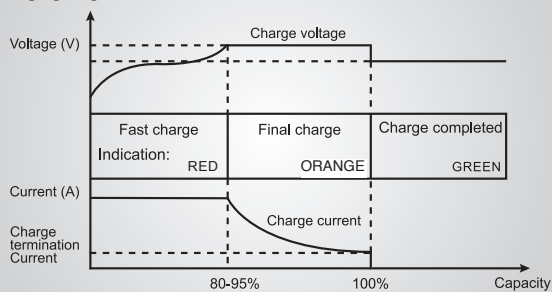
This charger is suitable for use with all types of lead acid and lithium batteries, including the new types of maintenance-free and gelled electrolyte batteries.

1. Connect charger to battery.
2. Connect the charger to the AC power supply. 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. The indicator LED will turn green when the battery is fully charged.
3. The length of time needed for recharging will depend on the size and depth of discharge of the battery. A 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 LED.



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.

Charging diagram



STORAGE INSTRUCTIONS

7

- When not in use, store the charger indoors in a cool dry place, preferably with its original packing and carton.
- 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.
- Coil cord when not in use.
- Clean case and cords with a slightly damp cloth.
- Examine cords for damage periodically and replace if necessary with manufacturer approved parts.

CHARGING OTHER SMITH-ROOT BATTERIES

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The UBC-24 Battery Charger is designed to charge batteries for LR-Series and APEX Backpack Electrofisher Systems.



For support with charging older style Smith-Root batteries, contact Smith-Root sales.

SPECIFICATIONS

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Input Rating:	Nominal 90-264VAC/47-63Hz
Maximum Output Power:	60W
Load Regulation:	<200mV
Line Regulation:	<100mV
Switch Frequency:	ffi40 kHz
Temperature Range:	-10°C to +40°C
Ripple:	<100mVp-p
Efficiency (At 100% Load):	80%
Insulation Class:	Class I
Electrical Safety:	UL 60601-1, EN 60601-1, EN 60950, EN 60335-2-29
EMC Standards:	EN 60601-1-2 (Medical), EN 61000-6-3 (Emission), EN 61000-6-1 (Immunity)
Timer:	2hr 330% (also available with other values)
Input Connection:	3 pin IEC 320 (input cordset not included)
Output Connection:	Battery clips
Dimensions/Weight:	5.31" x 3.15" x 1.73" (135 x 80 x 44mm)/ 0.77 lbs. (350g)

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

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 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.

BATTERY CYCLE LOG

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

DATE:	SERIAL #:	NOTES:
_____	_____	_____
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*To preserve the integrity of your UBC-24 instruction sheet, photocopy and print out this section for your own use.