

DC Main

Battery switches conduct current from battery banks to DC Main circuit protection. They also isolate the potentially destructive energy when the boat is not in use or during emergencies. Blue Sea Systems solenoid and remote battery switches enable the user to exercise remote electrical control over battery banks instead of relying on proximal mechanical operation. DC Main circuit protection devices have high ampere interrupt capacity (AIC). Automatic charging relays (ACR) distribute charging source energy to the battery banks.



DC Main Table of Contents



BATTERY SWITCHES
pages 25–28



BATTERY MANAGEMENT PANELS
pages 29–30



SOLENOID SWITCHES
pages 31–32



REMOTE BATTERY SWITCHES
page 33



AUTOMATIC CHARGING RELAYS
pages 34–36



BATTERY MANAGEMENT SOLUTIONS
page 37



CIRCUIT BREAKERS
pages 38–43



FUSE BLOCKS AND FUSES
pages 44–47

Introduction—Battery Switches

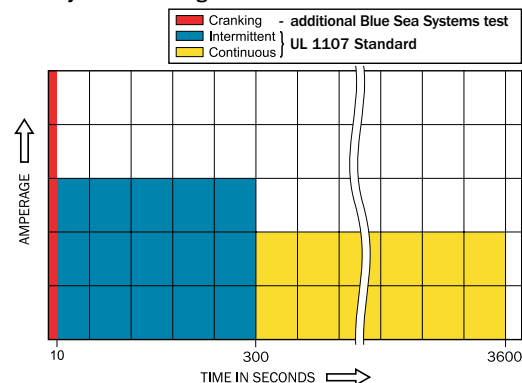
Battery Switches

Purpose

Battery switches isolate the potentially destructive energy in the battery banks when the boat is not in use or during emergencies. *ABYC 11.7.1.2.1. A battery switch shall be installed in the positive conductor(s) from each battery or battery bank with a CCA rating greater than 800 Amperes.*

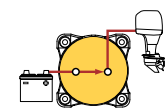
Battery Switch Ratings. The UL standard for marine battery switches is UL 1107. This standard rates switches for 5 minute and 1 hour time periods. These ratings are not useful for the boater using a switch in the engine starting circuit where current durations may be 10 seconds or less. For this reason, Blue Sea Systems has created an additional test, consisting of a high amperage load during a cranking period of 10 seconds. This is representative of the load imposed on a battery switch in the starting circuit under very difficult starting conditions. Blue Sea Systems battery switches, in addition to being tested to UL 1107, are also tested to this cranking amperage. When determining the proper size battery switch, consult your engine manufacturer for the amperage requirements of your engine starting motor.

Battery Switch Testing



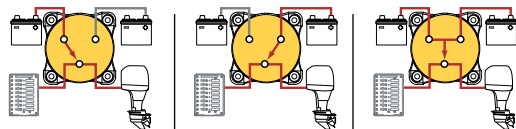
Battery Switch Operation Diagrams

SINGLE CIRCUIT—switches a single battery to a single load group



Switch Set to "ON"

SELECTOR 4 Position—switches or combines battery banks to all loads

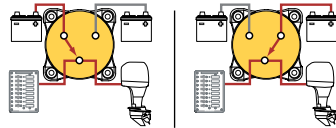


Switch Set to "1"

Switch Set to "2"

Switch Set to "1+2"

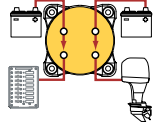
SELECTOR 3 Position—switches battery banks to all loads



Switch Set to "1"

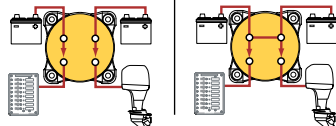
Switch Set to "2"

DUAL CIRCUIT™—simultaneously switches two isolated battery banks (No Combine Function)



Switch Set to "ON"

DUAL CIRCUIT PLUS™—simultaneously switches two isolated battery banks



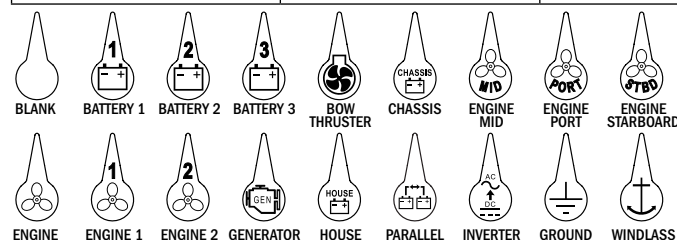
Switch Set to "ON"

Switch Set to "COMBINE BATTERIES"



Blue Sea Systems One-Piece Terminal Stud Design

m-Series	e-Series	HD-Series
Outboards and small inboards	Inboards and diesel engines	Large diesel engines
300 Amps	350 Amps	500–600 Amps
 6006	 9003E	 3000
 6005		
 6007	 9001E	 3002
	 11001	 11003
 6010	 5510E	
 6011	 5511E	



7902 ICON Circuit Identification Label Kit (Sold Separately) page 83

Battery Switches

m-Series Battery Switches (mini)

300 Ampere Continuous Rating for outboards and small gasoline or diesel engines

Common Features

- Tin-plated copper studs for maximum conductivity and corrosion resistance
- Studs accept 3/8" (M10) ring terminals
- Blue Sea Systems one-piece terminal stud design never loosens over time
- 7/8" (22.22mm) stud length accepts multiple cable terminals
- Isolating cover with three snap-in side pieces protects rear contacts and allows wire access in any direction
- Case design allows surface, rear, or front panel mounting options
- Label with international legends—6 ICON label set included for circuit identification*

Key to Specific Features

- Removable key remains positively retained
- Removable knob remains positively retained and tactile indicator conveys position by feel
- Make-before-break contact design allows switching between battery banks without power interruption

Specifications

	6005-6007	6010-6011
I₁₀ Cranking Rating: 10 sec.	1,500 Amps	1,000 Amps†
I₃₀₀ Intermittent Rating: 5 min.	500 Amps	450 Amps†
I_c Continuous Rating	300 Amps	300 Amps†
V_{mxo} Voltage Maximum Operating	48 Volts DC	32 Volts DC
Terminal Stud Size	3/8"-16 (M10)	3/8"-16 (M10)
Terminal Stud Torque	120 in-lb (13.56 N·m) max.	120 in-lb (13.56 N·m) max.
Mounting Holes:	Accept #10 Screw	Accept #10 Screw
Cable Size to Meet Ratings*	4/0 AWG (95mm ²)	4/0 AWG (95mm ²)
Cable Clearance For 4/0 Cables	1.12" (28.4mm)	1.12" (28.4mm)

Regulatory

- CE marked, ISO 8846
 - UL Listed - UL 1107 electric power switches
 - Meets American Boat and Yacht Council (ABYC) requirements
- Meets UL 1500 and SAE J1171 external ignition protection requirements



6011



6006200



Available with or without removable cover pieces



6005*



6006



6007



6010



6011

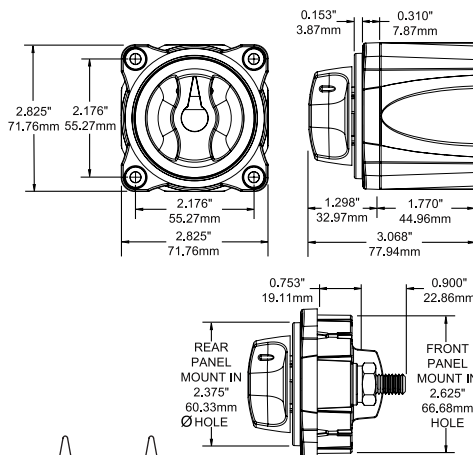
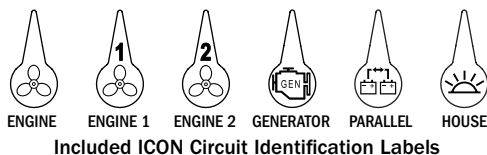


9159

Switch PN		Specific Features	Name	Switch Positions	Battery Inputs	Battery Combine	Weight lb (kg)
Red	Black						
6005	6005200		SINGLE CIRCUIT	2	1	-	0.62 (0.28)
6006	6006200		SINGLE CIRCUIT	2	1	-	0.65 (0.29)
6007	6007200		SELECTOR—4 Position	4	2	Yes	0.77 (0.35)
6010	6010200		DUAL CIRCUIT™	2	2	-	0.80 (0.36)
6011	6011200		DUAL CIRCUIT PLUS™	3	2	Yes	0.80 (0.36)
7901	7901200		Spare Knob	-	-	-	0.10 (0.05)
7900	7900200		Spare Key	-	-	-	0.10 (0.05)
9159	-	-	Paralleling Link Bus	-	-	-	0.14 (0.06)

Additional ICON Circuit Identification Label Kit 7902 available (page 83)

See pages 5-8 for a full selection of related products located in the 360 Panel System section of this catalog.



* 6005 includes illustrated ON-OFF label only | † Per Circuit | ‡ Reducing cable size will reduce current rating

Specifications subject to change. See www.bluesea.com for current information.

Battery Switches



C-Series Battery Switches

350 Ampere Continuous Rating for inboard gasoline and diesel engines

Common Features

- Tin-plated copper studs for maximum conductivity and corrosion resistance
- Studs accept 3/8" (M10) ring terminals
- 7/8" (22.22mm) stud length accepts multiple cable terminals
- Blue Sea Systems one-piece terminal stud design never loosens over time
- Case design allows surface or rear panel mounting options
- Fits most Perko and Guest low amperage battery switch hole patterns
- Label with international legends
- Tactile indicator conveys knob position by feel

Key to Specific Features

-  Alternator Field Disconnect (AFD)
-  Make-before-break contact design allows switching between battery banks without power interruption

Specifications

I₁₀ Cranking Rating: 10 sec.
I₃₀₀ Intermittent Rating: 5 min.
I_c Continuous Rating
V_{max} Voltage Maximum Operating
 Terminal Stud Size
 Terminal Stud Torque
 Mounting Holes
 Cable Size to Meet Ratings†
 Cable Clearance For 4/0 Cables


9001E-9004E
9001E200-9004E200
11001

2,000 Amps
 600 Amps
 350 Amps
 48 Volts DC
 3/8"-16 (M10)
 140 in-lb (15.82 N·m) max.
 Accept 1/4" (M6) Screw
 4/0 AWG (95mm²)
 1.10" (27.9mm)

5510E-5511E
5510E200-5511E200

1,000 Amps*
 525 Amps*
 350 Amps*
 32 Volts DC
 3/8"-16 (M10)
 140 in-lb (15.82 N·m) max.
 Accept 1/4" (M6) Screw
 4/0 AWG (95mm²)
 1.10" (27.9mm)

Regulatory

- CE marked, ISO 8846
- UL Listed - UL 1107 electric power switches
- Meets American Boat and Yacht Council (ABYC) requirements
-  Meets UL 1500 and SAE J1171 external ignition protection requirements



5511E



5511E200



9003E



9001E













11001



5510E

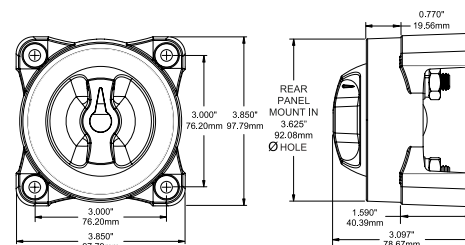


5511E

Switch PN		Specific Features	Name	Switch Positions	Battery Inputs	Battery Combine	Weight lb (kg)
Red	Black						
 9003E	9003E200	-	SINGLE CIRCUIT	2	1	-	0.95 (0.43)
9004E	9004E200		SINGLE CIRCUIT	2	1	-	0.95 (0.43)
 9001E	9001E200		SELECTOR—4 Position	4	2	Yes	1.15 (0.52)
9002E	9002E200		SELECTOR—4 Position	4	2	Yes	1.15 (0.52)
 11001	-		SELECTOR—3 Position	3	2	-	1.15 (0.53)
 5510E	5510E200	-	DUAL CIRCUIT™	2	2	-	1.16 (0.53)
 5511E	5511E200		DUAL CIRCUIT PLUS™	3	2	Yes	1.16 (0.53)

NEW

ICON Circuit Identification Label Kit 7902 available (page 83)



Alternator Field Disconnect (AFD) protects the diodes in the alternator in the event of the switch being switched to the OFF position while the engine is running.

If the AFD is not used to protect the alternator, an LED can be connected to the AFD terminals to indicate when the battery switch is in any position but "OFF":

- "ON" for the Single Circuit
- "1", "2", or "1+2" for the Selector—4 Position
- "1" or "2" for the Selector—3 Position

* Per Circuit | † Reducing cable size will reduce current rating

Battery Switches

HD-Series Battery Switches (Heavy Duty)

Up to 600 Ampere Continuous Rating for large diesel engines

Features

- Label with international legends
- Tactile indicator conveys knob position by feel
- Accepts up to 4/0 AWG (95mm²) battery cables
- Case design allows surface or rear panel mounting
- 7/8" (22.22mm) stud length accepts multiple cable terminals
- Blue Sea Systems one-piece terminal stud design never loosens over time
- M12 tin-plated copper studs for maximum conductivity and corrosion resistance, accepts 1/2" (M12) ring terminals

Key to Specific Features

- Alternator Field Disconnect (AFD)
- Make-before-break contact design allow switching between battery banks without power interruption
- Two studs for load connections permit up to four load cables to be connected

Specifications

	3000-3001	3002-3003, 11003
I₁₀ Cranking Rating: 10 sec.	2,750 Amps	2,750 Amps
I₃₀₀ Intermittent Rating: 5 min.	900 Amps	700 Amps
I_c Continuous Rating	600 Amps	500 Amps
V_{mxo} Voltage Maximum Operating	48 Volts DC	48 Volts DC
Terminal Stud Size	1/2" (M12)	1/2" (M12)
Terminal Stud Torque	220 in-lb (24.86 N·m) max.	220 in-lb (24.86 N·m) max.
Mounting Holes	Accept 1/4" (6M) Screw	Accept 1/4" (6M) Screw
Cable Size to Meet Ratings*	4/0 AWG (95mm ²)	4/0 AWG (95mm ²)
Cable Quantity to Meet Ratings*	Two Cables†	Two Cables/Terminal
Cable Clearance For 4/0 Cables	1.10" (27.9mm)	1.10" (27.9mm)

Regulatory

- CE marked, ISO 8846
 - UL Listed - UL 1107 electric power switches
 - Meets American Boat and Yacht Council (ABYC) requirements
- Meets UL 1500 and SAE J1171 external ignition protection requirements



PN	Specific Features	Name	Switch Positions	Battery Inputs	Battery Combine	Weight lb (kg)
3000		SINGLE CIRCUIT	2	1	-	1.30 (0.59)
3001		SINGLE CIRCUIT	2	1	-	1.30 (0.59)
3002		SELECTOR—4 Position	4	2	Yes	1.25 (0.57)
3003		SELECTOR—4 Position	4	2	Yes	1.25 (0.57)
11003		SELECTOR—3 Position	3	2	-	1.25 (0.57)

NEW

ICON Circuit Identification Label Kit 7902 available (page 83)

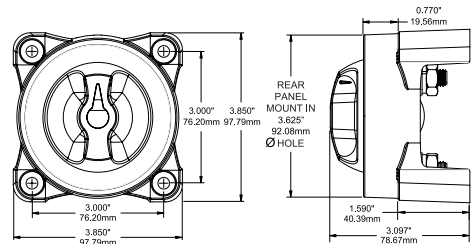
Alternator Field Disconnect (AFD) protects the diodes in the alternator in the event of the switch being switched to the OFF position while the engine is running.

If the AFD is not used to protect the alternator, an LED can be connected to the AFD terminals to indicate when the battery switch is in any position but "OFF":

- "ON" for the Single Circuit
- "1", "2", or "1+2" for the Selector—4 Position
- "1" or "2" for the Selector—3 Position



3000-3001 Two studs for load connections

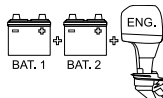


* Reducing specifications will reduce current ratings | † Two cables on battery terminal, one cable on each common terminal

Battery Management

Dual Battery Bank Management Panels

Offers full switching options that can easily cover the mounting hole left by a medium case battery switch



Features

- Enables a failed Start battery to be isolated from the electrical system and both House and Start loads to be operated from the remaining battery bank
- Isolates Engine circuit from House circuit
- Allows independent battery discharge
- Allows emergency cross connect between isolated battery banks
- Protects electronics from sags and spikes caused by engine cranking
- The addition of an Automatic Charging Relay (ACR) automates charging two battery banks (pages 34–36)

Component References

- m-Series ON–OFF Battery Switches 6006 (page 26)
- C-Series Flat Rocker Circuit Breakers (page 43)

Panel Specifications

V_{mxo} Voltage Maximum Operating	See table below
I_{tr} Amperage Trip Reference	See table below

Battery Switch Specifications

I₁₀ Cranking Rating: 10 sec.	1,500 Amps
I₃₀₀ Intermittent Rating: 5 min.	500 Amps
I_c Continuous Rating	300 Amps

Regulatory

IP Meets UL 1500 and SAE J1171 external ignition protection requirements

Panel PN	DC V _{mxo}	C-Series Flat Rocker Circuit Breaker	Width in (mm)	Height in (mm)	Depth in (mm)	Weight lb (kg)
		MAIN 100A (I _{tr})				
8280	48	-	6.25 (158.75)	7.50 (190.50)	2.25 (57.15)	3.20 (1.45)
8080	32	1	5.25 (133.35)	6.50 (165.10)	3.00 (76.20)	2.20 (1.00)



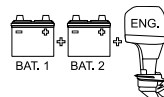
8280



8080

Dual Battery Bank Main Distribution Panels

Single Dual Circuit Plus™ battery switch offers simplified switching combined with main and 24-hour circuit protection



Features

- Provides DC Main circuit protection in addition to high ampere load protection
- Isolates the Engine circuit from the House circuit
- Allows independent battery discharge
- Provides 24 hour circuit protection
- Allows emergency cross connect between isolated battery banks
- Protects electronics from sags and spikes caused by engine cranking
- Addition of an Automatic Charging Relay (ACR) automates charging both battery banks (pages 34–36)

Component References

- Square Format Label Set 4218 and 24-Hour Round Label Set 4140 (pages 83–85)
- C-Series Flat Rocker Circuit Breakers (page 43)
- Push Button Reset-Only Circuit Breakers (page 38)
- "ON" indicating LED installed in all circuit positions (page 80)

Panel Specifications

V_{mxo} Voltage Maximum Operating	See table below	See table below
I_{tr} Amperage Trip Reference	See table below	See table below

Battery Switch Specifications

	8686	8690
I₁₀ Cranking Rating: 10 sec.	1,000 Amps	1,000 Amps
I₃₀₀ Intermittent Rating: 5 min.	450 Amps	525 Amps
I_c Continuous Rating	300 Amps	350 Amps

Regulatory

IP Meets UL 1500 and SAE J1171 external ignition protection requirements

PN	DC V _{mxo}	Battery Switch	C-Series Flat Rocker Circuit Breakers	Push Button Reset-Only Circuit Breakers	Width in (mm)	Height in (mm)	Depth in (mm)	Weight lb (kg)
			MAIN 100A (I _{tr})	BRANCH 15A (I _{tr})				
8686	24	m-Series, 6011	1	2	4.50 (114.30)	7.50 (190.50)	3.25 (82.55)	1.85 (0.84)
8690	24	c-Series, 5511C	1	2	5.25 (133.35)	8.00 (203.20)	3.50 (88.90)	2.64 (1.20)



8686



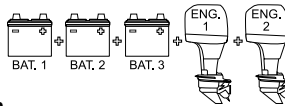
8690

† up to 48 Volts DC | ‡ up to 32 Volts DC

Battery Management

Triple Battery Bank Main Distribution Panels

Two Dual Circuit Plus™ Battery Switches offer simplified switching combined with main and 24-hour circuit protection



Features

- Provides DC Main circuit protection in addition to high ampere load protection
- Isolates the Engine circuit from the House circuit reducing the chance of fully discharging both battery banks
- Allows independent battery discharge
- Provides 24-hour circuit protection
- Allows emergency cross connect between isolated battery banks
- Protects electronics from sags and spikes caused by engine cranking
- The addition of two Automatic Charging Relays (ACR) automates charging three battery banks (pages 34–36)

Model Specific Features

- m-Series DUAL CIRCUIT PLUS™ Battery Switches 6011 (page 26)
- e-Series DUAL CIRCUIT PLUS™ Battery Switches 5511e (page 27)

Component References

- Square Format Label Set 4218 and 24-Hour Round Label Set 4140 (pages 83–85)
- C-Series Flat Rocker Circuit Breakers (page 43)
- Push Button Reset-Only Circuit Breakers (page 38)
- "ON" indicating LED installed in all circuit positions (page 80)

Panel Specifications

V_{mxo} Voltage Maximum Operating	See table below	See table below
I_{tr} Amperage Trip Reference	See table below	See table below

Battery Switch Specifications

	8689	8693
I₁₀ Cranking Rating: 10 sec.	1,000 Amps	1,000 Amps
I₃₀₀ Intermittent Rating: 5 min.	450 Amps	525 Amps
I_c Continuous Rating	300 Amps	350 Amps

Regulatory

IP Meets UL 1500 and SAE J1171 external ignition protection requirements



8689



8693

PN	Specific Features	DC V _{mxo}	C-Series Flat Rocker Circuit Breaker	Push Button Reset- Only Circuit Breakers	Width in (mm)	Height in (mm)	Depth in (mm)	Weight lb (kg)
			100A (I _{tr})	15A (I _{tr})				
8689	m-Series	24	1	3	7.25 (184.15)	8.00 (203.20)	3.25 (82.55)	3.46 (1.57)
8693	e-Series	24	1	4	10.50 (266.70)	8.00 (203.20)	3.50 (88.90)	4.42 (2.00)

Solenoid Switches

L-Series Solenoid Switch with Coil Economizer

450 Ampere compact solenoid offers remote switching for applications with limited space and no requirement for manual control

Features

- Hermetically sealed contacts/vaporproof
- Can function as a remote battery switch
- Activated by an ON-OFF switch mounted anywhere
- Integrated coil control minimizes heating and amperage draw
- Mount in a dry location

Specifications

Main Power Contacts

I₁₀	Cranking Rating: 10 sec.	1,500 Amps*
I₃₀₀	Intermittent Rating: 5 min.	See table below
I_c	Continuous Rating	See table below
V_{mxo}	Voltage Maximum Operating	60 Volts DC
C_s	Switching Cycles	1,000,000 Cycles
Terminal Stud Size		5/16" (M8)
Contact Form		SPST-NO

Coil Circuit

Input Voltage	9–36 Volts DC
I_{oc} (inrush, 130ms) Amperage Operating Current	3.80 Amps
I_{oc} (holding) Amperage Operating Current	0.13 Amps (12V), 0.07 Amps (24V)

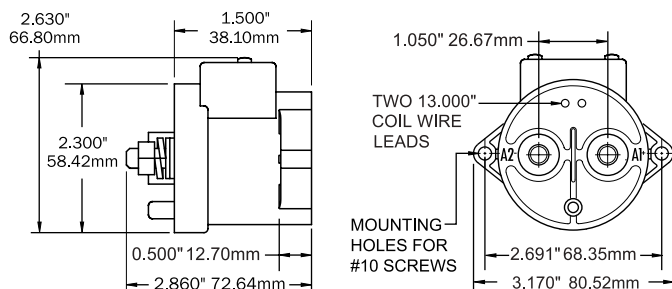
Regulatory

- **CE** marked, UL Recognized—UL 508 industrial control equipment
- IP** Meets SAE J1171 external ignition protection requirements

See page 77–79 for ON–OFF Switches

Wire Size	I ₃₀₀ Intermittent Rating 5 min.	I _c Continuous Rating (UL 1107)
1/0	275 Amps	250 Amps
2/0	400 Amps	300 Amps
2x (2/0)	600 Amps	450 Amps

PN	Description	Volts	Weight lb (kg)
9012	Solenoid Switch	12/24	1.00 (0.45)



9012



4150

8230

8204

See Selection of ON–OFF switches
pages 77–79

Solenoid Switches

ML-Series Heavy Duty Solenoid Switch (Magnetic Latching)

500 Ampere Magnetic Latching Solenoid allows high-amp switching under load where manual control is not required

Features

- 500 Ampere continuous rating—solenoid switch for engine, inverter, house loads, and emergency battery combine
- Magnetic latching draws no current in “ON” or “OFF” state, only draws current when changing state of switch
- Retail packaging includes ML-Series Remote Control Contura Switch 2145 (page 37)
- Silver alloy contacts provide high reliability for switching live loads
- LED output to remotely indicate switch state (requires optional LED, page 80)
- 3/8"-16 tin-plated copper studs for maximum conductivity and corrosion resistance
- 7/8" (22mm) stud length accepts multiple cable terminals
- Label recesses for circuit identification

Specifications

I₁₀	Cranking Rating: 10 sec.	2,500 Amps
I₃₀₀	Intermittent Rating: 5 min.	See table below
I_c	Continuous Rating	See table below
V_{mox}	Voltage Maximum Operating	32 Volts DC
C_s	Switching Cycles	100,000 Cycles
I_{oc} (control circuit—momentary)	Amperage Operating Current	100mA when changing state
Live Current Switching		300A@12V DC—10,000 Cycles
Control Circuit Voltage		10.1 to 16.5V (12V models), 20.2 to 32.9V (24V models)
Terminal Stud Size		3/8"-16 (M10)
Terminal Stud Torque		140 in-lb (15.5 N·m)
Ring Terminal Size		3/8" (M10)
Terminal Ring Diameter Clearance		1.12" (28.4mm)

Regulatory

IP Meets ISO 8846 ignition protection, and SAE J1171 external ignition protection requirements

66 IP66—withstands water from heavy seas

Wire Size	I ₃₀₀ Intermittent Rating 5 min.	I _c Continuous Rating
2/0	400 Amps	225 Amps
4/0	400 Amps	300 Amps
2x (4/0)	700 Amps	500 Amps

PN	Coil Volts	Cable End	Package	Weight lb (kg)
7701	12	Stripped Wire	Retail	1.69 (0.77)
7701100B	12	Deutsch DTM	Bulk/Not for retail	1.69 (0.77)
7703	24	Stripped Wire	Retail	1.69 (0.77)
7703100B	24	Deutsch DTM	Bulk/Not for retail	1.69 (0.77)

NEW

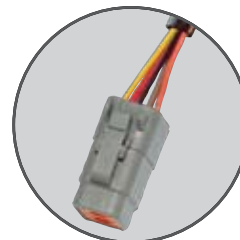


2145

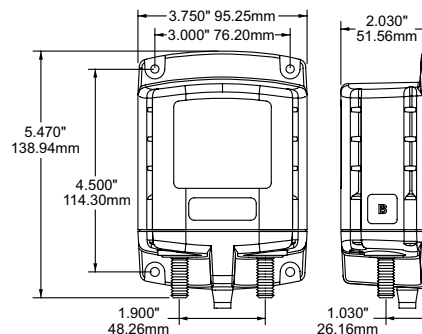
See ML-Series Remote Control Contura Switch on page 37



Stripped Wires
—provided on retail units



Deutsch DTM Connectors
—provided on bulk units
Other connector plugs are available for high volume OEM applications.
Please contact Blue Sea Systems for details.



Remote Battery Switches

ML-Series Heavy Duty Remote Battery Switch (Magnetic Latching)

500 Ampere Magnetic Latching Remote Battery Switch allows high-amp switching under load manually or from remote locations

Features

- 500 Ampere continuous rating—remote battery switch for engine, inverter, house loads, and emergency battery combine
- Manual override knob provides an added level of safety allowing control with or without power, and offering “LOCKED OFF” capability for servicing
- Magnetic latching draws no current in “ON” or “OFF” state, only draws current when changing state of switch
- Retail packaging includes ML-Series Remote Control Contura Switch 2145 (page 37)
- Silver alloy contacts provide high reliability for switching live loads
- LED output to remotely indicate switch state (requires optional LED, page 80)
- 3/8"-16 tin-plated copper studs for maximum conductivity and corrosion resistance
- 7/8" (22mm) stud length accepts multiple cable terminals
- Label recesses for circuit identification

Specifications

I₁₀	Cranking Rating: 10 sec.	2,500 Amps
I₃₀₀	Intermittent Rating: 5 min.	See table below
I_c	Continuous Rating	See table below
V_{mxo}	Voltage Maximum Operating	32 Volts DC
C_s	Switching Cycles	100,000 Cycles
I_{oc} (control circuit—momentary)	Amperage Operating Current	100mA when changing state
Live Current Switching		300A@12V DC—10,000 Cycles
Control Circuit Voltage		10.1 to 16.5V (12V models), 20.2 to 32.9V (24V models)
Terminal Stud Size		3/8"-16 (M10)
Terminal Stud Torque		140 in-lb (15.5 N·m)
Ring Terminal Size		3/8" (M10)
Terminal Ring Diameter Clearance		1.12" (28.4mm)

Regulatory

- IP** Meets ISO 8846 ignition protection, and SAE J1171 external ignition protection requirements
- 66** IP66—withstands water from heavy seas

Wire Size	I ₃₀₀ Intermittent Rating 5 min.	I _c Continuous Rating
2/0	400 Amps	225 Amps
4/0	400 Amps	300 Amps
2x (4/0)	700 Amps	500 Amps

PN	Coil Volts	Cable End	Package	Weight lb (kg)
7700	12	Stripped Wire	Retail	1.75 (0.79)
7700100B	12	Deutsch DTM	Bulk/Not for retail	1.75 (0.79)
7702	24	Stripped Wire	Retail	1.75 (0.79)
7702100B	24	Deutsch DTM	Bulk/Not for retail	1.75 (0.79)

NEW



2145

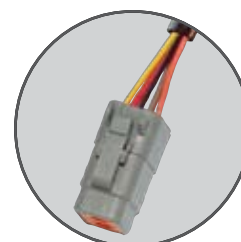
See ML-Series Remote Control Contura Switch on page 37



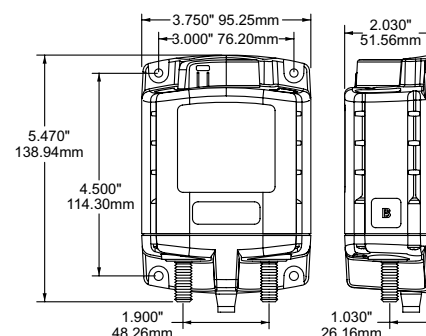
7700



Stripped Wires
—provided on retail units



Deutsch DTM Connectors
—provided on bulk units
Other connector plugs are available for high volume OEM applications.
Please contact Blue Sea Systems for details.



Automatic Charging Relays

Charge Management

Purpose

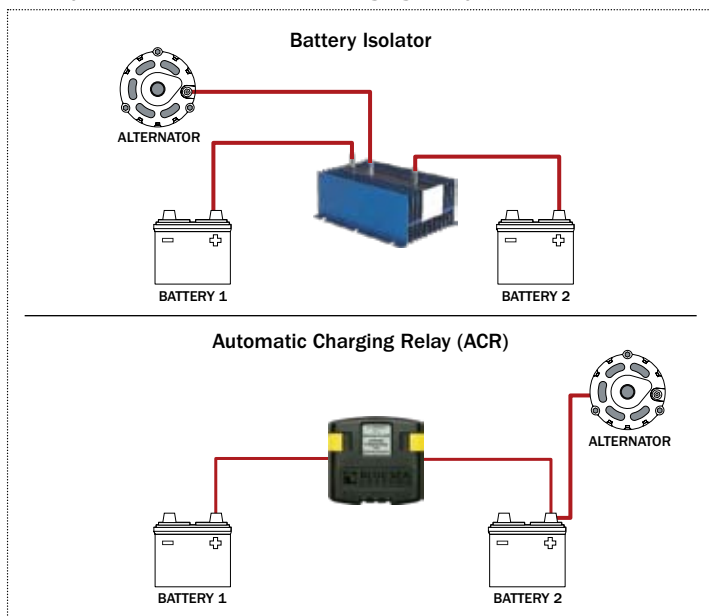
In multiple battery bank systems, Charge Management Devices (CMDs) connect two battery banks when charging, while keeping the battery banks isolated from each other when not charging. Thus, if one battery bank is depleted, there will be a charged battery bank for engine starting. Battery Isolators and Automatic Charging Relays (ACRs) are the two main charge management devices used on boats.

Considerations

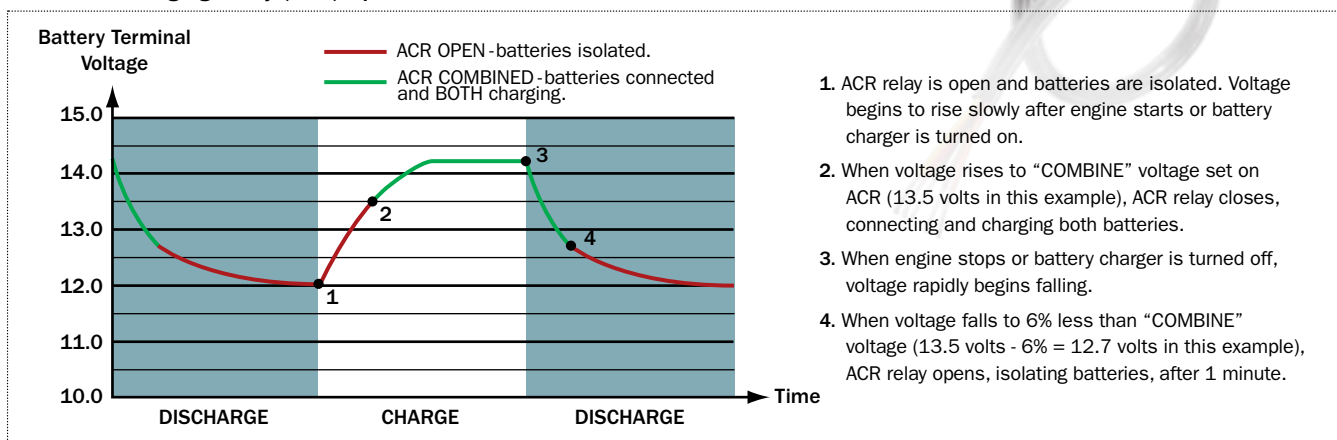
Battery Isolators. These devices are electrical one-way check valves that allow current flow to, but not from, the battery. Their disadvantage is that the diodes used to achieve this cause a voltage drop that consumes charging energy, creates heat, and causes batteries to be undercharged. Alternators with external voltage sensing can correct for the undercharging problem, but voltage drop and the heat generated remain a problem.

Automatic Charging Relays. The more popular method for achieving the same goal as isolators. ACRs use a relay combined with a circuit that senses when a charging source is being applied to either battery. When a charge is being applied, the ACR closes. When the circuit senses that a charge is not being applied, the ACR disconnects the two batteries from each other.

Battery Isolator vs. Automatic Charging Relay (ACR)



Automatic Charging Relay (ACR) Operation



Considerations when Selecting an Automatic Charging Relay

Current Management. Automatic Charging Relays (ACRs) can potentially be exposed to very high currents if the engine is cranked while the ACR is closed, paralleling the battery banks. This can occur when an alternate charge source causes the ACR to close. Blue Sea Systems uses two methods to overcome this. The L-Series and ML-Series ACRs have high amperage contacts rated for engine starting and SI-Series ACRs momentarily open the relay, isolating the two batteries during a starting event.

Manual Override. This allows the ACR to be manually opened, set to automatic, or manually combined from a remote location.

Start Isolation. Temporary isolation of house loads from the engine circuit during engine cranking to protect sensitive electronics.

Automatic Charging Relays

SI-Series Automatic Charging Relay (Start Isolation)

Automatically manages the charging of two battery banks and isolates batteries during starting to protect sensitive electronics

Features

- 120 Ampere continuous rating—supports high-output alternators
- LED light indicates when batteries are combined and blinks when the undervoltage or starting isolation feature is engaged
- Side and bottom knockouts for power cable connections
- Clip-on cover protects terminal connections
- 1/4" x .031" male quick connect terminals for ground, optional remote LED (page 80), and starting isolation
- 7/8" (22.22mm) stud length to accept multiple cable terminals
- Start Isolation (SI)—Can be configured for temporary isolation of House loads from Engine circuit during engine cranking to protect sensitive electronics
- 12/24 volt auto ranging voltage input
- Hermetically sealed contacts/vaporproof
- Remote LED output indicates relay state away from ACR (requires optional LED, page 80)
- Senses charging on two battery banks

Specifications

		12 Volts DC	24 Volts DC
I₃₀₀	Intermittent Rating: 5 min.	210 Amps	210 Amps
I_c	Continuous Rating	120 Amps	120 Amps
I_{oc} (Combine)	Amperage Operating Current	175mA	115mA
I_{oc} (Open)	Amperage Operating Current	15mA	15mA
Maximum Cable Size		1/0 AWG	1/0 AWG
Terminal Stud Size		3/8"-16 (M10)	3/8"-16 (M10)
Maximum Torque		140 in-lbs	140 in-lbs
Relay Contact Position			
Combine	(30 sec.)	13.6 Volts	27.2 Volts
	(2 min.)	13.0 Volts	26.0 Volts
Open	(10 sec.)	12.35 Volts	24.7 Volts
	(30 sec.)	12.75 Volts	25.5 Volts
Open High		16.0 Volts	30.0 Volts

Regulatory

- CE Marked

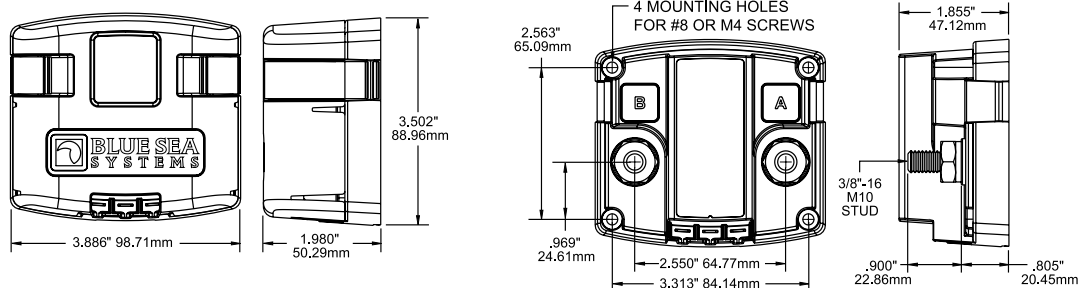
IP Meets ISO 8846, UL 1500, and SAE J1171 external ignition protection requirements

67 IP67—temporary immersion for 30 minutes

PN	Volts	Weight lb (kg)
7610	12/24	1.26 (0.57)



7610



Automatic Charging Relays

ML-Series Heavy Duty Automatic Charging Relays (Magnetic Latching)

Automatically manages the charging of two large battery banks and offers optional manual override for emergency battery paralleling



Features

- 500 Ampere continuous rating
- Magnetic Latch (ML)—ACR draws very low current (<10 mA to monitor terminal voltage) in the “ON” or “OFF” states, and draws moderate current for very short time when changing state
- Start Isolation (SI)—Can be configured for temporary isolation of House loads from Engine circuit during engine cranking to protect sensitive electronics
- Engine Isolation (EI)—Can be configured for isolation of two engines while both are running to protect engine electronics and maximize alternator output
- Senses charging on two battery banks
- Supports high-output alternators up to 500 Amps
- LED output to remotely indicate when batteries are combined, isolated, in voltage lockout, in Start or Engine isolation (requires optional LED, page 80)
- 3/8"-16 tin-plated copper studs for maximum conductivity and corrosion resistance
- 7/8" (22mm) stud length accepts multiple cable terminals
- Label recesses for circuit identification
- Silver alloy contacts provide high reliability for switching live loads
- Retail packaging includes ML-Series Remote Control Contura Switch 2146 (page 37)

Specifications

I₁₀	Cranking Rating: 10 sec.	2,500 Amps
I₃₀₀	Intermittent Rating: 5 min.	See table below
I_c	Continuous Rating	See table below
C_s	Switching Cycles	100,000 Cycles
I_{oc} (control circuit—momentary)	Amperage Operating Current	<40 mA when changing state

Relay Contact Position

-Combine (30 sec.)	13.5V DC@12 Volts 27.0V DC@24 Volts
-Combine (90 sec.)	13.0V DC@12 Volts 26.0V DC@24 Volts
-Open (10 sec.)	12.35V DC@12 Volts 24.7V DC@24 Volts
-Open (30 sec.)	12.75V DC@12 Volts 25.5V DC@24 Volts
-Open High	16.2V DC@12 Volts 32.4V DC@24 Volts
Live Current Switching	300A@12V DC—10,000 Cycles
Terminal Stud Size	3/8"-16 (M10)
Terminal Stud Torque	140 in-lb (15.5 N·m)
Ring Terminal Size	3/8" (M10)
Terminal Ring Diameter Clearance	1.18" (28.4mm)

Regulatory

- IP** Meets ISO 8846 ignition protection, and SAE J1171 external ignition protection requirements
- 66** IP66—withstands water from heavy seas

Wire Size	I ₃₀₀ Intermittent Rating 5 min.	I _c Continuous Rating
2/0	400 Amps	225 Amps
4/0	400 Amps	300 Amps
2x (4/0)	700 Amps	500 Amps



2146

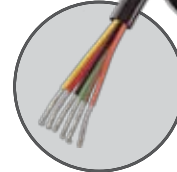
See ML-Series Remote Control Contura Switch on page 37

PN	Volts	Cable End	Manual Control	Package	Weight lb (kg)
7620	12	Stripped Wire	No	Retail	1.69 (0.77)
7620100B	12	Deutsch DTM	No	Bulk/Not for retail	1.69 (0.77)
7622	12	Stripped Wire	Yes	Retail	1.75 (0.79)
7622100B	12	Deutsch DTM	Yes	Bulk/Not for retail	1.75 (0.79)
7621	24	Stripped Wire	No	Retail	1.69 (0.77)
7621100B	24	Deutsch DTM	No	Bulk/Not for retail	1.69 (0.77)
7623	24	Stripped Wire	Yes	Retail	1.75 (0.79)
7623100B	24	Deutsch DTM	Yes	Bulk/Not for retail	1.75 (0.79)

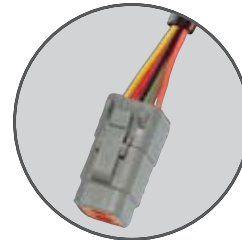
NEW



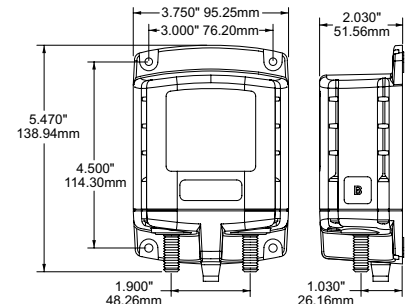
7623



Stripped Wires
—provided on retail units



Deutsch DTM Connectors
—provided on bulk units
Other connector plugs are available for high volume OEM applications.
Please contact Blue Sea Systems for details.



ML-Series Remote Control Contura Switches

Provides remote management of ML-Series Remote Battery Switches, ML-Series Solenoid Switches, or ML-Series Automatic Charging Relays

- Vibration, shock, thermoshock, moisture and salt spray resistant

Specifications




T_{mxo}	Temperature Maximum Operating	85°C
T_{mno}	Temperature Minimum Operating	-40°C
I_{mxo}	Amperage Maximum Operating	20 Amps@12 Volts DC
I_{mxo}	Amperage Maximum Operating	15 Amps@24 Volts DC
I_{oc} (LED)	Amperage Operating Current	18mA
Lighting		LED rated 100,000 hours half-life
Seals		Internal and external gasket panel seal
Mounting Hole		1.45" x 0.83" (36.83mm x 21.08mm)

Model Specific Feature

-  Lockout slide reduces the risk of accidental switching

Regulatory

- IP** Meets UL 1500 and ISO 8846 external ignition protection requirements
- 67** IP67—temporary immersion for 30 minutes

PN	Specific Feature	Pole/Throw	Action	Weight lb (kg)
 2145		SPDT	(ON) OFF (ON)	0.10 (0.05)
 2146	-	SPDT	ON-OFF-ON	0.10 (0.05)

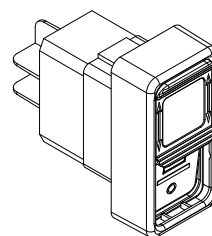
NEW

() = Momentary

See page 78 for a full selection of Contura Switches



See page 8 for a full selection of related products located in the 360 Panel System section of this catalog.



2145



2146

Add A Battery (Dual Circuit System)

Simplifies switching and automates charging for a complete two battery bank solution

5511C, Dual Circuit Plus™ Battery Switch (page 27)


- Simplifies battery switching
- Isolates engine and house circuits
- Combines battery banks for emergency starting

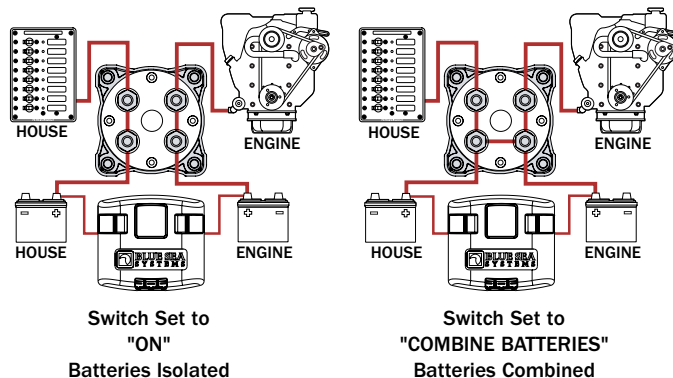
7610, 120 Amp SI* Automatic Charging Relay (page 35)

- Automatically combines battery banks during charging
- Isolates battery banks when discharging and when starting engines

Regulatory

- **CE** Marked
- IP** Meets UL 1500 and SAE J1171 external ignition protection requirements
- 67** IP67—temporary immersion for 30 minutes (7610 ONLY)

PN	Weight lb (kg)
 7650	2.36 (1.07)



7650

* Starting Isolation

Push Button Reset-Only Circuit Breakers

Provides economical circuit protection for 3 to 40 Ampere loads when switching is provided elsewhere

Features

- Branch circuit breakers (can also be used for 24-hour circuit protection)
- Quick connect terminal style circuit breakers are incorporated into Blue Sea Systems WeatherDeck™ Waterproof Circuit Breaker Panels (pages 49, 51), Battery Bank Main Distribution Panels (pages 29–30), and 360 Distribution Panels (pages 5, 7–8, 10–11)
- Compact design enables high density circuit protection configurations
- Push-to-reset operation
- “Trip Free” design cannot be held “ON” during fault current condition
- Optional Push Button Waterproof Boot protects circuit breaker in wet environments, replaces dress nut mounting on circuit breakers, and resists discoloration and cracking

Specifications

I_{ic} Interrupting Capacity	3,000 Amps@14.7 Volts DC 2,500 Amps@28 Volts DC
V_{mxo} Voltage Maximum Operating	32 Volts DC
I_{tr} Amperage Trip Reference	See table below
T_{mno} Temperature Minimum Operating	-10°C
T_{mxo} Temperature Maximum Operating	60°C
Type	Thermal trip, manual push button reset-only
Terminals	#8 Screw Terminals or 1/4" Male Quick Connect Terminals
Screw Terminal Torque	6 in-lb max.
Trip Time Delay	See www.bluesea.com
Mounting	3/8"-27 UNS
Weight	0.06lb (0.03kg)

Regulatory

- CE marked
 - UL Recognized—UL 1077—UL/cUL (USA and Canada), TUV certified
- IP** Meets UL 1500 and ISO 8846 external ignition protection requirements

See page 106 for ABYC Interrupting Capacity Requirements.

Screw Terminals PN	Quick Connect Terminals PN	DC I _{tr}
2129	7050	3
2130	7052	5
2131	7053	7
2132	7054	10
2133	7056	15
2134	7057	20
2135	7058	25
2136	7059	30
2137	7061	40
NEW		



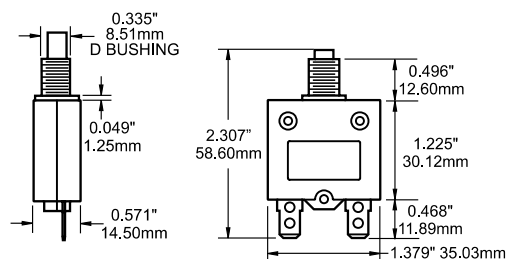

See pages 5, 7–8, 10–11 for a full selection of related products located in the 360 Panel System section of this catalog.



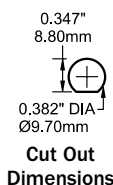
7054



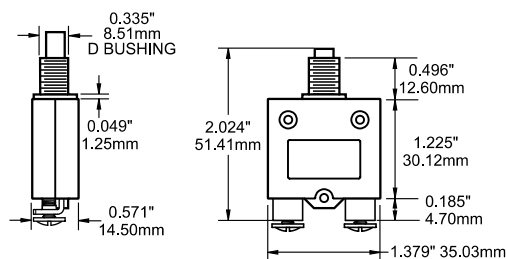
2132



1/4" Male Quick Connect Terminals



Cut Out
Dimensions



#8 Screw Terminals

Push Button Reset-Only Circuit Breaker Waterproof Boots

Protects push button circuit breakers in wet environments

Features

- Incorporated into Blue Sea Systems waterproof circuit breaker panels (pages 49, 51)
- Protects circuit breaker in wet environments, and resists discoloration and cracking
- Replaces dress nut mounting on circuit breakers

Specifications

Weight (pkg. of 5)	0.04lb (0.02kg)
Thread Material	Nickel-Plated Brass
Thread	3/8"-27

Regulatory

IP67—temporary immersion for 30 minutes



4135



4136



4137

PN	Color
4135	Clear
4136	White
4137	Black

Circuit Breakers

Medium Duty Push Button Reset-Only Circuit Breakers

Provides medium duty circuit protection for 15 to 60 Ampere loads when switching is provided elsewhere

Features

- Weatherproof
- Can be used as Main, Branch or 24-hour circuit protection
- Compact design enables high density circuit protection configurations
- Push to reset operation
- "Trip Free" design cannot be held "ON" during fault current condition
- Captive star lock washers meet requirements for anti-rotation and eliminate handling of small, easily dropped parts

Specifications

I_{ic} Interrupting Capacity	5,000 Amps@32 Volts DC 3,000 Amps@120 Volts AC
V_{mxo} Voltage Maximum Operating	32 Volts DC 120 Volts AC
I_{tr} Amperage Trip Reference	See table below
T_{mno} Temperature Minimum Operating	-54°C
T_{mxo} Temperature Maximum Operating	74°C
Type	Thermal trip, manual push button reset-only
Terminal Stud	#10-32 Stainless Steel
Terminal Stud Torque	30 in-lb max.
Trip Time Delay	See www.blueseas.com
Mounting	Accepts #10 Screws
Weight	0.15 lb (0.68 kg)

Regulatory

- SAE J1428
- SAE J553
- UL 1077

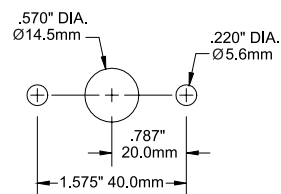
IP Meets UL 1500 external ignition protection requirements

See page 106 for ABYC Interrupting Capacity Requirements.

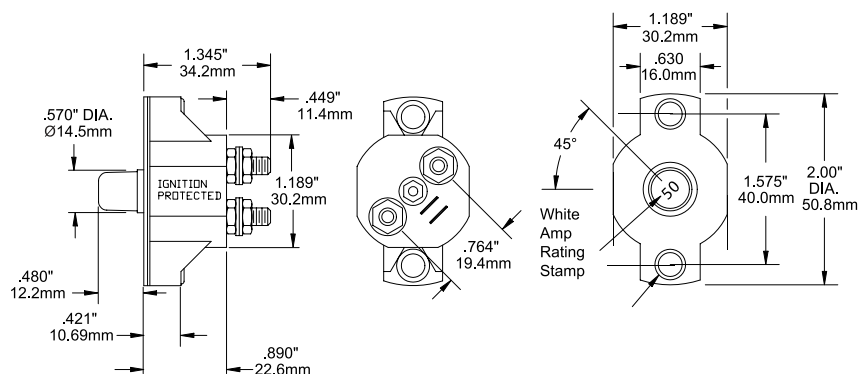


2142

Circuit Breaker PN	DC I _{tr}
2138	15
2139	20
2140	30
2141	40
2142	50
2143	60
NEW	



Cut Out Dimensions



Circuit Breakers

185-Series Circuit Breakers

Provides medium duty circuit protection for 25 to 150 Ampere loads when switching and circuit protection are both required

Specifications

I_{ic}	Interrupting Capacity	3,000 Amps@42 Volts DC
V_{mxo}	Voltage Maximum Operating	42 Volts DC
I_{tr}	Amperage Trip Reference	See table below
T_{mno}	Temperature Minimum Operating	-25°C
T_{mxo}	Temperature Maximum Operating	82°C
Type		Thermally Responsive Bi-Metal Blade
Class		Type III—Switchable/Manual Reset—Trip Free
Terminal Stud		1/4"-28
Terminal Stud Torque		50 in-lb
Trip Time Delay		See www.blueseas.com
Mounting Hole		Accepts 1/4" Screw
Weight	Panel Mount	0.25 lb (0.11 kg)
	Surface Mount	0.30 lb (0.14 kg)

Regulatory

- CE marked
- **IP** Meets SAE J1171 external ignition protection requirements
- **67** IP67—temporary immersion for 30 minutes

See page 106 for ABYC Interrupting Capacity Requirements.

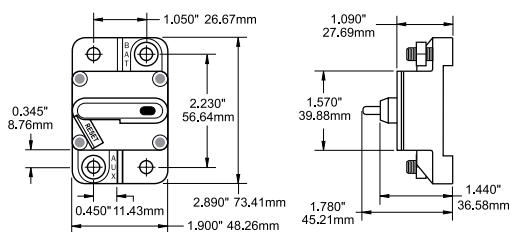
Panel Mount PN	Surface Mount PN	DC I _{tr}
7008	7108	25
7009	7109	30
7010	7110	35
7005	7105	40
7000	7100	50
7011	7111	60
7012	7112	70
7014	7114	80
7006	7106	90
7002	7102	100
7007	7107	110
7013	7113	120
7015	7115	135
7004	7104	150



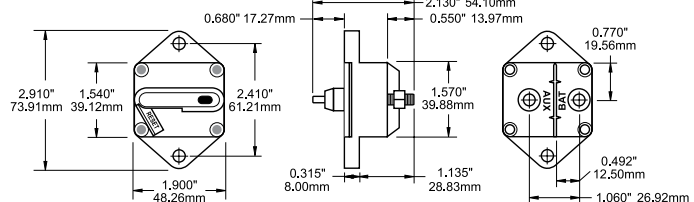
7002



7102



Surface Mount Dimensions



Panel Mount Dimensions

185-Series Circuit Breaker Mounting System

Provides gasket for mounting 185-Series Thermal Circuit Breakers (panel mount)

Features

- Self trimming molded rubber bezel

PN	Function	Height in (mm)	Width in (mm)	Weight lb (kg)
7198	Trim Bezel	3.34 (84.71)	2.44 (61.90)	0.04 (0.02)



7198



Circuit Breaker not included

Circuit Breakers

187-Series Circuit Breakers

Provides heavy duty circuit protection for 25 to 150 Ampere loads when switching and circuit protection are both required

Features

- Single lever operation—clearly visible
- Self-trimming case eliminates need for mounting panels or trim bezels
- Round case for easy installation with standard sized hole saw (panel mount models)
- Large clearance around terminal studs accepts up to 1/0 AWG lugs
- Recessed mounting holes for clean appearance
- Robust 5/16"-18 terminals provide high torque connections

Specifications

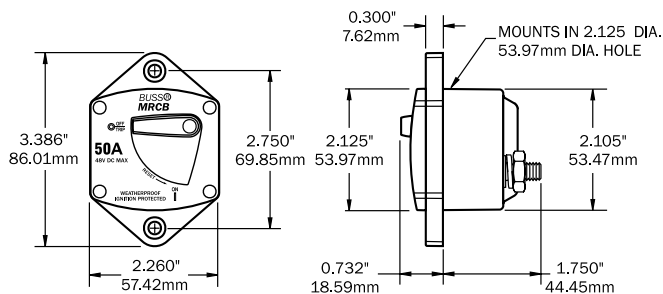
I_{ic}	Interrupting Capacity	5,000 Amps@12 Volts DC 3,000 Amps@24 Volts DC 1,500 Amps@42 Volts DC
V_{mxo}	Voltage Maximum Operating	48 Volts DC
I_{tr}	Amperage Maximum Operating	See table below
T_{mno}	Temperature Minimum Operating	-40°C
T_{mso}	Temperature Maximum Operating	85°C
Type		Thermally Responsive Bi-Metal Blade
Class		Type III—Switchable/Manual Reset—Trip Free
Terminal Stud		5/16"-18
Terminal Stud Torque		75 in-lb max.
Trip Time Delay		See www.blueseas.com
Mounting Hole		Accepts #10 (M5) Screw
Weight	Panel Mount	0.50 lb (0.23 kg)
	Surface Mount	0.58 lb (0.26 kg)

Regulatory

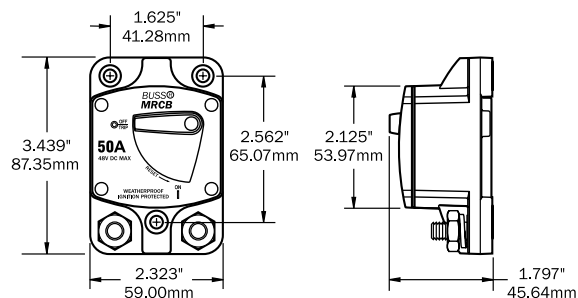
- CE marked
- IP** Meets SAE J1171 external ignition protection requirements
- 66** IP66—withstands water from heavy seas

See page 106 for ABYC Interrupting Capacity Requirements.

Panel Mount PN	Surface Mount PN	DC I _{tr}
7035	7135	25
7036	7136	30
7037	7137	35
7038	7138	40
7039	7139	50
7040	7140	60
7041	7141	70
7042	7142	80
7043	7143	90
7044	7144	100
7045	7145	110
7046	7146	120
7047	7147	135
7048	7148	150



Panel Mount Dimensions



Surface Mount Dimensions



7044



7140

Circuit Breakers

C-Series Toggle Circuit Breakers

Combines switching and circuit protection into a single device

Features

- Large frame provides stud termination for 5–300 Ampere loads
- Provides over current protection for inverters, bow thrusters, and windlasses
- Offers high interrupt capacity—suitable for main circuit protection
- “Trip Free”—cannot be held closed after trip

Specifications

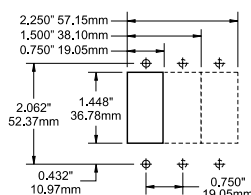
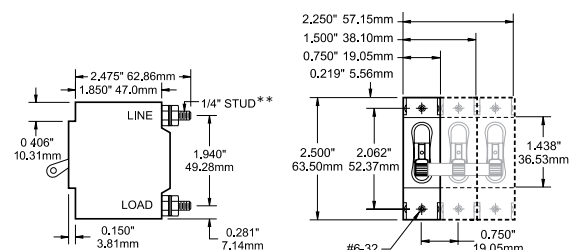
I_{ic} Interrupting Capacity	See Interrupt Capacity table below
V_{mso} Voltage Maximum Operating	See Interrupt Capacity table below
I_{tr} Amperage Trip Reference	See tables below
T_{mno} Temperature Minimum Operating	-40°C
T_{mso} Temperature Maximum Operating	85°C
C_s Switching Cycles	10,000 @ rated amperage and voltage
Type	Magnetic Hydraulic—Trip free
Terminal Stud	1/4"-20 Tin-Plated Brass
Terminal Stud Torque	35 in-lb max.
Trip Time Delay	See www.blueseas.com
Mounting Screw	#6-32 Stainless Steel
Mounting Screw Torque	6–8 in-lb Recommended

Regulatory

IP Meets SAE J1171, UL 1500, and ISO 8846 external ignition protection requirements—7250I only

Interrupting Capacity (see ABYC Requirements page 106)

C-Series Toggle Circuit Breakers				
		UL 1077 - UL/CSA (US/Canada)		EN60934 - TUV (Europe)
Poles	V _{mso}	I _{tr}	I _{ic}	I _{ic}
1	80V DC	5–100A	10,000A	-
	125V AC	5–100A	5,000A	-
	250V AC	5–100A	5,000A	5,000A
1 PN 7250I IP	48V DC	100A	5,000A	
	125V AC	100A	1,500A	
2 and 3	65V DC	150–300A	5,000A†	



Cutout Dimensions



PN	Regulatory	Color	Poles	DC I _{tr}	Weight lb (kg)
7350	-	White	1*	5	0.28 (0.13)
7351	-	White	1*	10	0.28 (0.13)
7352	-	White	1*	15	0.28 (0.13)
7353	-	White	1*	20	0.28 (0.13)
7354	-	White	1*	25	0.28 (0.13)
7355	-	White	1*	30	0.28 (0.13)
7244	-	White	1*	50	0.36 (0.17)
7246	-	White	1*	60	0.36 (0.17)
7248	-	White	1*	80	0.36 (0.17)
7250	-	White	1*	100	0.36 (0.17)
7250I IP	IP	Red	1*	100	0.36 (0.17)
7267	-	White	2†	150	0.64 (0.31)
7268	-	White	2†	175	0.64 (0.31)
7269	-	White	2†	200	0.64 (0.31)
7270	-	White	3†	250	0.93 (0.46)
7271	-	White	3†	300	0.93 (0.46)

C-Series Toggle Circuit Breaker Mounting Panels

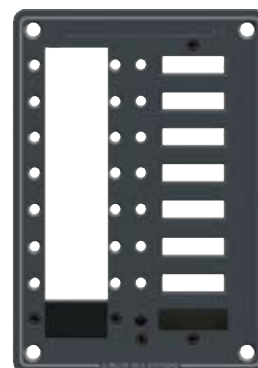
Accepts C-Series Toggle circuit breakers

- Accepts Blue Sea Systems Large Format Labels (pages 84–87)
- Accepts Blue Sea Systems “ON” indicating LEDs (page 80)
- Panel plugs can be inserted to fill blank positions
- Panel Plug Kit 8089 included—Circuit Breaker Mounting Screws, panel plug, LED plug, and blank label

PN	Position	Width in (mm)	Height in (mm)	Weight lb (kg)
8088	3	5.25 (133.35)	3.75 (95.25)	0.24 (0.11)
8087	8	5.25 (133.35)	7.50 (190.50)	0.40 (0.18)
2147	3	3.75 (95.25)	5.25 (133.35)	0.24 (0.11)
8089	Panel Plug Kit			



8088



8087

* Single pole circuit breakers are AC/DC rated | † Paralleled poles have 5/16" stud on bus | ‡ No agency approvals

Circuit Breakers

C-Series Flat Rocker Circuit Breakers

Combines switching and circuit protection into a single device

Features

- Large frame provides stud termination for 5–300 Ampere loads
- Rocker actuator is flush in the “ON” position, reducing the risk of accidental switching
- Color actuator indicates “OFF” position
- Provides over current protection for inverters, bow thrusters, and windlasses
- “Trip Free”—cannot be held closed after trip

Specifications

I_{ic} Interrupting Capacity	See Interrupt Capacity table below
V_{mxo} Voltage Maximum Operating	See Interrupt Capacity table below
I_{tr} Amperage Trip Reference	See tables below
T_{mno} Temperature Minimum Operating	-40°C
T_{mxo} Temperature Maximum Operating	85°C
C_s Switching Cycles	10,000 @ rated amperage and voltage
Type	Magnetic Hydraulic—Trip free
Terminal Stud	1/4"-20 Tin-Plated Brass
Terminal Stud Torque	35 in-lb max.
Trip Time Delay	See www.blueseas.com
Mounting Screw	#6-32 Stainless Steel
Mounting Screw Torque	6–8 in-lb Recommended

Regulatory

- IP** Single-pole breakers meet SAE J1171, UL 1500 and ISO 8846 external ignition protection requirements



7540



7551

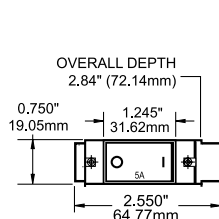


7554

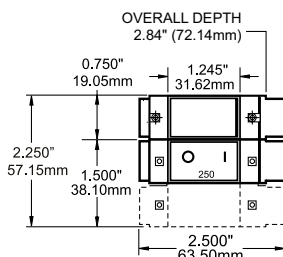
Interrupting Capacity (see ABYC Requirements page 106)

C-Series Flat Rocker Circuit Breakers				
			UL 1077 - UL/CSA (US/Canada)	EN60934 - TUV (Europe)
Poles	V _{mxo}	I _{tr}	I _{ic}	I _{ic}
1 IP	32V DC	5–100A	5,000A	-
	125V AC	5–100A	3,000A	-
	240V AC	5–50A	3,500A	-
2 and 3	48V DC	150–300A	5,000A	-
	48V DC	150–200A	-	5,000A

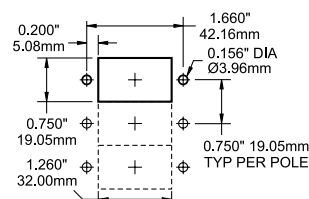
PN	Poles	Regulatory	DC I _{tr}	Weight lb (kg)
7540	1*	IP	5	0.28 (0.13)
7541	1*	IP	10	0.28 (0.13)
7542	1*	IP	15	0.28 (0.13)
7543	1*	IP	20	0.28 (0.13)
7544	1*	IP	25	0.28 (0.13)
7545	1*	IP	30	0.28 (0.13)
7546	1*	IP	50	0.28 (0.13)
7547	1*	IP	60	0.36 (0.17)
7548	1*	IP	80	0.36 (0.17)
7549	1*	IP	100	0.36 (0.17)
7475	2†	-	150	0.64 (0.31)
7551	2†	-	175	0.64 (0.31)
7476	2†	-	200	0.64 (0.31)
7477	3†	-	250	0.93 (0.46)
7554	3†	-	300	0.93 (0.46)



Single Pole



Double and Triple Pole



Cutout Dimensions

* Single pole circuit breakers are AC/DC rated | † Paralleled poles have 5/16" stud on bus

Fuse Blocks and Fuses

Terminal Fuse Blocks (MRBF—Marine Rated Battery Fuse)

Easily and economically satisfies ABYC 7" circuit protection rule by mounting on a 3/8" battery post, battery switch or busbar

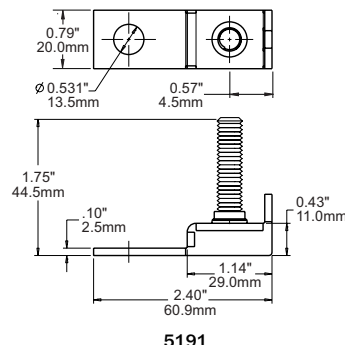
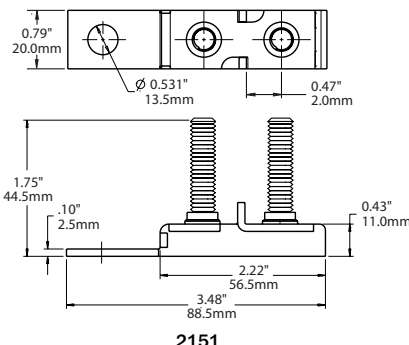
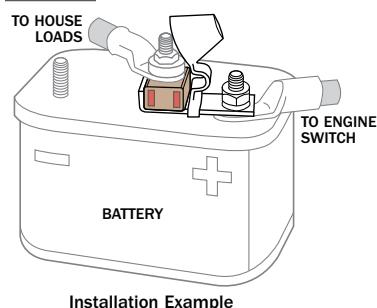
- New isolated stud design uses standard 1/4" hardware and permits stacking of terminals
- Compact, high-amp fuse—Appropriate for DC Main, inverter, windlass, and bow thruster circuit protection
- Provides high current protection in tight space constraints
- Weatherproof—suitable for small open-cockpit boats and other harsh environments
- Insulating cap prevents accidental shorts
- Accepts 5/16" or 3/8" ring terminals

Specifications

V_{mxo} Voltage Maximum Operating	58 Volts DC
I_{mxo} Amperage Maximum Operating	300 Amps DC
Maximum Torque	75 in-lbs
Terminal Stud Size	M8 (5/16")
Terminal Fuses Available	30–300 Amps

PN	Terminal Stud	Mounting Hole	Weight lb (kg)
5191	1 Terminal Stud	3/8"	0.16 (0.07)
2151	2 Terminal Studs	3/8"	0.29 (7.37)

UPDATED NEW



Terminal Fuses (MRBF—Marine Rated Battery Fuse)*

Use with Terminal Fuse Block for many applications with 30 to 300 Ampere loads

- High Interrupt Rating satisfies ABYC requirements for DC Main circuit protection on large battery banks
- Clear window—visual indication of blown condition
- Color coded for each amperage

Specifications

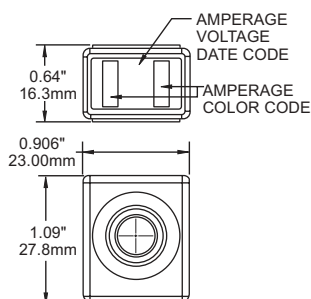
I_{ic} Interrupting Capacity	10,000 Amps@14 Volts DC
	5,000 Amps@32 Volts DC
	2,000 Amps@58 Volts DC

V_{mxo} Voltage Maximum Operating	58 Volts DC
I_{tr} Amperage Trip Reference	See table below
Fuse Hole Opening	M8 (5/16")
Trip Time Delay	See www.blueseas.com

Regulatory

- IP Meets SAE J1171 external ignition protection requirements
- 66 IP66—withstands water from heavy seas

ABYC E-11.12.1.1.1. Each ungrounded conductor connected to a battery charger, alternator, or other charging source, shall be provided with over current protection within a distance of seven inches (175mm) of the point of connection to the DC electrical system or to the battery.



PN	DC I _{tr}	Color	Weight lb (kg)
5175	30	LT Green	0.06 (0.03)
5176	40	LT Blue	0.06 (0.03)
5177	50	Red	0.06 (0.03)
5178	60	Gold	0.06 (0.03)
5180	75	Brown	0.06 (0.03)
5181	80	Lime	0.06 (0.03)
5182	90	Purple	0.06 (0.03)
5183	100	Yellow	0.06 (0.03)

PN	DC I _{tr}	Color	Weight lb (kg)
5184	125	Green	0.06 (0.03)
5185	150	Orange	0.06 (0.03)
5186	175	White	0.06 (0.03)
5187	200	Blue	0.06 (0.03)
5188	225	Tan	0.06 (0.03)
5189	250	Pink	0.06 (0.03)
5190	300	Gray	0.06 (0.03)

* For use only with Terminal Fuse Block

Fuse Blocks and Fuses

SEA Fuse Blocks

Provides an economical system for 100 to 300 Ampere fusing

- Accepts 5/16" (M8) ring terminals
- Insulating cover satisfies ABYC/USCG insulation requirements
- Cover breakouts allow wire access in any direction
- Insert molded studs ensure secure fuse mounting
- Stainless steel studs provide resistance to corrosion and allow high torque for excellent electrical contact
- UL 94-V0 base resists high heat

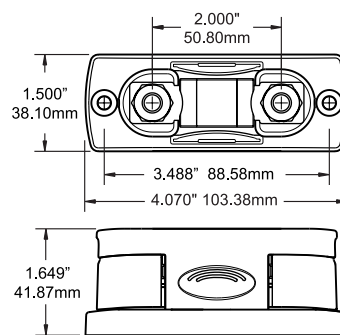
Specifications

V_{mxo} Voltage Maximum Operating	32 Volts DC
I_{mxo} Amperage Maximum Operating	300 Amps
Maximum Torque	110 in-lb (12.40 N-m)
Terminal Stud Size	5/16"-18 (M8)
Mounting holes	Accept #10 (M5) Screws
Cable Size	14 AWG to 2/0 AWG
SEA Fuses available	100–300 Amps

PN	Cover	Weight lb (kg)
5000	-	0.17 (0.1)
5001	Yes	0.35 (0.2)



5001 (fuse not included)



SEA Fuses

Use with SEA Fuse Blocks to create an economical system for 100 to 300 Ampere circuit protection

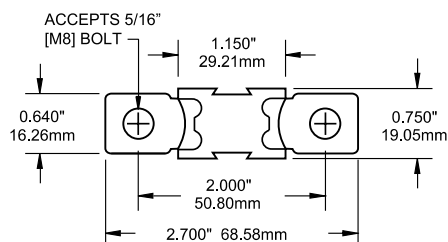
Specifications

I_{ic} Interrupting Capacity	2,000 Amps
V_{mxo} Voltage Maximum Operating	32 Volts DC
I_{tr} Amperage Trip Reference	See table below
Trip Time Delay	See www.blueseas.com

PN	DC I _{tr}	Weight lb (kg)
5101	100	0.06 (0.03)
5102	125	0.06 (0.03)
5103	150	0.06 (0.03)
5104	175	0.06 (0.03)
5105	200	0.06 (0.03)
5106	225	0.06 (0.03)
5107	250	0.06 (0.03)
5108	300	0.06 (0.03)



5106





Fuse Blocks and Fuses

ANL Fuse Blocks

Accepts a wide range of ANL fuse amperages for a versatile fusing system

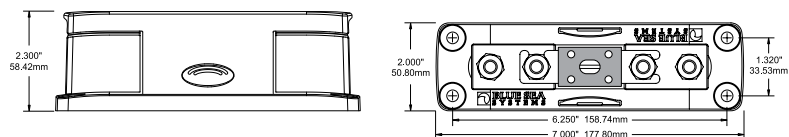
- Accepts 5/16" (M8) ring terminals
- Insulating cover satisfies ABYC/USCG insulation requirements
- Cover breakouts allow wire access in any direction
- Insert molded studs ensure secure fuse mounting
- Stainless steel studs provide resistance to corrosion and high torque for excellent electrical contact
- UL 94-V0 base resists high heat
- Swing out design allows replacement of the fuse without removing fasteners

Specifications	5503	5004/5005
V_{mxo} Voltage Maximum Operating	32 Volts DC	32 Volts DC
I_{mxo} Amperage Maximum Operating	750 Amps	300 Amps
Maximum Torque	107 in-lb (12.09 N-m)	110 in-lb (12.40 N-m)
Terminal Stud Size	5/16"-18 (M8)	5/16"-18 (M8)
Mounting holes	Accept 1/4" Screw	Accept #10 (M5) Screw
Cable Size	Up to 4/0 AWG	Up to 2/0 AWG
Fuse Mounting Blocks	Tin-Plated Copper	Tin-Plated Copper
ANL Fuses Available	35–750 Amps	35–300 Amps

PN	Cover	Weight lb (kg)
 5503	Yes	1.45 (0.66)
5004	No	0.18 (0.08)
 5005	Yes	0.35 (0.16)

NEW

Note: 5503 replaces 5003 (New design reduces cost, maintains performance and improves insulating cover)



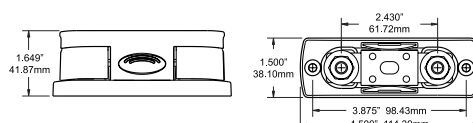
5503



5503 (fuse not included)



5005 (fuse not included)



5005

ANL Fuses

Use with ANL Fuse Blocks for many applications with 35–750 Ampere loads

Common Features

- 6,000 Ampere Interrupt Rating satisfies ABYC requirements for main DC circuit protection on large battery banks
- Silver-plated connector blades for corrosion resistance
- Visible indication of blown fuse condition

Regulatory

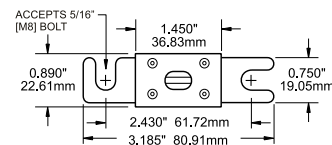
IP Meets ISO 8846 and SAE J1171 external ignition protection requirements (35–500 Amps only)

Specifications

I_{ic} Interrupting Capacity	5,000 Amps
V_{mxo} Voltage Maximum Operating	32 Volts DC
I_{tr} Amperage Trip Reference	See table below
Trip Time Delay	See www.blueseas.com

PN	Regulatory	DC I _{tr}	Weight lb (kg)
5164	IP	35	0.05 (0.02)
5165	IP	40	0.05 (0.02)
5122	IP	50	0.05 (0.02)
5123	IP	60	0.05 (0.02)
5124	IP	80	0.05 (0.02)
5125	IP	100	0.05 (0.02)
5126	IP	130	0.05 (0.02)
5127	IP	150	0.06 (0.03)
5128	IP	175	0.06 (0.03)
5129	IP	200	0.06 (0.03)
5130	IP	225	0.06 (0.03)

PN	Regulatory	DC I _{tr}	Weight lb (kg)
5131	IP	250	0.07 (0.04)
5132	IP	275	0.07 (0.04)
5133	IP	300	0.07 (0.04)
5134	IP	325	0.07 (0.04)
5135	IP	350	0.07 (0.04)
5136	IP	400	0.08 (0.04)
5137	IP	500	0.08 (0.04)
5161	-	600	0.08 (0.04)
5162	-	675	0.08 (0.04)
5163	-	750	0.08 (0.04)



Fuse Blocks and Fuses


Class T Fuse Block

Allows use of Class T fuses for high speed circuit protection of electronic equipment

- Accepts 3/8" (M10) ring terminals
- Insulating cover satisfies ABYC/USCG insulation requirements
- Cover breakouts allow wire access in any direction
- Insert molded studs ensure secure fuse mounting
- Stainless steel studs provide resistance to corrosion and high torque for excellent electrical contact
- UL 94-V0 base resists high heat

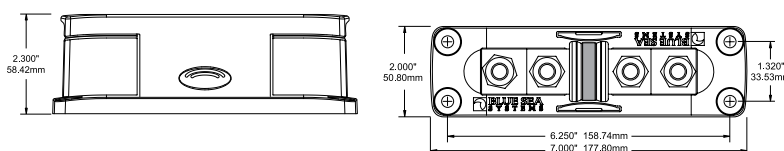
Specifications

V_{mxo} Voltage Maximum Operating	160 Volts DC
I_{mxo} Amperage Maximum Operating	400 Amps
Maximum Torque	190 in-lb (21.47 N-m)
Terminal Stud Size	3/8"-16 (M10)
Mounting holes	Accept 1/4" Screws
Cable Size	Up to 4/0 AWG
Fuse Mounting Blocks	Tin-Plated Copper
Class T Fuses available	225–400 Amps

PN	Weight lb (kg)
 5502	1.55 (0.70)

NEW

Note: 5502 replaces 5002 (New design reduces cost, maintains performance and improves insulating cover)



Class T Fuses

Use with Class T Fuse Blocks for circuit protection of devices including inverters


- 20,000 Ampere Interrupt Rating
- Extremely fast short-circuit response
- Recommended by most inverter manufacturers

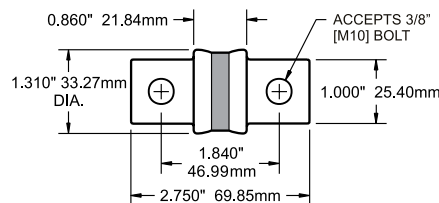
Specifications

I_{ic} Interrupting Capacity	20,000 Amps
V_{mxo} Voltage Maximum Operating	160 Volts DC
I_{tr} Amperage Trip Reference	See table below
Trip Time Delay	See www.blueseas.com

Regulatory

- UL listed to standard 248-15
- DC tested to UL standard 198L

PN	DC I _{tr}	Weight lb (kg)
5117	225	0.30 (0.14)
 5118	250	0.30 (0.14)
5119	300	0.30 (0.14)
5120	350	0.30 (0.14)
5121	400	0.30 (0.14)



ANL Fuses vs. Class T Fuses

What is the difference between an ANL and a Class T fuse?

These two fuses are the most common high amperage fuses used in marine applications and there are significant differences between the two:

ANL Fuse Advantages:

- Lower cost than Class T fuses
- Available in a wider amperage range than Class T Fuses
- Single mounting hole dimension allows all ANL Fuses to be used with the same fuse block
- Fusible link window gives visual indication of fuse being blown
- Ignition protected—safe for installation aboard gasoline powered boats



Class T Fuse Advantages:

- The only UL 248-15 listed fuse commonly available in the marine industry
- Very fast response to short circuits protects high amperage electronic equipment such as inverters

