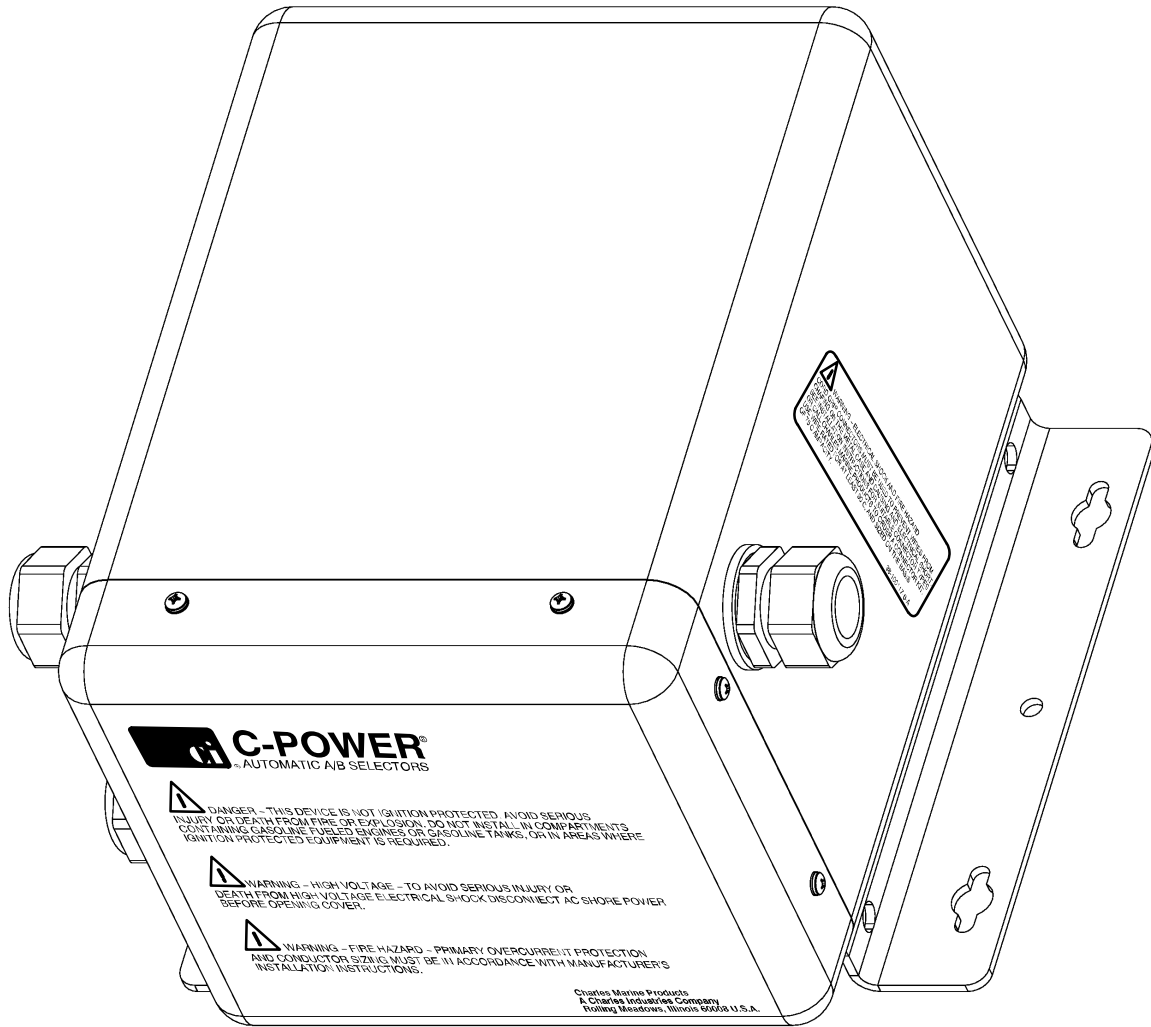


C-POWER®

AUTOMATIC A/B SELECTORS

INSTALLATION INSTRUCTIONS & OWNER'S MANUAL Models 93-ABSEL30/50-A and 93-ABSEL50I-A



Contents

INTRODUCING... THE A/B AUTO SELECTOR	3
Warranty/Registration	3
Manual Purpose	3
APPLICATION	3
IMPORTANT SAFETY INSTRUCTIONS	3
Warnings	3
Installation Precaution	3
Environmental Precaution	4
Application Precaution	4
Damaged Unit Precaution	4
Disassembly Precaution	4
MOUNTING	4
Choosing Mounting Hardware	4
Mounting the A/B Selector	5
Choosing the Appropriate Wire Type and Gauge	5
Choosing Electrical Wiring Hardware	5
Overcurrent Protection – Input	6
Making A/B Selector Connections	6
WARRANTY & CUSTOMER SERVICE	7
Warranty	7
Warranty Service and Repair	7
Customer Service	8
SPECIFICATIONS	8

INTRODUCING... THE A/B AUTO SELECTOR™

Thank you for purchasing the A/B Auto Selector! This A/B Selector allows you to automatically select one power source from two AC inputs.

Warranty/Registration

Before proceeding, complete and mail back the Warranty Registration card.

Manual Purpose

With your personal safety in mind, this manual lists important safety precautions first, then covers installation, operation, maintenance, troubleshooting, warranty, and customer service information.

APPLICATION

The A/B Selector automatically selects the first input AC from a possible 2 inputs.

IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS. This manual contains important safety and operating instructions for the A/B Selector. Read the entire manual before usage. Also read all instructions and cautions for and on the A/B Selector.

WARNING — HIGH VOLTAGE

To avoid serious injury or death from high voltage electrical shock, disconnect AC shore power before opening panel.

WARNING — ELECTRICAL SHOCK AND FIRE HAZARD

Cord grip connectors must be used to prevent wires from chafing on the metal case and causing an electrical short. See installation instructions for suitable connector types or call Charles Marine Products to order a connector kit.

Installation Precaution

Boat wiring is a complex task that can cause shock, corrosion and other hazards if not done properly by trained, experienced personnel. For more information on this subject contact the **American Boat and Yacht Council (ABYC)** or see the standards and regulations below:

American Boat and Yacht Council
E-8 “Alternating Current (AC)
Electrical Systems on Boats”

3069 Solomon’s Island Road
 Edgewater, MD 21037
 Telephone: 410.956.1050
 FAX: 410.456.2737

NFPA Standard 302.
“Pleasure and Commercial Motor Craft”

National Fire Protection Association
 1 Batterymarch Park
 P.O. Box 9101
 Quincy, MA 02269-9401
 Telephone: 800.344.3555

Rules and Regulations for Recreational Boats

Excerpts from the United States Code (USC) and the Code of Federal Regulations (CFR) (U.S. Coast Guard Regulations) are available from the **American Boat and Yacht Council** listed above.

Note: Installation of the A/B Selector must be made in accordance with all applicable standards and regulations.

Environmental Precaution

The A/B Selector is intended for installation inside an engine room or elsewhere inside the boat. Make sure that the location will not subject the unit to rain, snow, excessive moisture, or excessive heat.

Application Precaution

These units are intended for hard-wired, permanent, on-board applications. Use of attachments not recommended or sold by Charles Marine Products may result in risk of fire, electrical shock or personal injury.

Damaged Unit Precaution

Do not operate the A/B Selector if it has received a sharp blow, been dropped, immersed in water or otherwise damaged. See the section in this manual on *Warranty & Customer Service* for repair information.

Disassembly Precaution

Do not disassemble the A/B Selector. See the sections in this manual on *Maintaining the A/B Selector*, *Troubleshooting the A/B Selector* and *Warranty & Customer Service*.

MOUNTING

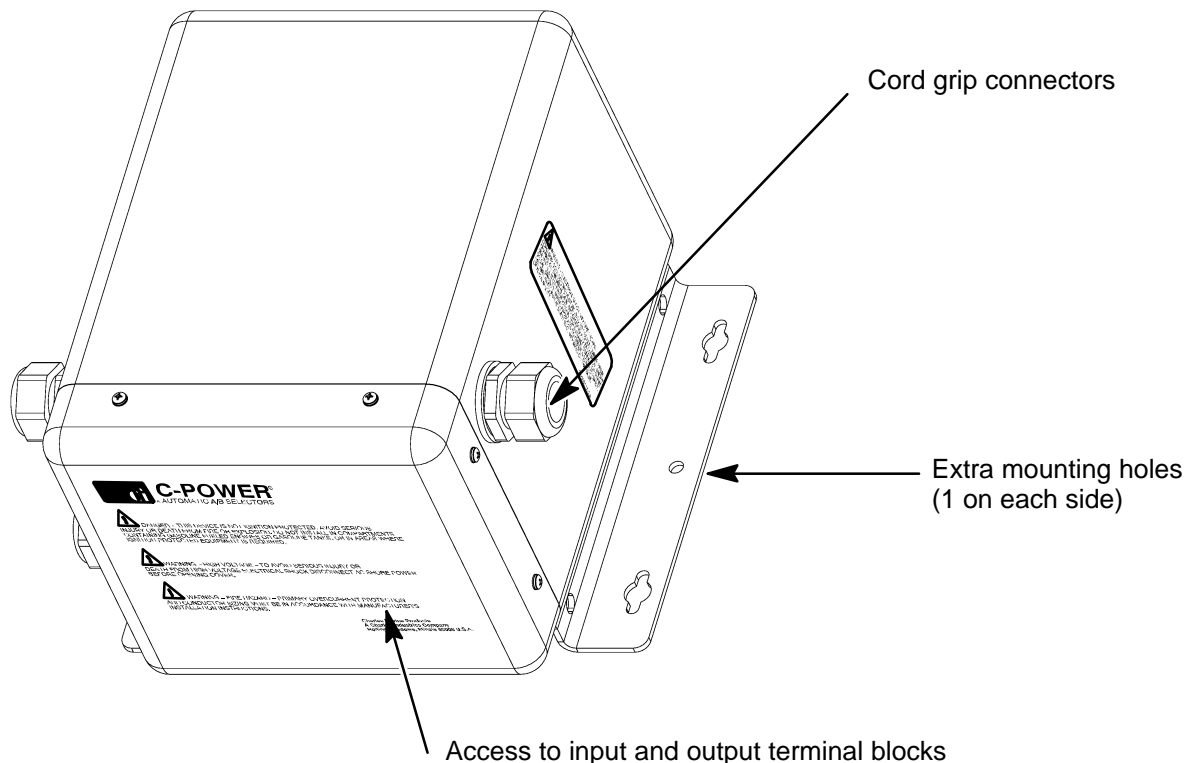


Figure 1. A/B Selector Access Openings

Choosing Mounting Hardware

As with any marine equipment, secure mounting is of utmost importance. You will need to provide four bolts or screws to secure the unit. They must be a 1/4-inch in diameter. The screws or bolts you choose should be backed with a flat washer and kept vibration-free with a split-ring lock washer. If using bolts, they must be secured on both sides of the bulkhead and also backed with a washer or washer plate. If using screws, they should be at least 1" long. All hardware must be corrosion-resistant stainless steel or cadmium-plated steel.

Mounting the A/B Selector

The A/B Selector may be mounted horizontally on a deck or vertically on a bulkhead.

Horizontal Mount

WARNING – ELECTRICAL SHOCK HAZARD

Use care when drilling to avoid contact with any wires or live components.

Step	Action
1.	Carefully lower and position the A/B Selector on the deck in the exact location the unit will be installed. <i>Note: The wiring enclosure should be visible and accessible.</i>
2.	Remove the A/B Selector and drill four marked holes with the proper-sized drill bit.
3.	Realign the A/B Selector's mounting holes with the drilled holes and fasten the unit to the deck with the appropriate mounting hardware.
4.	(optional) For extra protection, mount 2 extra screws through the holes in the base plate (see Figure 1).
5.	Firmly secure all mounting hardware.

Vertical Mount

WARNING – ELECTRICAL SHOCK HAZARD

Use care when drilling to avoid contact with any wires or live components.

Step	Action
1.	Carefully lower and position the A/B Selector on the bulkhead in the exact location the unit will be installed. <i>Note: The wiring compartment should be at the bottom to ensure proper cooling of the unit.</i>
2.	Remove the A/B Selector and drill four marked holes with the proper-sized drill bit.
3.	Realign the A/B Selector's mounting holes with the drilled holes and fasten the unit to the bulkhead with the appropriate mounting hardware.
4.	(optional) For extra protection, mount 2 extra screws through the holes in the base plate (see Figure 1).
5.	Firmly secure all mounting hardware.

Choosing the Appropriate Wire Type and Gauge

All input and output conductors should be at least 6 AWG, stranded, 600 volt rating, UL type AWM, UL 1426 or equivalent, or a UL listed marine shore power cable. See ABYC standard E-8 for more details on conductor types and sizing (gauge).

Note: Use UL Recognized ring or captive spade terminals for making all connections to the terminal block regardless of the wiring method chosen.

Choosing Electrical Wiring Hardware

Wiring should only be done with a jacketed cable (.030 inches jacket thickness minimum) such as UL type 1426 boat cable, or by using a UL listed marine cable set wire (type SO or equivalent). This wiring should be installed in the boat in a protected area and routed to avoid contact with sharp edges or hot surfaces.

WARNING – ELECTRICAL SHOCK HAZARD AND FIRE HAZARD

Cord grip connectors must be used to prevent wires from chafing on the metal case and causing an electrical short. See installation instructions for suitable connector types or call Charles Marine Products to order a connector kit.

The A/B Selector is intended for hard-wiring in a permanent location. Cord grip connectors with water sealing bushings and strain relief are required to secure wires or cables going into or out of the A/B Selector.

Charles Marine Products recommends the cord grip connector kit listed in Table 1.

Table 1. Recommended Cord Grip Connector and Accessories

Description	Part Number	Cord Type	Manufacturer	Catalog Number	Sealing Washer	Locknut
Cord Range .660-.780	97-001148-A	6/3 Cordset	Thomas & Betts	2675	5263	142

Various other cord grip connectors may be suitable for use with the A/B Selector. Contact Charles Marine Products customer service for information.

Overcurrent Protection – Input

Overcurrent protection must be provided at the time of installation by a circuit breaker on the primary (shore) supply circuit. A two-pole shore power main circuit breaker is required for the shore power line going into the A/B Selector. For 120-volt, 30-amp service, this should be rated at 30 amps, 120 volts, 3000 Ampere Interrupting Capacity (AIC) and be of the long-time delay type. For 240 volt (or 220 volt), 50-amp service, this should be rated at 50 amps, 240 volts, 3000 AIC and be of the long-time delay type.

Making A/B Selector Connections

WARNING – HIGH VOLTAGE

To avoid serious injury or death from high voltage electrical shock, disconnect AC shore power before opening panel.

The wiring installation will depend on the method chosen in the section titled *Choosing an Electrical Wiring Method*. Follow the procedure below to make the appropriate connections.

Step	Action
1.	Remove the access cover.
2.	Install the cord grip connectors using the sealing gaskets and locknuts.
3.	Undo the chucks from the cord grip connectors.
4.	Slide the cord grip connectors down and over the cables from the primary (shore power) circuit breaker and to the secondary (boat) circuits.
5.	Insert the cables through the cord grip connectors and cut to length.
6.	Strip back the insulation.
7.	Use UL Recognized ring or captive spade terminals for making all connections.
8.	Connect all wiring based on the chosen wiring method.
9.	Tighten the cord grip connectors.
10.	Reinstall the access cover.

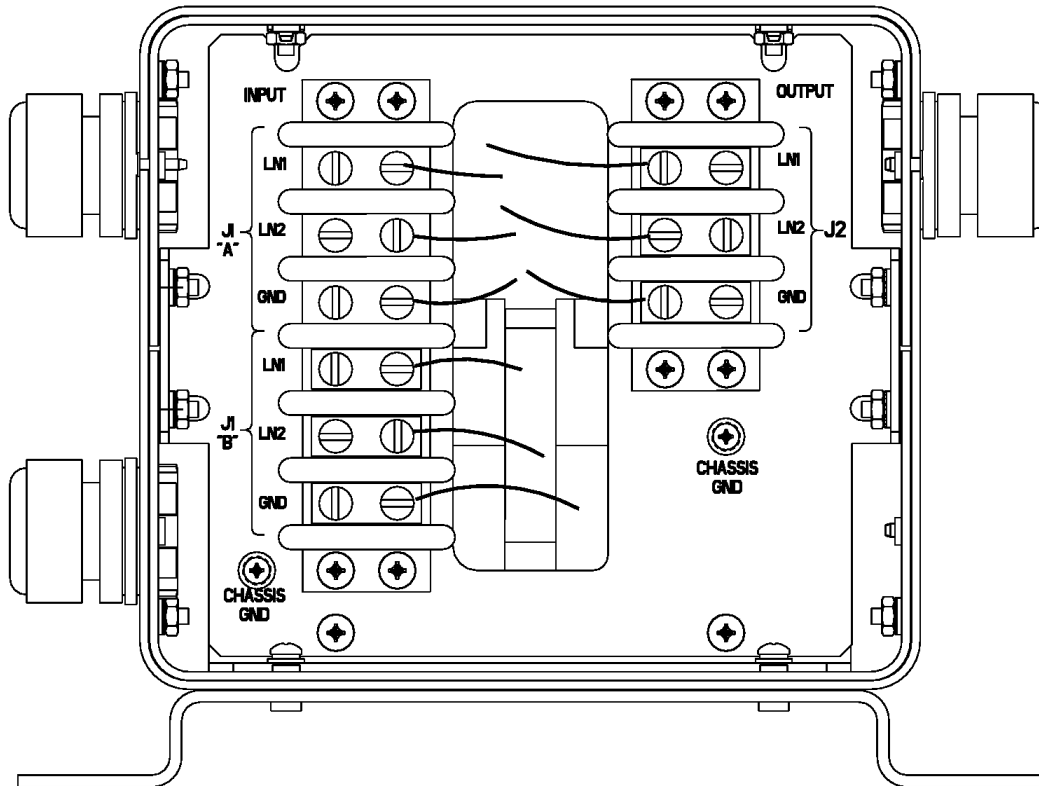


Figure 2. Typical Wiring of A/B Selector

WARRANTY & CUSTOMER SERVICE

Warranty

CHARLES MARINE PRODUCTS warrants the A/B Selector will be free from defects in materials and workmanship which cause mechanical failure for one (1) year, as set forth in the Limited Warranty. Review this warranty carefully for information on what is covered by its terms. Complete and return the warranty registration card within ten (10) days of purchase to establish proof of ownership and validate the warranty coverage. You must provide notice of any alleged defect in material of workmanship within thirty (30) days of discovering the problem, and within the warranty period. Follow the procedure outlined below to obtain warranty service.

Warranty Service and Repair

If the unit fails to operate properly after following all the instructions in the manual, or if the A/B Selector requires service, take the following steps:

1. Contact Charles Marine Products Customer Service and obtain a "Returned Goods Authorization" (RGA) number and a Service Center address
2. Ship or mail the A/B Selector together with the RGA to the appropriate Service Center. Shipping costs to and from the Service Center are your responsibility
3. When service is completed, Charles Marine Products will return the A/B Selector to you.

Customer Service

If technical assistance or customer service is required, contact Charles Marine Products at:

(800) 830-6523 (Customer Service)

(217) 932-2317 (FAX)

For correspondence only, mail to:

Charles Marine Products
 Charles Center
 5600 Apollo Drive
 Rolling Meadows, IL 60008-4049
 U.S.A.

SPECIFICATIONS

The specifications for the A/B Selector are listed in Table 2.

Table 2. A/B Selector Specifications

Feature	U.S.	Metric
Input Voltage	120/240 VAC	
Input Current	30/50 Amps	
Output Voltage	120/240 VAC	
Output Current	30/50 Amps	
Operating Frequency	50/60 Hz	
°C Rise Insulation System 220A	248° F	120° C
Operating Temperature	32° to 122° F	0° to 50° C
Approximate Weight	12 pounds	5.44 kilograms
Height	8 inches	20.32 centimeters
Width	10.5 inches	26.67 centimeters
Width (excluding the mounting flange)	8 inches	20.32 centimeters
Depth	10.5 inches	26.67 centimeters

