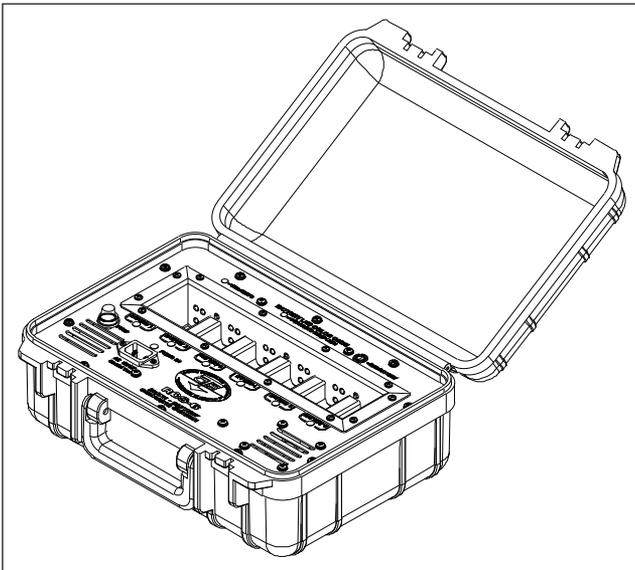


Undersea Systems International, Inc.,
dba
Ocean Technology Systems



RCS-6

**Universal Input
Multi-Battery Charging Station**



“Technology in Depth”

Undersea Systems International, Inc.

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Ocean Technology Systems

- IMPORTANT SAFETY NOTICE -

(Please read before using product.)

It is absolutely essential that all users are properly trained and equipped and fully understand the owner’s manual before attempting to use the RCS-6. Do not attempt to charge batteries before reading the operation instructions within this manual. Without following proper procedures, damage to the RCS-6, an explosion, and/ or injury may occur.

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P/N 506166-000 A

SECTION 1

INTRODUCTION

Congratulations! You have just purchased the finest state-of-the-art battery charging system available. The RCS-6 charger station is designed to simultaneously charge up to six RB-14 nickel-metal hydride batteries. Due to the smart computer-controlled algorithm and related circuitry, a RB-14 battery, depending on the age of the battery, can be fully charged in as little as 4 hours.

There are two charging modes, *fast* and *trickle*. LEDs assigned to each charging station (1–6) illuminate green when power is applied, and change to red when a battery is connected and charging in fast mode. When a battery is fully charged, charging reverts to a trickle and the LED reverts to green.

The charging station and accessories are illustrated in Figure 1.

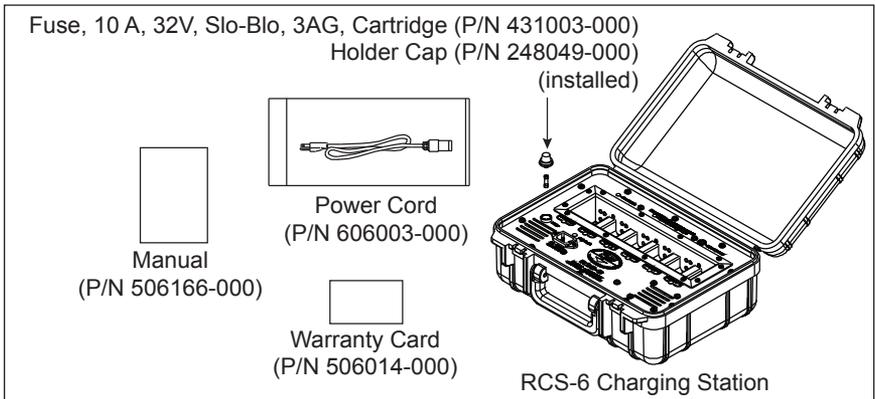


Figure 1: Package Contents

Please fill out the warranty card within 10 days of purchase and send in to the address on the card. You will need the serial number when filling out the warranty card. The serial number is engraved on the back of the charging station as shown in Figure 2.

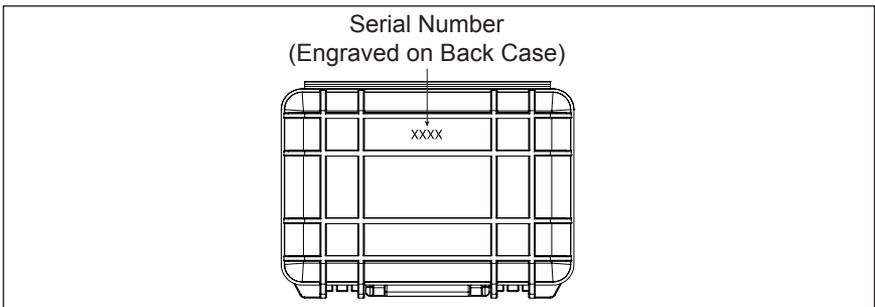


Figure 2: Location of Serial Number

SECTION 2

DESCRIPTION

The charger station's features and controls are shown in Figure 3, and its specifications are listed in Table 1. The charger is housed in sturdy housing, designed to be deployed easily in many locations around the world and on-board ship. The control panel is made of corrosion-resistant aluminum, but the charger is to be used indoors or in dry areas when aboard ship.

The internal power supply is designed to accept mains power from virtually all AC power sources found around the world. The unit comes with a universal panel AC connector and power cord for use in the United States and Canada. However, this cord can be modified for use with a different power source by cutting off the American standard plug and replacing it with the appropriate one for the desired mains power. The power supply will automatically detect the mains voltage and phase and adjust itself accordingly.

The Power On LED and six charging LEDs (one for each charging slot) illuminate when power is applied. The charging LED associated with a slot illuminates red when a battery is in the slot and receiving a fast charge. The charging LED illuminates green when fast charging is complete and the battery is fully charged, or if the slot is empty. If the charger detects a bad battery, the charging LED will blink from green to red.

To keep the system cool, the housing contains a fan. This fan draws air through slots on the right side of the control panel. The air passes over the main power supply heat sink, across six other heat sinks (one for each charging station), and out the slots on the left side of the control panel.

The charger works by detecting a condition common to all nickel-metal hydride batteries, known as Delta V. When a battery reaches maximum charge, its voltage no longer rises and either stays at steady level or begins to drop. The smart charger algorithm is designed to monitor this voltage and change to trickle mode when this condition is reached.

Note: Due to the self-discharge characteristics of Nickel Metal Hydride (NiMH) batteries, they should be charged when new and at least once a month thereafter to maintain service life.

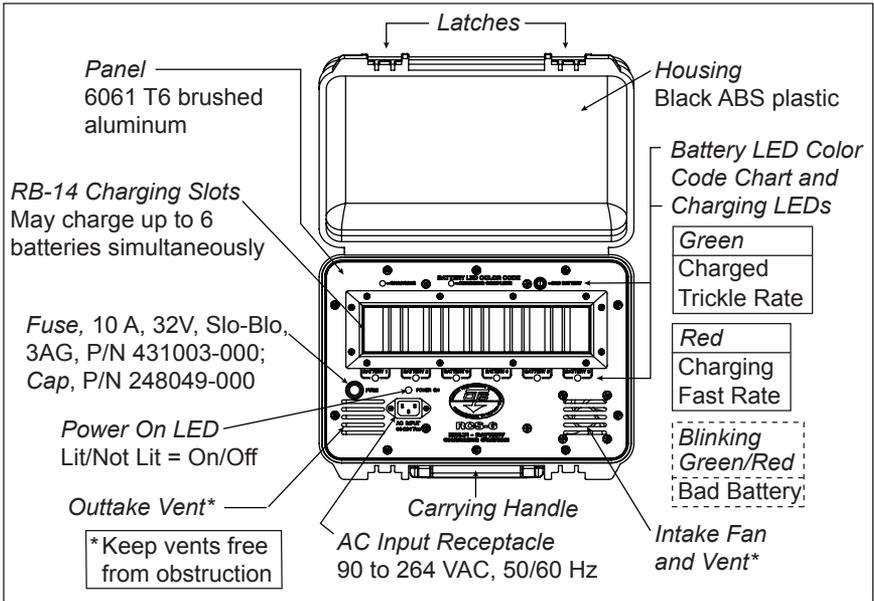


Figure 3. Features and Controls

Table 1. Specifications

Item	Description
Mains power	90 to 264 VAC @ 50/60 Hz
Number of charging slots	6
Fast charge current per station	750 milliamperes typical
Trickle-charge current per station	60 milliamperes
Housing	Underwater Kinetics #613 case, black ABS plastic
Control panel	6061 T6 brushed aluminum with clear anodized protective coating
Fuse	10A, 32V, Slo-Blo, 3AG Cartridge (P/N 431003-000)

SECTION 3

IMPORTANT SAFETY NOTES

1. DO NOT OPERATE IN RAIN OR ANY WET AREA! The housing is not sealed and is designed to be operated in a dry, indoor-type environment. *Severe shock or damage will occur if water or any liquids enter the housing.*
2. The charger should remain uncovered and properly ventilated while in use.
3. Do not leave batteries in charging slots when moving charger! Never close the unit with batteries in their charging slots.
4. Do not attempt to charge alkaline or other non-rechargeable batteries with the RCS-6. This smart charger is designed specifically for RB-14 batteries ONLY.
5. Occasionally, the power supply inside the charger will blow a fuse (located next to power plug). To replace fuse, turn cap counterclockwise 1/4 turn and pull outward. Replace fuse, then insert back into unit and turn 1/4 turn clockwise to fully close. The fuse is Slo-Blo, size 3AG, rated at 10A and 32V, and can be found at any local electronics supply house. You can also order this fuse from OTS (part number 431003-000).

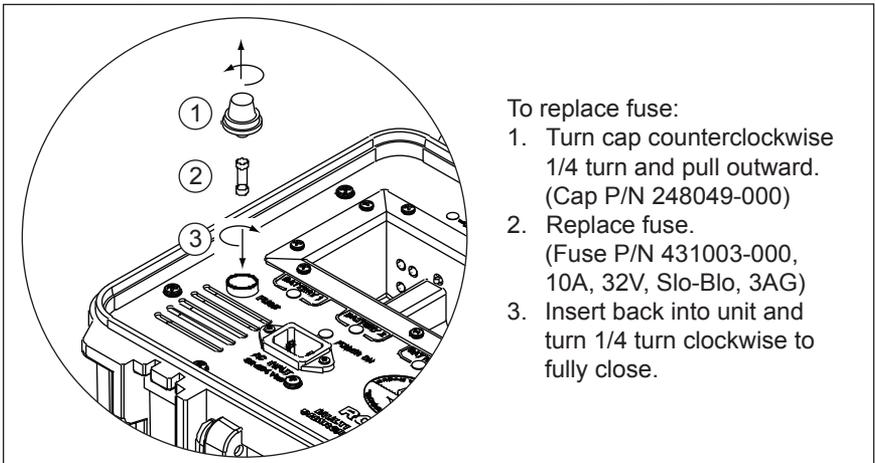


Figure 4: Replacing the Fuse

6. When cleaning the panel, use only a damp cloth. Do not use a saturated cloth, because water can drip on power supply components.

SECTION 4

CHARGER OPERATION

The charger operation is rather simple and straightforward. Follow the instructions on the inside lid of the charger, also listed below:

1. Connect 3-prong power cord (comes with power station) to the AC source and the other end into the RCS-6 charging station. A GREEN LED above the plug will light when mains power is on.
2. To charge the RB-14 battery (1 through 6 batteries may be charged at the same time), align contacts of the battery with charging slot's contacts and place battery in the slot.
3. Each LED cell light (Battery 1 through Battery 6) indicates charging status of cell. The LED of an empty bank will turn and stay GREEN. A cell being charged (fast cycle) will display a RED LED. Once the cell's charge cycle is complete, the charger will switch to "trickle" charge mode (to keep cell fully charged). This mode is indicated by a change in the LED from RED to GREEN.
4. A quickly alternating RED/GREEN (blinking) LED is displayed if a battery is defective/damaged.

NOTE: Allow a few hours of charge time if LED is blinking before confirming the cell is faulty. Cells can still turn to RED (charging) through that time.

- NOTICE -

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All statements, technical information, and recommendations herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed; and the following is made in lieu of all warranties, expressed or implied, including the implied warranties of merchantability and fitness for purpose: Seller's and Manufacturer's only obligation shall be to replace such quantity of the product proved to be defective. Before using, user shall determine the suitability of the product for intended use, and user assumes all risk and liability whatsoever in connection therewith. Neither Seller nor Manufacturer shall be liable either in tort or in contract for any loss or damage, direct, incidental, or consequential, arising out of the use of or the inability to use the product. No statement or recommendation not contained herein shall have any force or effect unless in an agreement signed by officers of the Seller and Manufacturer.

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LIMITED WARRANTY

Ocean Technology Systems' RCS-6 is fully warranted against defects in materials and workmanship for a period of one year from the time of purchase. Our obligation under this warranty is limited to the replacement of any part or parts that prove to our satisfaction to have been defective and that have not been misused or carelessly handled. Labor is warranted for one year from time of purchase. The complete unit and/or part must be returned to our factory, transportation charges pre-paid. We reserve the right to decline responsibility where repairs have been made or attempted by other than an Ocean Technology Systems factory-trained service center or properly trained personnel. In no event shall Ocean Technology Systems be liable for consequential damages.

You can now register your product online at the OTS Web site. Just visit
<http://www.otscomm.com/register1.html>.

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