C-Series Magnetic Circuit Breaker Panel

50 to 300 Amperes

Panel Specifications
- **Material:** 0.125" 5052-H32 Aluminum Alloy
- **Primary Finish:** Chemical Treatment per Mil Spec C-5541C
- **Final Panel Finish:** Graphite color 2 part textured Polyurethane
- **Circuit Breakers:** Blue Sea Systems / Carlingswitch High-Load™ C-Series Magnetic 65VDC Maximum
- **Voltage Rating:** Panels are rated for 12 volts DC and are so marked in order to comply with ABYC standards
- **Overall Dimensions:** 95.30 x 133.40
- **Mounting Centers:** 74.60 x 112.70

C-Series Magnetic Circuit Breaker Panels
- 50 to 300 Ampere range provides overcurrent protection previously only available in fuses for:
  - Inverters
  - Bow Thrusters
  - Windlasses
- Combines switching and circuit protection into a single device
- “Trip Free” - Cannot be held closed after trip
- LED indicates power “ON”

Applicable Standards
- United States Coast Guard 33 CFR Sub Part 1, Electrical Systems.

Related Products from Blue Sea Systems
- PanelBack Insulating Covers
- High Amperage Fuses and Circuit Breakers for positive feed wires
- High Amperage Battery Switches
- Terminal Blocks and Common Bus Connectors
- AC Distribution Panels
- DC Distribution Panels
- AC and DC Digital and Analog Voltmeters and Ammeters

**Guarantee**
Any Blue Sea Systems product with which a customer is not satisfied may be returned for a refund or replacement at any time.

**Useful Reference Books**

**Wire Sizing Chart**

1. Calculate the maximum sustained amperage of the circuit. Measure the length of the circuit from the power source to the load and back.
2. Decide whether the circuit runs in an engine space or non engine space. Engine spaces are assumed to be at 50 degrees C, non engine spaces are assumed to be at 30 degrees C.
3. Multiply the maximum current times the length of the circuit to calculate Amps (feet x amps).
4. Base the wire on either the 3% or 10% voltage drop. In general, items which affect the safe operation of the boat and its passengers (running lights, bilge blowers, electronic and distribution panel supply circuits) use 3%; all other loads use 10% (cabin lights, bait pumps).
5. Starting in the column which has the right voltage and voltage drop shown at the top, run down the list of numbers until arriving at a value which is greater than the calculated Amps. Move left to the Ampacity column to verify that the total amperage of the circuit does not exceed the maximum allowable amperage of the wire size for that row. If it does, move down until the wire ampacity exceeds the circuit amperage. Finally, move left to the wire size column to select the wire size.

**Examples**
- A 12 volt system at 10% drop with a 40’ circuit x 45 amps = 1800 Famps. A wire size of 8 is required.
- A 24 volt system at 3% drop with a 10’ circuit x 100 amps = 1000 Famps. A wire size of 6 is required.
1. Disconnect all DC power
Before starting, disconnect the main positive cable from all batteries to eliminate the possibility of a short circuit while installing the C-Series magnetic circuit breaker panel.

2. Select mounting location and cut opening
Select a mounting location which is protected from water on the panel front and back and is not in an area where flammable vapors from propane, gas or lead acid batteries accumulate.

Using the panel template provided, make a cut out in the mounting surface where the distribution panel is to be mounted. Do not yet fasten the panel to the mounting surface.

3. Install positive feed wires
Determine the positive (red) wire size by calculating the total amperage of the circuits that will be routed through the C-Series magnetic circuit breaker using the Wire Sizing Chart. Remember that the length of the circuit is the total length of the positive wire from the power source to the device and the length of the negative wire back to the DC negative bus.

Rotating the line positive bus on the line side of the breaker 180 degrees will allow the line positive and load positive wires to hang down from the panel without interfering with each other. If rotated retorque the 1/4-20 Nuts to 35 inch lbs.

Connect the line positive and load positive wires to the C-Series magnetic circuit breaker. DO NOT make any connections to the coil shunt (see diagram below).

4. Install LED negative feed wire
Use a 16 AWG wire to connect the LED negative feed (Black) wire to a DC negative bus.

5. Optional labels
The panel is supplied with a blank label. Individual labels are available from Blue Sea Systems for specific applications. Refer to the label order form included with the panel for a complete listing of individual labels.

6. Mount Panel
Use the panel mounting screws supplied with the panel to screw the panel to the mounting surface.

**WARNING!**

☑ This is a DC device! It should not be confused with AC double pole circuit breakers used for simultaneously breaking AC hot and neutral circuits.

☑ Do not make any connections to the coil shunt (see diagram).

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**Wiring Diagram**

DC C-Series Magnetic Circuit Breaker Panels
(300 Amp Shown)