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Document 9743 Rev.F

WARNING

It is not possible within the scope of these instructions to fully acquaint the installer with all the knowledge of electrical systems that may be necessary to correctly install this product. If the installer is not knowledgeable in electrical systems we strongly recommend that an electrical professional be retained to make the installation.

If either the C-Series Toggle Circuit Breaker front or back is to be exposed to water it must be protected with a waterproof shield.

The C-Series Toggle Circuit Breaker must not be installed in explosive environments such as gas engine rooms or battery compartments as the circuit breakers are not ignition proof.

The main positive connection must be disconnected at the battery post to avoid the possibility of a short circuit during the installation of this circuit breaker.

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


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

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 Famps (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, electronics 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 Famps. 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 ampereage. Finally, move left to the wire size column to select the wire size.

Examples

a. A 12 volt system at 10% drop with a 40’ circuit x 45 amps = 1800 Famps. A wire size of 8 is required.

b. A 24 volt system at 3% drop with a 10’ circuit x 100 amps = 1000 Famps. A wire size of 6 is required.
Installation

1. **Disconnect all DC power**
   Before installing, disconnect the main positive cable from all batteries to eliminate the possibility of a short circuit while installing the circuit breaker.

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, gasoline or lead acid batteries accumulate.

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 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 re-torque the 1/4-20 Nuts to 35 inch lbs maximum.

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

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**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).